

PETITION FOR ANNUAL REVENUE REQUIREMENT

And

TARIFF PROPOSAL FOR THE FINANCIAL YEAR 2006-2007

Submission of Text and Affidavit

To

Assam Electricity Regulatory Commission

By

**Assam Power Generation Corporation Limited
Bijulee Bhawan, Paltanbazar
Guwahati-781 001**

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF
Filing of Annual Revenue Requirement
Proposal for the year 2006-2007

AND

Petition for Determination of Tariff
For the year 2006-2007

AND

IN THE MATTER OF
Assam Power Generation Corporation Limited
Bijulee Bhawan, Paltanbazar,
Guwahati-781 001.

Petitioner

I, _____ son of Shri
_____ aged _____ years residing at _____
do solemnly affirm and say as follows:

I am the _____ of Assam Power Generation Corporation Limited,
the petitioner in the above matter and am duly authorized by the said Petitioner to make this
affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I
believe them to reflect truly and nothing materials has been concealed from the statements so
made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on _____th day of _____ 2005 that the contents of
this affidavit are true to my knowledge, no part of it is false or nothing material has been
concealed therefore and misleading material included therein.

Place: Guwahati

Date _____

Deponent

By order of the Commission

Secretary of the Commission

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Glossary

Acronym	Full form
A&G	Administrative and General
ABC	Aerial Bunched Conductors
ABT	Availability Based Tariff
ADB	Asian Development Bank
AEGCL	Assam Electricity Generating Corporation Limited
AERC	Assam Electricity Regulatory Commission
AMR	Automated Meter Reading
APDRP	Accelerated Power Development and Reforms Program
APERC	Andhra Pradesh Electricity Regulatory Commission
APGCL	Assam Power Grid Corporation Limited
APTRANSCO	Andhra Pradesh Transmission Company
ARR	Annual Revenue Requirement
ASEB	Assam State Electricity Board
AT&C	Aggregate Technical and Commercial
BST	Bulk Supply Tariff
CAEDCL	Central Assam Electricity Distribution Company Limited
CAGR	Compounded Annual Growth Rate
CEO	Chief Executive Officer
CMRI	Common Meter Reading Instrument
CT/PT	Current Transformer/Potential Transformer
DPS	Delayed Payment Surcharge
DTRs	Distribution Transformers
EE	Executive Engineer
FAS	Fuel Adjustment Surcharge
FY	Financial Year
GEC	Guwahati Electrical Circle
GoA	Government of Assam
GoI	Government of India
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communication
HHM	Hand Held Machines
HT	High Tension
HVDS	High Voltage Distribution System
IAS	Import Adjustment Surcharge
IRCA	Industrial Revenue Collection Area
KV	Kilo Volt
KVA	Kilo Volt Ampere
KW	Kilo Watt
KWH	Kilo Watt Hour
LAEDCL	Lower Assam Electricity Distribution Company Limited
LT	Low Tension
MCAGR	Modified Compounded Annual Growth Rate
MCBS	Miniature Circuit Breaker
MIS	Management Information Systems
MMSCMD	Measured Million Standard Cubic Meter per day
MOU	Memorandum of Understanding
MRI	Meter Reading Instruments
MU	Million Unit
NERLDC	North East Region Load Despatch Centre

Acronym	Full form
NLCPR	Non-Lapsable Central Pool Reserve
O/H	Over Heads
PGCIL	Power Grid Corporation of India Limited
ph	Phase
PIS	Performance Incentive Scheme
PLC	Power Line Carriers
PLF	Plant Load Factor
PMGY	Prime Minister Gramudyog Yojana
PSTN	Public Switch Telephone Network
R&M	Repairs and Maintenance
RE	Rural Electrification
MNP	Minimum Needs Program
RGGVY	Rajiv Gandhi Grameen Vidyutikaran Yojana
Rs	Rupees
RST	Retail Supply Tariff
RTU	Remote Terminal Unit
SBM	Spot Billing Machine
SC	Scheduled Caste
SCCP	Scheduled Caste Component Plan
SDE	Sub-Divisional Engineer
SEBs	State Electricity Boards
SMEC	Snowy Mountains Engineering Corporation Limited
ST	Scheduled Tribe
T&D	Transmission and Distribution
T.C.	Transportation Cost
TCS	Tata Consultancy Services Limited
TOU	Time of Use
TSP	Tribal Sub-Plan
UAEDCL	Upper Assam Electricity Distribution Company Limited
UoM	Unit of Measurement
US	United States
V	Volt
YOY	Year-on-Year

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILING NO.

CASE NO.

IN THE MATTER OF:

Petition for the approval of the Annual Revenue Requirement for the period from 1 April 2006 to 31 March 2007 and the approval of the proposal for revision of the generation tariffs for the Assam Power Generation Corporation Limited (APGCL)

AND

IN THE MATTER OF:

Assam Power Generation Corporation Limited incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- 1 That the Assam Power Generation Corporation Limited, hereinafter named as APGCL, is a successor corporate entity, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003 (Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- 2 That the Assam Power Generation Corporation Limited is a company incorporated with the main object of generation of electricity in the state of Assam.
- 3 That the Assam Power Generation Corporation Limited is a generating company under the provisions laid down in Section 14 Proviso 5, read with Section 131 (2) of the Electricity Act 2003.
- 4 That the generating company is now filing the petition for the approval of its Annual Revenue Requirement for the financial year 2006-2007.
- 5 Government of Assam vide notification no. PEL.151/2003/Pt/349 dated 16th August, 2005 (**Annexure XV**) issued orders to give effect to the reorganization of the Assam State Electricity Board and the finalization of the provisional transfers effected as per the provisions of the Electricity Act, 2003 and the Transfer Scheme.
 - (a) The opening balance sheets as per Schedule I to this order has been prepared based on the approved accounts of Assam State Electricity Board as on 31st March, 2004 and such opening balance sheet shall all be subject to all consequential adjustments on the update, finalization and audit of accounts of Assam State Electricity Board as on 31st March, 2005.
 - (b) The Government of Assam shall pass separate orders in terms of the Transfer Scheme in regard to the transfer and absorption of personnel of Assam State Electricity Board in the five companies, namely: Assam Power Generation Corporation Limited, Assam Electricity Grid corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited.

(PETITIONER)

NOTES:

In this petition:

Previous Year is defined as the Financial Year (FY) 2004-2005

Current Year is defined as the Financial Year (FY) 2005-2006

Ensuing Year is defined as the Financial Year (FY) 2006-2007

T1: Legal and Regulatory Framework

- 1.1 Under the provisions of Electricity Act 2003 (hereinafter referred to as “Electricity Act”) the Assam Electricity Reforms First Transfer Scheme, 2004 (hereinafter referred to as “Transfer Scheme”) was notified by Government of Assam on 10th December 2004. Under Section 5 (2) of the transfer scheme the functions and undertakings as set out in Schedule-A of the transfer scheme stands transferred to Assam Power Generation Corporation Limited (APGCL).
- 1.2 Section 131 (2) of the Electricity Act provides “...*Any property, interest in property, rights and liabilities vested in the State Government under sub-section (1) shall be re-vested by the State Government in a Government company or in a company or companies, in accordance with the transfer scheme so published along with such other property, interest in property, rights and liabilities of the State Government as may be stipulated in such scheme, on such terms and conditions as may be agreed between the State Government and such company or companies being State Transmission Utility or generating company or transmission licensee or distribution licensee,...*”.
- 1.3 Section 62 of the Electricity Act 2003 requires the generating company to furnish details as may be specified by the Commission for determination of tariff.
- 1.4 Section 7 of A. E. R. C. (Terms and conditions for determination of Tariff) Regulations 2005 lays down the following:

The licensee and generating company may file a tariff petition annually with the Commission to determine changes to the current tariff by not later than 1st December unless an extension is granted by the Commission upon application.

In the tariff petition, the licensee and generating company shall submit information for the purpose of calculating expected revenue and expenditure and for furnishing information for tariff determination in formats that will be issued separately by the Commission

The tariff petition shall be accompanied by financial and performance information in forms specified by the Commission for the previous year/years, current year and the ensuing year. The information for the previous year should be based on audited accounts and in case audited accounts for previous year are not available, audited accounts for the latest proceeding previous year should also be filed along with unaudited accounts for all the succeeding year.

If a person holds more than one licensee and /or is deemed to be licensee for more than one area of distribution or transmission, he shall submit separate petitions in respect of each licensee or area of transmission or distribution.

In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station.

- 1.5 APGCL has come into being on 10th December 2004. The petitioner has now prepared the ARR and Tariff proposal for FY 2006-07 for the area of operation of APGCL and submits the same to AERC.
- 1.6 The status of the various data formats and forms, as required by the Hon’ble Commission, is furnished in **Annexure XVI**.

T2: Annual Revenue Requirement – FY 2006-07

Situational Backdrop for the Generation Plan FY 2006-07

2.1 The Generating Company has projected an annual generation of 1010 MU on gross basis for the Ensuing year. The utility is constrained from effectively utilizing its entire machine available capacity due to gas availability constraints at Lakwa Thermal Power Station and machine health issues at Namrup Thermal Power Station – which will largely be addressed during FY 2006-07. Along with this, APGCL also has evacuation capability constraints at the stations which has not affected generation levels till date as dispatch capability was constrained at levels below the network congestion levels on account of issues stated earlier. However, once the generation constraints are, by and large, resolved it is feared that evacuation bottlenecks may well prove to be a limiting factor on more than one occasion.

2.2 Revival Plans in Respect of Closed Units (BTPS and CTPS)

Bongaigaon Thermal Power Station (BTPS) – 4 x 60 MW

Bongaigaon Thermal Power Station has been shut down since March 2002 due to its high fuel cost of generation. Units 1, 2, 3 & 4 are shut down since June 1991, February 2002, November 2001 and April 1998 respectively, due to various reasons.

ASEB, at the instance of Govt. of Assam decided to explore various means for revival of BTPS including participation of power sector entities (operators) since APGCL (ASEB) is not in a position to make the huge investment that would be required for the purpose.

Finally, at the initiative of Govt. of Assam, Government of India has taken a decision in a meeting held on 8th Sept 05 at PMO, New Delhi on revival of Bongaigaon Thermal Power Station (BTPS). As per the decision, NTPC will set up a new 500 MW (2 x 250 MW) Thermal Power Station at the existing location of BTPS. NTPC has stated that the revival of existing units of BTPS is economically not viable though it is technically feasible. The new Power Plant will be based on Flue Gas Desulphurization (FGD) technology to use Assam coal. Preliminary project work like preparation of feasibility study/DPR etc. has already been taken up by NTPC. The main project work is scheduled to start by October 06.

Chandrapur Thermal Power Station (CTPS) – 2 x 30 MW

Efforts were made in the past to restore the plant by using various alternative fuels like Coal/RPC etc, but without any result. This has left ASEB now only with the option of going for Natural Gas.

It is now understood that AGCL is planning to supply Natural Gas to Guwahati by 2008 keeping in view CTPS as a major user. The estimated gas requirement for running the Chandrapur Plant at 80% PLF would be around 0.5 MMSCMD. Accordingly, both OIL and AGCL have been requested to incorporate ASEB's requirement of Natural Gas for CTPS in their demand projections.

2.3 Improvement of PLF of Lakwa Thermal Power Station (LTPS)

All the machines of LTPS are currently available except unit 2 & 5 (15 MW & 20 MW respectively) with effective capacity of 85 MW. However, the present generation from LTPS is only around 40 MW due to chronic short supply of gas by GAIL at around 0.25 MMSCMD against the committed quantity of 0.6 MMSCMD. About 1.0 MMSCMD gas is estimated to be required for running the plant at 80% PLF.

To overcome the problem of chronic short supply of gas to Lakwa TPS, steps have been taken for supply of 0.5 MMSCMD gas from OIL through AGCL. The necessary gas

agreement with OIL was signed on 2nd Sep 05. The additional 0.5 MMSCMD gas from OIL is expected by Dec 2006 on regular basis that will boost overall generation of the station to 80 MW.

Meanwhile a gas agreement was signed with AGCL on 27th Feb/04 for supply of 0.2 MMSCMD on fallback basis (excess gas from NTPS) and the supply of 0.15 MMSCMD gas on an average from OIL to LTPS started from Jan 05 and the overall generation from the plant increased to average 40 MW as stated above (0.25 GAIL/ONGLC+0.15 OIL/AGCL).

2.4 Improvement of PLF of Namrup Thermal Power Station (NTPS)

The present operational capacity of the station is 70 MW due to non-availability of GT units 2 (23 MW) & 4 (12.5 MW) and running of unit 5 (30 MW) & unit 6 (22.5 MW) at restricted load.

Unit 2 (23 MW, GT) is under forced shutdown since Aug/01 due to break down of its air compressor. To restore the unit, a short-term R&M programme has already been initiated with the loan assistance of Rs. 13.0 crores from PFCL against the total estimated project cost of Rs. 18.69 crores. The balance fund of Rs. 5.69 crores is to be arranged from own sources.

Purchase order for procurement of imported Mechanical & Electrical Spares and including repair of Compressor at Canada works has already been placed with Siemens Westinghouse (OEM) in April 05. The complete restoration of the unit including incorporation of new control system (PLC) etc. is expected by Dec 2006.

Unit 4 (12.5 MW, GT) is also non-operative since Aug 05 due to break down of starting diesel engine. Action has been taken up for repairing of the starting diesel engine. The unit is expected to come on bar by Jan 06. Unit 5 (30 MW, ST) & Unit 6 (22 MW, WHU) delivers only up to maximum of 22 MW & 15 MW respectively due to technical reasons. However presently Unit 6 is operating at 6 MW only for want of BFP, Purchase order for procurement of the motor of BFP placed and material is expected shortly. After restoration of Units 2 & 4, the station generating capacity will boost up to 105 MW.

2.5 Proposal for restoration & running of Chandrapur TPS (Unit 2) with LVFO during lean Hydro Season – 2006-07

Chandrapur TPS has been under suspended operation since June 1999 for exorbitant cost of fuel oil, which other wise could have partially mitigated the power shortage of Assam to a great extent. Efforts were made in the past to restore the plant by using various alternative fuels like Coal etc. without any result. This has left us now with the only option of going for Natural Gas. It is now understood that AGCL is planning to supply Natural Gas to Guwahati by 2008 keeping in view CTPS as a major user.

However, considering the fact that there will be an acute shortage of energy in the State of Assam (about 150 MW) during lean Hydro season, it is proposed to run one unit of CTPS (Unit-2, 30 MW) at 80% PLF for a period of 6 months with Low Viscous Furnace Oil (LVFO) to be made available by Indian Oil Corporation (IOC). The total cost of generation per unit sent out for running one unit is estimated to be Rs. 6.86 as per present market price of fuel oil (Rs. 17,936/ KL, including Transportation Charge of Rs. 100 per Kilolitre). Details are enclosed in **Annexure – I**.

The restoration of the unit will not be commercially viable unless the State Government provides at least 50% fuel cost subsidy. The fuel cost subsidy to be given by the State Government for running the unit for 6 months for generation sent out of approximately 96 MU will be little more than Rs. 32 crores. In addition, about Rs. 1.50 Crore will need to be spent on restoration and renovation that will take 4-5 months. This amount has not been included separately as a cost element in the ARR. The utility proposes to meet this

expenditure out of the Development Surcharge Fund created by the Hon'ble Commission. The cost of generation with subsidy from Government of Assam is estimated to be Rs. 3.47 per unit sent out.

As directed by the Government of Assam, an action plan has been already initiated to restart Unit 2 (30 MW). IOC, Guwahati has agreed to supply the required fuel (LVFO). It should be possible to re-commission one unit within 4-5 months at a restoration cost of Rs. 1.50 Cr., if fund and oil subsidy are received. It is planned to run CTPS units with minimum 50% fuel subsidy from Government of Assam till the receipt of piped natural gas from OIL through AGCL.

Salient features of the proposal

- (a) Initial restoration cost will be about Rs 1.50 crores
- (b) The fuel cost per kWh sent out from Chandrapur will be Rs 6.77
- (c) It is proposed to seek a 50% subsidy from the Government of Assam to reduce the effective **fuel cost** (for APGCL) to be brought down to **Rs 3.39 per kWh sent out**.
- (d) The incremental fixed costs are as follows : (for a six-month period)

Repairs & maintenance:	Rs 75 lacs
Employee costs (marginal):	Rs 0 lacs
Other fixed costs:	Rs 8 lacs

	Rs 83 lacs

Note: The increase in employee costs (marginal) has been taken to be 0 as it is assumed that there will be no additional manpower deployed in case CTPS runs for 6 months a year.

Economics of the proposal

As the permitted average cost of APGCL generation is paise 163 per kWh sent out (comprising about paise 84 fuel cost per kWh sent out and paise 79 as fixed cost), the incremental impact of the aforesaid Chandrapur generation on APGCL's ARR will be as follows:

Case 1 – Without any subsidy from Government of Assam

Increase in fuel cost	:	Rs 6495 lakhs
Increase in fixed cost	:	Rs 83 lakhs
Increase in total cost	:	Rs 6578 lakhs
Fuel cost increase justified by volume increase	:	Rs 806 lakhs
Fixed cost increase justified by volume increase	:	Rs 759 lakhs
Total cost increase justified by volume increase	:	Rs 1565 lakhs
Additional fuel cost to be borne by consumers	:	Rs 5689 lakhs
Additional fixed cost to be borne by consumers	:	Rs (-) 676 lakhs
Total additional cost to be borne by consumers	:	Rs 5013 lakhs
Annual sales projected for FY2006-07	:	2355 MkWh
Average impact on selling price FY 2006-07	:	21.29 P/kWh

Case 2 – With 50% fuel cost subsidy from Government of Assam

Increase in fuel cost	:	Rs 3248 lakhs
Increase in fixed cost	:	Rs 83 lakhs
Increase in total cost	:	Rs 3331 lakhs
Fuel cost increase justified by volume increase	:	Rs 806 lakhs
Fixed cost increase justified by volume increase	:	Rs 759 lakhs
Total cost increase justified by volume increase	:	Rs 1565 lakhs
Additional fuel cost to be borne by consumers	:	Rs 2442 lakhs
Additional fixed cost to be borne by consumers	:	Rs (-) 676 lakhs
Total additional cost to be borne by consumers	:	Rs 1766 lakhs
Annual sales projected for FY 2006-07	:	2355 MkWh
Average impact on selling price FY 2006-07	:	7.50 P/kWh

2.6 Commissioning of Karbi Langpi HEP (2 x 50 MW)

It is expected that one unit of the Karbi Langpi HEP will be commissioned by Jun-06. The second unit is expected three months thereafter. The civil, electromechanical and electrical works are in good progress. However, the commercial operations of the units are expected from April 07. Hence no generation from KLHEP is shown in the APGCL generation plan for 2006-07

2.7 Generation Plan for FY 2006-07

Considering gas availability scenario and the station constraints, APGCL proposes to furnish an annual generation plan to the Bulk Purchaser i.e. ASEB, the estimated generation data and PLF are as follows:

- (a) Gross Generation : 1010 MU
 - (i) Namrup TPS (NTPS) : 560 MU
 - (ii) Lakwa TPS (LTPS) : 450 MU
- (b) Auxiliary Power Consumption
 - (i) Namrup TPS : 27 MU
 - (ii) Lakwa TPS : 31 MU

Table 1: Generation Plan (Net) for FY 2006-07

Station	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
NTPS (MU)	42	45	44	41	41	31	39	45	52	52	49	52	533
NTPS PLF (%)	45.8	47.3	47.9	43.3	43.3	34.3	41.3	48.9	55.4	55.4	56.9	55.4	47.9
LTPS (MU)	30	31	30	31	31	30	31	30	44	46	42	46	419
LTPS PLF (%)	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	52.6	54.9	55.8	54.9	42.8

Performance in the Current Financial Year FY 2005-06

2.8 The current financial year performance of the generating company on the various operational parameters i.e. Generation Levels achieved vis-à-vis target generation schedule prescribed by the Hon'ble Commission for FY 2005-06, Plant Load Factor and APC (Auxiliary Power Consumption) is tabulated in the following table:

Table 2: Namrup Thermal Power Station Generation for FY 2005-06 – Net Generation (MU)

Namrup Thermal Power Station													
Month													
Item	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Total
	Actuals						Projected						
Target	43	41	35	34	43	42	41	41	41	35	39	41	476
Actual	36	37	36	38	35	38	38	39	47	47	42	47	478
Target set by the Hon'ble Commission													530

Table 3: Lakwa Thermal Power Station Generation for FY 2005-06 - Net Generation (MU)

Lakwa Thermal Power Station													
Month													
Item	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Total
	Actuals						Projected						
Target	30	31	31	31	29	29	30	31	29	31	30	29	358
Actual	31	25	30	31	26	24	31	30	31	31	28	31	347
Target set by the Hon'ble Commission													364

2.9 The targets that were set by APGCL vide its Tariff Petition for FY 2005-06, for Namrup and Lakwa are expected to be met during the year as per the revised estimates mentioned above. However, the targets fixed by the Hon'ble Commission are not likely to be achieved in full in respect of the year 2005-06 due to the following reasons:

- (a) Acute shortfall in Gas availability from GAIL at Lakwa Thermal Power Station in terms of both gas quantity and gas pressure.
- (b) Delay in re-commissioning of NTPS Unit 5 by 2 months and unexpected outage of starting diesel engine of Unit 4 due to damage of cylinder head.

2.10 The performance of the stations in terms of Plant Load Factor and Auxiliary Power consumption for the current financial year is also tabulated below. In this context the generating company would like to humbly submit before the Commission that Unit 5 (installed capacity-30 MW) at Namrup Thermal Power Station was in shutdown condition till June 05 and Unit 2 (Installed Capacity-23 MW) of same power station is still under shutdown, which is expected to be restored by Dec 2006

Table 4: Station Performance on Operational Parameters for FY 2005-06 (Actual / Projected)

Station	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06
NTPS PLF %	38.8	38.7	39.7	40.0	37.1	41.2	40.3	42.7	49.3	49.3	49.1	49.3
LTPS PLF %	38.1	30.0	36.7	37.6	31.6	29.6	37.0	37.0	37.0	37.0	37.2	37.0

The details of plant characteristics and normative parameters, as per the Hon'ble Commission's formats, are furnished in **Annexures II and III** (for NTPS) and **IV and V** (for LTPS) respectively.

Basis of estimation of Annual Revenue Requirement for FY 2006-07

2.11 The Board's approved annual accounts for the FY 2004-05 and the actual data for the first six months of FY 2005-06 (April 2005-September 2005) have been used as the base for the projection of the expenditure elements of the Annual Revenue Requirement. The estimated Annual Revenue Requirement for the Ensuing Year FY 2006-07 is presented in the following table.

Table 5: Projected Annual Revenue Requirement for FY 2006-07

(Rs crores)	
ARR Element	Amount
Fuel Cost	108.71
Employees Cost	36.11
Repair & Maintenance Cost	8.35
Administration. & General Expenses	2.76
Interest & Financing Charges	
Interest on Term Loans	29.98
Interest on Working Capital	2.02
Depreciation	25.20
Provision for Bad & Doubtful Debts	-
Total Expenditure	213.13
Less Misc. Receipts	1.11
Net Expenditure	212.02
Return on Equity	-
Less: Capitalized	17.10
Net Annual Revenue Requirement	194.92
Annual Fixed Cost	86.21
Monthly Fixed Cost	7.18

Fixed Charge

Employee Expenses

- 2.12 The Employee costs have been estimated after considering the accounts of FY 2004-05 and the trend of actual expenses for the first 5 months of FY 2005-06, i.e., the current financial year and the projected manpower rationalization for FY 2006-07. The figures mentioned in the table above include the impact of terminal benefits as per actuarial valuations.
- 2.13 The erstwhile Board has taken a number of steps towards rationalization of manpower in the company, by the redeployment of all excess manpower to areas where they are considered necessary. The board has also taken the assistance of consultants to look at current HR policies and suggest changes in HR policies and manpower deployment strategies. The details of manpower rationalization are furnished in **Annexure VI**.
- 2.14 As mentioned earlier, a significant component of the employee costs have been the terminal benefits including leave encashment. The State Electricity Boards (**SEBs**), constituted under Section 5 of the Electricity (Supply) Act, 1948 were not required to create a separate fund or trust to meet the pension liabilities of the personnel working in the SEBs. Like the State Governments, the SEBs has been meeting the pension and other terminal liabilities from the revenue earnings on a year-to-year basis, without creating or maintaining a Corpus. In other words, the actual pension outflows for the retired personnel of SEBs were being managed from the revenues earned in the year.

- 2.15 It is proposed that to relieve the new companies of the burden on account of past liabilities, the cash outflows on account of unfunded past liabilities will be met by a combination of Government of Assam support, a special charge on Bulk Supply Tariff and Electricity Duty. In this regard, a charge on BST has been proposed by the Bulk supplier i.e. ASEB.
- 2.16 From FY 2005-06, the companies have discontinued the practice of paying from current revenues. In view of this, the actuarial study was carried out as at 9 December 2004 to estimate the unfunded terminal liabilities of its existing employees, pensioners and family pensioners.
- 2.17 The terminal liabilities on account of the future services rendered by the existing employees, the new companies will contribute to the Pension Fund. The Actuarial Valuation carried out by ASEB has estimated the contribution to be at 22.79% of the Total Basic + DA expenses every month.
- 2.18 In pursuance of Board Resolution No. 18 dated 11-04-05, Chairman, ASEB has constituted the “Board of Trustees of ASEB Employees’ Pension Fund Investment Trust” with 11 Trustees including Chairman ASEB/successor companies as President of the Trust. AEGCL shall act as nodal agency for dealing with all matters relating to pension. Head of Finance, AEGCL shall be the Member and Chief Executive and shall have the authority for all operational activities of the Trust.

In a meeting held on 03-11-05 with Member (Finance), discussions on the following issues have taken place:

1. Drawal of monthly pension and family pension by the existing pensioners and family pensioners who were drawing their pension from consolidated Board.
2. Procedure for payment of pension and setting up of Pension Cell under Finance wing of each successor company to administer and monitor the benefits of operation at the company’s end.
3. Recovery of administrative cost from successor companies.
4. Plan for funding terminal benefits.
5. Creation of GPF trust fund.

Actions are being undertaken on the above issues.

- 2.19 The total employee expenses proposed for approval in this ARR petition, including provisioning for terminal benefits is **Rs. 36.11 crores** for APGCL for FY 2006-07. The following table shows the total estimated employee expenses including funding for terminal benefits for the year FY 2006-07.

Table 6: Employee Expenses

(Rs crores)

Employee Cost Element	ASEB Consolidated Figures	APGCL			
	2004-05	2005-06	2005-06	2005-06	2006-07
	Approved Accounts	1st 5 months Actuals*	Next 7 months Estimate	Total	Projected
Salaries	139.15	7.40	10.57	17.97	17.79
Overtime	0.78	0.19	0.05	0.24	0.23
Dearness Allowance	57.84	3.69	5.27	8.96	8.88
Other Allowances	21.44	1.16	1.62	2.78	2.75
Bonus	0.06	-	0.01	0.01	0.01
Medical Allowances	0.83	0.04	0.04	0.08	0.08
Leave Travel Concession	0.28	0.01	0.23	0.24	0.24
Earned Leave Encashment	5.05	-	-	-	-
Workmen Compensatory Payment	0.13	-	0.02	0.02	0.02
Staff Welfare Expenses	0.23	-	0.02	0.02	0.03
Terminal Benefit	63.76	5.03	1.11	6.14	6.08
Less Capitalization	1.50	-	-	-	-
Total	288.03	17.51	18.97	36.47	36.11

* Based on actual figures as received for the first 5 months

2.20 The notional Station-wise break-up of employee expenses proposed for approval in this ARR petition for FY 2006-07, including provisioning for terminal benefits is presented in the following table.

Table 7: Station -wise break-up of Employee Expenses

(Rs crores)

Employee Cost Element	2006-07 Projections				HQ & Others *
	NTPS	LTPS	BTPS	CTPS	
Salaries	5.10	4.78	2.64	2.12	3.14
Overtime	0.07	0.06	0.03	0.03	0.04
Dearness Allowance	2.55	2.39	1.32	1.06	1.57
Other Allowances	0.79	0.74	0.41	0.33	0.49
Bonus	0.00	0.00	0.00	0.00	0.00
Medical Allowances	0.02	0.02	0.01	0.01	0.01
Leave Travel Concession	0.07	0.06	0.04	0.03	0.04
Earned Leave Encashment	-	-	-	-	-
Workmen Compensatory Payment	0.01	0.01	0.00	0.00	0.00
Staff Welfare Expenses	0.01	0.01	0.00	0.00	0.01
Terminal Benefit	1.74	1.63	0.90	0.72	1.07
Less Capitalization	-	-	-	-	-
Total	10.36	9.71	5.37	4.30	6.38

* HQ + Others includes ongoing projects, site technical studies.

Administration and General Expenses

2.21 The Hon'ble Commission in its Tariff Order for FY 2005-06 has allowed a sum of Rs 1.72 crores towards Administrative and General Expenses, after considering an increase of 6% that comprised an increase of 5% on account of inflation and 1% cushion to take care of other additional items of expenditure. The total A&G expenses proposed for approval in this ARR petition for APGCL for FY 2006-07 is **Rs 2.76 crores**. **Table 8** gives the break-up of the total A&G costs under various heads.

There has been an increase in expenditure under the head 'Conveyance and Travel including vehicle hiring charges'. ASEB has formulated and implemented a policy of increasing the availability of vehicles through hiring for the purpose of repairs, renovation and modernization work. In order to support the financial implications of these initiatives, additional resources shall be earmarked to enable hiring of vehicles for a period of 1 year, to be extended depending on future requirements. Fuel allocation has also been significantly enhanced for the existing vehicles in order to meet the above objectives.

Table 8: A & G Expenses

(Rs crores)

Administrative & General Expenses	ASEB Consolidated Figures	APGCL			
	2004-05	2005-06	2005-06	2005-06	2006-07
	Approved Accounts	1st 6 months Actuals	Next 6 months Estimated	Total	Projected
Rent, Rates & Taxes	0.86	0.06	0.06	0.12	0.13
Insurance	0.15	0.015	0.015	0.03	0.03
Telephone charge	0.98	0.05	0.05	0.10	0.12
Post and Telegram	0.87	0.005	0.005	0.01	0.01
Legal charge	0.56	0.085	0.085	0.17	0.26
Audit Fee	0.06	0.02	0.02	0.04	0.04
Consultancy charges	0.29	0.06	0.06	0.12	0.13
Technical Fee	0.11	0.03	0.03	0.06	0.07
Conveyance and Travel including vehicle hiring charges	3.35	0.36	0.36	0.72	1.08
Other Expenses	2.95	0.225	0.225	0.45	0.50
Freight	0.91	0.095	0.095	0.19	0.21
Other purchase related Exp.	1.42	0.085	0.085	0.17	0.19
Less Capitalized	0.40	-	-	-	-
Total	12.11	1.09	1.09	2.18	2.76

2.22 The Station-wise break-up of administration and general expenses proposed for approval in this ARR petition for FY 2006-07 is presented in the following table. The earmarking of expenses on a station-wise basis was projected based on the budgetary allocations for the current financial year. The administration and general expenses against Head Quarters and others includes the on-going projects of APGCL viz. Karbi Langpi Hydro Electric Project, Amguri, Dhansiri Projects, due diligence works for other projects, etc.

Table 9: Station -wise break-up of A & G Expenses

(Rs crores)					
Administrative & General Expenses	NTPS	LTPS	BTPS	CTPS	HQ & Others *
Rent, Rates & Taxes	0.08	-	0.04	0.01	-
Insurance	-	0.01	0.02	-	-
Telephone charge	0.03	0.03	0.01	0.01	0.03
Post and Telegram	-	-	-	-	0.01
Legal charge					0.26
Audit Fee					0.04
Consultancy Charges					0.13
Technical Fee					0.07
Conveyance and Travel charge	0.20	0.29	0.12	0.12	0.36
Other Expenses	0.26	0.04	0.08	0.03	0.08
Freight	0.13	0.05	-	-	0.03
Other purchase related Exp.	0.15	0.04	-	-	-
Less Capitalized					
Total	0.84	0.47	0.27	0.17	1.01
<i>Legal charges, Audit Fees, Consultancy Charges and Technical Fees have only been allocated to Head Quarters</i>					

Repair and Maintenance Expenses

- 2.23 APGCL has inherited aged assets from ASEB that calls for substantially higher Repairs & Maintenance (R&M) expenses than that incurred in the past. In addition, the actual expenses incurred in the past have been constrained by the acute cash deficit situation faced by the erstwhile ASEB. Although a significant increase in R&M expenses was allowed by the Commission, APGCL still has a fair way to go in this respect. Under these circumstances, using a historical base or trend runs the risk of restricting R&M expenses for the Ensuing Year, when there is a genuine need of continuing to step up R&M effort to keep the current asset base in good condition and at an efficient performance level.
- 2.24 It is therefore prayed that the R&M expense asked for by APGCL be allowed in full to help maintain the momentum that has been gathered towards improving the quality of assets and reliability of the generation assets.
- 2.25 APGCL has assessed the budgetary provisions of works executed under repair and maintenance heads in the stations for the current Financial Year. Also the generating company carried out an analysis of the various works executed under R&M packages with loans from PFC to understand whether the works executed were of an overall normal repair and maintenance nature or it had more congruence with renovation activities. Based on the evaluation, the generating company was able to assess the repair and maintenance expenses for the operational stations of Namrup & Lakwa Thermal Power Stations for the Ensuing Year.
- 2.26 For the stations that are not in commercial operation, the generating company is conscientiously aware of the imprudence of incurring excessive maintenance expenses. The generating company is incurring only marginal maintenance expenses for upkeep of critical auxiliaries that will ensure that the Turbo-Generator set and Balance of Plant package in the stations is in an appropriately mothballed condition. This will ensure ease of revival of equipment at a reasonable cost. However, the generating company also would like to point out to the Hon'ble Commission that the expenses at BTPS station are primarily on account of switchyard maintenance. The switchyard is the key interface in the wheeling of power from the Eastern Grid and some key Central Sector Generating Stations to the Assam grid.

2.27 Going by the above principles, the R & M expenses for the ensuing year has been estimated at **Rs. 8.35 crores** as per the following details. The generating company prays to the commission to allow the proposed expenses in the Annual Revenue Requirement for FY 2006-07.

Table 10: Repair and Maintenance Expenses

(Rs crores)

Repair & Maintenance of	ASEB Consolidated Figures	APGCL			
	2004-05	2005-06	2005-06	2005-06	2006-07
	Approved Accounts	1st 6 months Actuals	Next 6 months Estimated	Total	Projected
Plant & Machinery	4.71	2.46	2.46	4.92	6.40
Buildings	1.09	0.35	0.35	0.69	0.83
Civil Works	0.08	0.05	0.05	0.09	0.11
Hydraulic Works	0.13	0.16	0.16	0.31	0.37
Lines & Cable Networks	8.82	0.08	0.08	0.15	0.21
Vehicles	0.81	0.15	0.15	0.29	0.38
Furniture & Fixture	0.20	0.02	0.02	0.03	0.03
Office Equipment	0.14	0.01	0.01	0.2	0.02
Total	15.98	3.25	3.25	6.50	8.35

2.28 The Station-wise break-up of repair and maintenance expenses proposed for approval in this ARR petition for FY 2006-07 is presented in the following table.

Table 11: Station –wise break-up of R & M Expenses

(Rs crores)

Repair & Maintenance of	NTPS	LTPS	BTPS	CTPS
Plant & Machinery	3.45	2.33	0.52	0.10
Buildings	0.45	0.30	0.07	0.01
Civil Works	0.06	0.04	0.01	0.00
Hydraulic Works	0.21	0.14	0.03	0.01
Lines & Cables Networks	0.11	0.07	0.02	0.00
Vehicles	0.20	0.13	0.03	0.01
Furniture & Fixtures	0.01	0.01	0.00	0.00
Office Equipment	0.01	0.01	0.00	0.00
Total	4.51	3.03	0.68	0.13

Interest & Financing Charges

2.29 The interest component proposed to be charged and submitted as part of the Annual Revenue Requirement for FY 2006-07 is on account of loans taken for the purpose of capital investments.

2.30 Interest on working capital has been assumed to be **Rs 2.02 crores** as per the norms approved by the Hon'ble Commission in its Tariff Order for FY 2005-06.

Term Loans and Interest on Term Loans

- (a) Allocation of term loans to APGCL have been made on an individual basis for various sources of financing based on the capital investments being proposed to be undertaken by APGCL. The detail of capital expenditure planned to be undertaken by APGCL for FY 2006-07 has been discussed in the section for capital investments subsequently in this petition.
- (b) Public Bonds have been allocated to the utility as per the Government notified transfer scheme.
- (c) The total amount of term loans and interest computed to be charged on these term loans, based on the proposed capital investment plan, for each individual financing source is given in **Table 12**.
- (d) In this connection, it will be noted that finance and interest charges in respect of those capital assets that will be commissioned during FY 2007-08 or thereafter has been Capitalized as interest during construction in terms of the relevant provisions of The Electricity Act, 2003.
- (e) In respect of those capital assets that will be commissioned during FY 2006-07, interest and finance charges incurred up to the date of commissioning will be capitalized as interest during construction.
- (f) In respect of those capital assets that are likely to be commissioned not later than 31st March, 2006, the interest and finance charges have been claimed to be a permissible item of revenue expenditure and hence, recoverable through tariff.

2.31 Interest charges against project loans envisaged for completion of construction of Karbi Langpi Hydro Electric project has been capitalized as IDC charges are added to Project Capital cost in line with prudent financial norms and guidelines of CERC Terms and Conditions of Tariff 2004. The details of PFC loans for the project is detailed in the Investment plan for FY 2006-07.

2.32 The total interest and financing charges for APGCL on term loans proposed to be charged as part of the Annual Revenue Requirement for FY 2006-07 is **Rs. 12.88 crores**.

Table 12: Interest and Finance Charges for APGCL

(Rs crores)

Sl No.	Name of the institution	Opening Balance 2006-07	Amount received during the year	Amount redeemed during the year	Closing Balance 2006-07	Rate of interest (%)	Interest Charges
1	State Govt.	8.64	102.02	10.13	100.54	10.50%	5.73
2	PFC	127.77	80.48	8.71	199.54	8.00%*	13.09
3	Bond	189.29	-	-	189.29	11.56%	11.15
4	Less: capitalized						-17.10
5	Total	325.70	182.50	18.84	489.37		12.88

* Interest Rate on PFC Loans range between 5.65% and 10.25% per annum, giving an average rate of 8%

Fixed Assets

2.33 The following table gives the category-wise details of assets for APGCL. Here generating company would once again like to submit that the opening balance sheets as per Schedule-I

to the Government of Assam notification no. PEL.151/2003/Pt/349 dated 16th August 2005 has been prepared based on the approved accounts of Assam State Electricity Board as on 31st March 2004 and such opening balance sheet shall all be subject to all consequential adjustments on the updates finalization and audit of accounts of Assam State Electricity Board as on 31st March 2005.

Table 13: Fixed Asset Details

(Rs crores)

Particulars of Asset Classes	As on 31.03.2005			As on 31.03.2006			As on 31.03.2007
	Gross Block	Accumulated Depreciation	Net Fixed Assets	Gross Block	Accumulated Depreciation	Net Fixed Assets	Projected Gross Block
Land & Rights	16.44	-	16.44	16.44	-	16.44	16.44
Buildings	77.99	47.55	30.45	77.99	51.22	26.78	77.99
Hydraulic works	19.27	10.18	9.09	19.27	10.87	8.40	19.27
Other Civil Works	24.37	4.94	19.43	24.37	5.32	19.04	24.37
Plant & Machinery	398.32	323.35	74.97	398.32	345.46	52.86	398.32
Lines & Cable Networks	8.62	7.45	1.17	8.62	7.76	0.86	8.62
Vehicle	1.64	1.24	0.41	1.64	1.34	0.30	1.64
Furniture & Fixtures	4.31	4.00	0.31	4.31	4.00	0.31	4.31
Office Equipments	0.37	0.24	0.14	0.37	0.25	0.12	0.37
Capital spares at Generating Station	160.76	102.71	58.05	160.76	110.01	50.75	160.76
Total	712.11	501.65	210.45	712.11	536.23	175.86	712.11

Depreciation

2.34 Depreciation has been computed on the opening Gross Fixed Assets for each class of assets individually for approval as part of the Annual Revenue Requirement for FY 2006-07. For the purpose of depreciation calculation, it has been ensured that the residual Net Block Value for each asset category should normally not be less than 10% of the Gross Block Value. In case the Net Block Value in respect of a particular asset category is already less than or equal to 10% of the Gross Block Value, no further depreciation has been charged. Based on this philosophy, the total depreciation expenditure charged for APGCL for FY 2006-07 is estimated to be **Rs. 25.20 crores**. The category wise average rates of depreciation together with the depreciation provision for FY 2006-07 are given in the following table:

Table 14: Depreciation

(Rs crores)

Category of Assets	Rate of Depreciation	Provision for Depreciation for 2006-07
Land & Land Rights	0%	-
Buildings	4.71%	3.67
Hydraulic Works	3.59%	0.69
Other Civil Works	1.58%	0.39
Plant & Machinery	5.55%	13.03
Lines & Cable Network	5.62%	-
Vehicles	6.58%	0.11
Furniture & Fixtures	7.3%	-
Office Equipment	4.18%	0.02
Capital Spares at Generating Station	4.54%	7.30
Total Depreciation Charges	3.54%	25.20

The details of Gross Fixed Assets, Depreciation and Net Fixed Assets, as per the Hon'ble Commission's formats, are attached in **Annexures VII, VIII and IX**.

Statutory Return

- 2.35 The Electricity Act, 2003 lays down the financial principles by which the finances of the licensee would be determined, including the return to be allowed to the licensee as part of its annual revenue requirement.
- 2.36 In view of the poor performance of ASEB as a whole, the Hon'ble Commission in its tariff order for FY 2005-06 had not allowed any return on equity. In view of the operational standards that APGCL is yet to achieve in terms of Plant Load Factor, Plant availability Factor, reliability of operations and station heat rates, no return on equity has been claimed in this petition. However, APGCL prays that the Hon'ble Commission grants at least a part of the return on equity that it would have been entitled to (**Rs 16.25 crores**) as it will go a long way in generating internal accruals that are so necessary to finance major renovation & modernization schemes. This becomes all the more critical as APGCL is unlikely to receive any significant financial support from the Government of Assam and thus, will need to take care of its financial health by itself.
- 2.37 A component of return is important for the newly formed companies to bring in a sense of commercial orientation in the licensee, which under the Board setup had its tariff adjusted automatically to allow a net 3% return on the Net Fixed Assets as per Section 59 of the Electricity (Supply) Act, 1948.
- 2.38 The Andhra Pradesh Electricity Regulatory Commission (APERC), in its Tariff Order has clearly stated that foregoing reasonable return was neither in the interest of the licensee / generating company nor with the consumers.

APERC in Para 707 of its Tariff Order for FY05 has viewed that, "the Commission allowed the Reasonable Return as, in the opinion of the Commission; it was not in the interest of either the consumer or the Licensee to forego the Reasonable Return. The Commission wish to emphasize that one of the prime objectives of Reforms undertaken by the State in the Electricity Sector is to bring in a Commercial Orientation in the methods of operation as well as in the general approach to management decisions by the unbundled entities. The Commission considers it necessary to provide for the Reasonable Return in the calculation of the Revenue Requirement to reinforce this commercial orientation and hopes that this would act as a motivating factor and a morale booster at all levels leading to more operational efficiency all round."

APGCL would like to mention that in case of AP, even though APTRANSCO didn't ask for a reasonable return, APERC allowed reasonable return on the above grounds.

- 2.39 The CERC Terms and conditions of tariff 2004 mandate the Return on Equity to be linked to the availability of the stations. In the absence of availability norms prevalent at the state level, most States in India have linked the RoE to the achievement of Plant Load factors. The generation company prays to the Hon'ble Commission to allow RoE at the benchmarked levels of 14% linked to Plant Load Factor of 80%. In this connection, it is prayed that additional leeway be given to APGCL keeping in view the advanced age and fuel supply constraints under which its thermal power stations operate.
- 2.40 APGCL recognizes that it needs to improve its PLF and hence proposes the pro-rating of the RoE component to the Plant Load factor levels. In this connection, the generating company would also like to place its humble submission that the achievement of PLF is inextricably linked to the issue of gas availability on which it has no control and the same has already been highlighted in the preceding sections. As has already been elaborated in the earlier sections, a number of concrete and time-bound initiatives have been undertaken. The

anticipated gains from these initiatives have been factored in the projected generation targets for FY 2006-07.

Other Income

- 2.41 Other income for the purpose of calculation of the Annual Revenue Requirement comprises mainly of the income on account of interest on loans & advances to employees and investments in the form of fixed deposits forms the remaining constituent of other income of the utility.
- 2.42 Other Income for APGCL for FY 2006-07 has been estimated based on the figures applicable in respect of individual accounting units. The other income has been projected as **Rs. 1.11 crores** for APGCL for FY 2006-07. The detailed break-up of estimated Other Income is as shown in the table below:

Table 15: Details – Other Income

Other Income	(Rs. crores)		
	ASEB Consolidated Figures	APGCL	
	2004-05 Approved Accounts	2005-06 Total	2006-07 Projected
Interest on staff loans and advances	0.01	0.90	0.95
Income from investment	7.46	-	-
Interest on loan & advances to licensees	-	-	-
Delayed payment charges from consumers	5.51	-	-
Rental from meters	8.16	-	-
Interest from banks(other than on fixed deposit	-	-	-
Income from trading	-	-	-
Reconnection / Disconnection Charges	2.14	-	-
De-pooling of PGCIL Transmission Charges	11.22	-	-
Miscellaneous receipts	0.94	0.16	0.16
Miscellaneous Recoveries (Transformer)	27.75	-	-
Total	63.19	1.06	1.11

Variable Charge

- 2.43 The Variable Charge component for any billing month for NTPS and LTPS (both gas based plants) will be computed as per the formula illustrated in detail in the Power Purchase Agreement (PPA) between APGCL and ASEB.
- 2.44 The monthly Variable Charge to be shown in the Monthly Bill will be the aggregate of the Variable Charge calculated for all the Generating Stations in running condition, i.e. Namrup TPS and Lakwa TPS.
- 2.45 The proposed generation from the two running power stations of APGCL, i.e. NTPS and LTPS are presented in the following table.

Table 16: Estimated Generation data for APGCL for 2006-07

Power Station	Gross Generation (MU)	Auxiliary Consumption in MU	Net Generation (MU)
NTPS	560	27	533
LTPS	450	31	419
Total	1010	58	952

2.46 Apart from generation, the other parameter values taken for calculation of Variable Charges of NTPS and LTPS are presented in the following table:

Table 17: Indicative Parameters for Variable Charges (Projections for FY 2006-07)

Power Station	Plant Load Factor	Station Heat Rate (KCal per kWh generated)	Auxiliary Consumption	Calorific Value of Fuel (KCal/1000 scm)
NTPS	47.89%	3450	4.80%	8500
LTPS	42.81%	3746	6.90%	8674 (wt. avg.)
Total	45.48%	3582	5.92%	8580

2.47 The indicative calculation of Variable Charges is presented in the following table.

Table 18: Indicative Calculation of Variable Charges

Station	Specific Fuel Consumption (scm / kWh generated)	Gross Generation (MU)	Fuel Price as per actual CV (Rs/1000 scm)	Cost of Fuel (Rs Crores)	T.C* (Rs Crores)	Total Fuel Cost (Rs Crores)	CV of Fuel (KCal /1000 scm)	Variable Cost of Generation (Rs / KWh)	
								Gross	Net
NTPS	0.406	560	1964	44.63	8.30	52.93	8500	94.5	99.3
LTPS	0.432	450	2091 (ONGCL) 3728 (OIL)	53.99	1.79	55.78	8674 (wt. avg.)	123.9	133.2
Total	0.417	1010	2339	98.62	10.09	108.71	8580	107.6	114.2

* T.C. – Transportation Cost of Fuel

T3: Investment Plan for FY 2006-07

3.1 The APGCL funding plan for 2006-07 has the State Plan component with regular State Plan Schemes along with a one-time State Plan Scheme i.e., for ACA for LAKWA WHP (1x33 MW) as well as one Centrally Sponsored Scheme – with PFC being the Funding Agency for Karbi Langpi HEP for **Rs 57** crores. The total funding for APGCL in 2006-07 amounts to **Rs 241.23** crores, with a Grant component of **Rs 45** crores and loan for **Rs 196.23** crores. Table 19 below illustrates the Investment Plan for APGCL for 2006-07.

Table 19: Proposed plan Outlay for the year 2006-07 for APGCL

Development Schemes	Funding Agency / Source of Funds	TOTAL OUTLAY			FOR APGCL	
		Grant	Loan	Total	Grant	Loan
(Rs lacs)						
State Plan Schemes						
Karbi Langpi HEP (2x50 MW)	State Plan	-	5,740	5,740	-	5,740
Dhansiri HEP (15x1.33 MW)	State Plan	-	49	49	-	49
Lungnit HEP (2x1.5+2x1.5 MW)	State Plan	-	5,081	5,081	-	5,081
Lower Kopili HEP (3x50 MW)	State Plan	-	50	50	-	50
R&M of BTPS	State Plan	-	50	50	-	50
Revival of CTPS	State Plan	-	50	50	-	50
Development of Borgolai Project	State Plan	-	100	100	-	100
Lakwa TPS Ph- II (3x20 MW)	State Plan	-	89	89	-	89
R&M of NTPS	State Plan	-	400	400	-	400
R&M of LTPS	State Plan	-	1,644	1,644	-	1,644
Replacement of Power Project at NTPS	State Plan	-	50	50	-	50
200 MW CCGT in JV mode with oil	State Plan	-	50	50	-	50
Non Conventional energy Sources	State Plan	-	20	20	-	20
Survey & Investigation	State Plan	-	50	50	-	50
Total of State Plan		-	13,423	13,423	-	13,423
ACA for Lakwa WHP (1x33 MW)	State Plan - One Time	4,500	500	5,000	4,500	500
Total of All State Plans		4,500	13,923	18,423	4,500	13,923
Centrally Sponsored Schemes						
Karbi Langpi H.E. Project (2*250MW)	PFC		5,700	5,700		5,700
Total of Centrally Sponsored Schemes		-	5,700	5,700	-	5,700
Grand Total		4,500	19,623	24,123	4,500	19,623

State Plan – Ongoing Schemes

3.2 The only ongoing scheme is the Lakwa WHP (Ph-I) under one time ACA, for **Rs 50** crores which has been approved. The grant portion is for **Rs 45** crores and the loan for **Rs 5** crores. This proposed Plan Outlay is required to implement the Waste Heat Project at LTPS. Meanwhile G.O.A. released Rs. 45.00 Crores under ACA. The lone tenderer, BHEL, quoted a high price of **Rs 243** crore against a revised project cost of **Rs 173** crore, which is being negotiated with them.

State Plan – New Schemes

3.3 Revival of CTPS: Outlay is proposed to take up preliminary project activity for revival of the plant.

3.4 Development of Borgolai Power Project / Replacement Project NTPS (235 MW) / New JV project NTPS (200 MW): The Plan Fund is envisaged to carry out the project activities like preparation of feasibility report / DPR etc

State Plan – Renovation & Maintenance (R&M)

3.5 Namrup TPS: This is for implementing of short term R&M scheme as counter part funding of PFCL loan of **Rs 13** crores. The funding amount from the State is **Rs 4** crores.

3.6 Lakwa TPS: This is a short term R&M scheme which is proposed to complete the balance R&M work of the 10th Plan.

3.7 Bongaigaon TPS: This funding is to clear outstanding liabilities of past R&M works.

State Plan – Large Schemes

- 3.8 Karbi Langpi HEP (2x50 MW): Funds will be required to complete the balance of work of civil, hydro-mechanical and electromechanical and transmission works. Funding from PFC is **Rs 57** crores.
- 3.9 Lungnit HEP (2x1.5+ 2x1.5 MW): This is a small hydro electric project. The construction of this project will commence during the 3rd quarter of 2005-06.

State Plan – Non Conventional Energy Sources

- 3.10 Renewable Energy Wing (REW) is to take up the project of non-conventional source of energy. The funds amounting to Rs 20 lacs for this project have been earmarked. Non-conventional energy sources available in Assam are wind, solar, microhydel, biogas / biomass etc. REW has to explore the availability of non-conventional energy sources and take up a pilot project to mitigate the power shortage up to some extent.

T4: Efficiency Improvement Initiatives

- 4.1 The Generating Company has initiated a number of efficiency improvement initiatives at the plant and Head Quarter level for performance monitoring and initiating suitable corrective actions in case of deviations from expected levels. The efforts initiated across the entire value chain of the activities beginning from fuel supply to sales are expected to provide substantial gains and enable the utility to monitor and control costs effectively in the Ensuing Year.
- 4.2 The generating company has also set up a Commercial Monitoring System at plants using a Toolkit developed to ensure the following
- (a) Continuous Monitoring of Plant Performance on Critical parameters
 - (b) Performance Variance Analysis.
- 4.3 The generating company has also set up a daily Flash Reporting system to address station critical issues on a daily basis for ensuring round the clock availability of machines for maximizing generation.
- 4.4 The generating company has also formed Trip Committees at the operational power stations to ensure thorough technical analysis of trips with identification of the equipment or sub component of equipment causing the trip. This will enable the utility to focus maintenance activity towards the problematic equipment in the plant.
- 4.5 At Lakwa Thermal Power Station, the Plant operations is using a Merit Order Scheduling Manual to assist the plant operator in allocating loads to various units taking into account the gas flow constraints, fuel availability and equipment availability for both Gas Turbines and Gas boosting Compressors. This enables the generating company to optimally load units under various gas availability scenarios.
- 4.6 LTPS's Fresh Agreement with OIL for Securing Additional Gas Supply of 0.5 mmscmd (measured million standard cubic meters per day)**

LTPS had to curtail its generation in the past due to absence of adequate supply of gas. Against an average requirement of 1.0 mmscmd, the current availability is only 0.5 mmscmd. It has, therefore, become critical to negotiate a further 0.5 mmscmd of gas to remove this bottleneck. The Gas Supply Agreement for LTPS between OIL and APGCL signed on 02-09-05 and hence, increase in the Plant Load Factor of LTPS. It is expected that the additional 0.5 mmscmd gas supply will be made available to APGCL by December 2006 and this is reflected in the increased level of generation from Lakwa.

4.7 APGCL will Conduct Studies to Establish Actual Station Heat Rates, Unit Heat Rates and Actual Station Capacities

In order that APGCL meets regulatory requirements and ensures its commercial viability, it is necessary that it continuously improve its operational efficiency measured in terms of plant capacity and station heat rates. An exercise needs to be carried out to determine the current situation - plant capacities, station heat rates as well as unit heat rates. Consultants shall be engaged for this purpose.

The results of the study will provide a baseline and reference point for all future evaluation of improvement or deterioration of generation efficiency and identify precise measures required to yield envisaged benefits in the most efficient manner. In particular, the study will aim to:

- a) Establish current level of performance and achievable efficiency;
- b) Recommend optimal operating regime;
- c) Assess performance degradation;
- d) Provide inputs for maintenance and capacity restoration;
- e) Facilitate combustion optimization;
- f) Improve operating efficiency.

The current status in respect of the procurement of gas flow meters for NTPS and LTPS I as follows:

NAMRUP

The gas flow meters shall be procured under the short-term Renovation & Modernisation scheme to be funded by Power Finance Corporation (PFC). The tender specifications have already been prepared and the tenders are expected to be floated shortly. Installation and commissioning of the same is likely to be completed within the next 6 months i.e. by June 2006.

LAKWA

The gas flow meters are being procured under the short-term Renovation & Modernisation scheme to be financed by PFC.

A reputed technical consultant is being engaged to assist in the above study scheduled to be completed by 2006-07.

Performance Incentive Scheme (PIS)

- 4.8 APGCL has commenced a pilot Performance Incentive Scheme implemented w.e.f 15 October 2005 for the remaining six months of FY 05-06 (01-10-05 to 31-03-06). This pilot Performance Incentive Scheme is applicable for operational and maintenance personnel only at LTPS and NTPS, up to the Power Station Superintendent level. The purpose of this limited trial is to acquaint staff to the nature of the PIS, and to allow senior management to fine-tune this scheme prior to wider implementation.

The rationale of selecting front-line operational staff for this PIS trial is twofold:

- Improved performance in direct operating units will have the most immediate impact on improving overall corporate business performance; and

- Setting performance indicators for such units is relatively easier because of the direct correlation between local performance indicators and overall company performance indicators.

In order for this pilot Performance Incentive Scheme being implemented, the following aspects have been taken in to consideration

1. Review the recommended performance indicators and their respective weightings, and if so desired, suggest amendments to these indicators/weightings.
2. Set the *target* for each performance indicator, by LTPS and NTPS. The target for each performance indicator should represent a reasonable improvement on current performance.
3. The *maximum achievable result* for each performance indicator, by LTPS and NTPS. This should represent the best level of performance that is possible for the remainder of this financial year, given current resource and other constraints.

These employees will be eligible for an additional incentive payment up to a maximum of 15% of six-month basic salary. Based on the success of this pilot scheme, a wider Performance Incentive Scheme involving a greater proportion of our employees may be introduced in the future.

The pilot Performance Incentive Scheme will be based on performance measured by the following key performance indicators:

Performance Indicator	Weight	Target	Maximum Achievable Result	Actual Result	% Payable
1. No. of Plant Trips	20%				
2. Plant Load Factor	40%				
3. Station Heat Rate	40%				
TOTAL	100%				
Annual Basic Salary (Rs.)					
Max. Performance Payment (%)					
Max. Performance Payment (Rs.)					
ACTUAL PERFORMANCE PAYMENT (Rs.)					

The Performance Incentive scheme will be calculated based on the formula below, added for each of the three above performance indicators:

$$\frac{(\text{Actual Result} - \text{Target})}{(\text{Maximum Achievable Result} - \text{Target})} \times \text{Weighting \% (as above)} \times \text{6 months Basic Salary} \times 15\%$$

Where:

- **Target** = the minimum expected performance by the business unit based on the Company Business Plan and Budget.
- **Maximum Achievable Result** = maximum performance that can be reasonably achieved for this indicator, given the time available and the existing technical and commercial constraints.
- **Actual Result** = the actual result reported for the period.

Each sub-division/division will have individual targets set, as appropriate for each location. For staff to achieve the performance incentive payment, actual performance must exceed the targets set.

From the 2006-07 financial year it is envisaged that the PIS be based on the complete approach including a weighted average of company and individual performance indicators. The impact of payment of incentive to the eligible employee has not been taken in the ARR submission as this will be off set by the gain due to efficiency improvement in the generating system

Interface Metering

- 4.9 AEGCL is in process of procuring and installing MRI based ABT compliant electronic meters at every point of interface. There are **168 nos.** of interface points between APGCL-AEGCL (**31 nos.**) and AEGCL and 3 Discoms viz. LAEDCL, UAEDCL and CAEDCL (**137 nos.**). Sub-station wise requirement of Electronic Meters is given at **Annexure X**.

The energy meters shall be indoor type connected with secondary side of outdoor CT and PT and shall be 3-phase 4 wire type suitable for connection to 3-phase 4 Wire or 3-phase 4 Wire systems. The meters shall have the following parameters.

- (a) Type of Installation : Indoor Panel/Rack mounted.
- (b) Accuracy : 0.2
- (c) Rated CT Secondary Current : 1 A / 5 A
- (d) Rated PT Secondary Voltage : $110/\sqrt{3}$ Volts (phase to neutral)
- (e) Auxiliary AC Supply : 230 Volts AC +/- 10%
- (f) Auxiliary DC Supply : 110 Volts / 220 Volts +/- 10%
- (g) System Frequency : 50 Hz +/- 5%
- (h) System Earthing : Solidly Earthed

Total Meters (168 actual meters + 168 check Meters + 12 spares total) - 348

Total cost is (@ 1.68 x 348 = 584.64) say Rs. 585 lacs = Rs. 5.85 crs.

Funds for procurement, installation and commissioning of electronic meters have already been earmarked. Evaluation of tenders is under process and the work for installation and commissioning of all meters will be completed by August, 2006.

Sub-station and Power House wise requirement of interface meters is annexed at **Annexure-X**.

T5: Tariff Proposal

- 5.1 The total energy to be generated from APGCL generating stations and sold to ASEB for distribution to LAEDCL, CAEDCL and UAEDCL for the Ensuing Year as per the Power Purchase Agreement is **952 MU** (on net basis). The annual fixed and variable costs are estimated to be **Rs 86.21 crores** and **Rs 108.71 crores** respectively. Based on the current fuel prices, the fuel cost of generation sent out from APGCL will be as follows:

Namrup	: 99.28 P/kWh
Lakwa	: 133.15 P/kWh
Combined	: 114.18 P/kWh
Fixed Cost	: 90.55 P/kWh
Tariff	: 204.73 P/kWh

The standard tariff mentioned above are proposed subject to a Fuel Adjustment Surcharge (FAS) clause, the full details of which are furnished in the following paragraphs.

Objectives:

1. The cost of fuel incurred in respect of energy generated by APGCL is the largest single item of expenditure. At the same time, it does not have any control whatsoever on the cost of fuel delivered – basic price, sales tax, royalties, cess, transportation etc. to the power station. Moreover, there is no bar on the fuel suppliers as to how frequently or how much the fuel prices may be increased.
2. On the other hand, APGCL is constrained to make a formal application to Assam Electricity Regulatory Commission for any upward revision of tariff, and that too not more than once a year, to receive their formal approval. Only when this entire process - normally quite lengthy - is gone through, can APGCL implement the revised tariff.
3. It is therefore, proposed to introduce an FAS in the Schedule of Rates that will facilitate the following:
 - i. APGCL will not need to go through a full tariff revision exercise to neutralise the financial impact of any change in fuel costs (the cost of fuel being deemed to include that of associated taxes, levies, transportation etc. as was defined in the erstwhile Sixth Schedule of The Electricity (Supply) Act, 1948. Instead, any adjustment in the FAS rate(s) applicable for the year shall be given effect to, based on (a) estimates for provisional rates and (b) audited financial statements for final rates.
 - ii. FAS will be levied on ASEB Trading on a provisional basis and shall be subject to a final adjustment on completion of audit in respect of each financial year. Should the final audited FAS rate be less or more than the provisional FAS rate(s) levied during the year, a corresponding credit or debit adjustment shall be made to the consumers' accounts.
 - iii. As there may be a difference between the provisional FAS rate(s) levied in course of a given financial year and the final FAS rate computed in respect of that financial year, the revenue for the year will include a component 'Fuel Adjustment Surcharge due but not billed' and shall be equal to the difference between the audited and the provisionally billed FAS rate(s) **multiplied** by the aggregate quantum of energy sold by APGCL to ASEB Trading during that particular financial year.

Salient features of the proposed Fuel Adjustment Surcharge (FAS) clause:

1. FAS shall be constructed in a manner that APGCL will not stand to gain or lose due to differences in the actual values of key parameters such as station heat rates, generation mix between Namrup and Lakwa etc.
2. The impact of any increase in fuel prices in respect of APGCL generation shall be neutralised by a corresponding increase in the FAS to be levied and collected by APGCL from its own consumer viz. ASEB Trading.
3. The FAS rate that shall be charged by APGCL to ASEB Trading shall be computed as per the following formula:

Sl. No.	Source of energy	Quantum of energy sent out (MkWh)	UoM	Basic / Actual price of fuel (Rs per UoM)	Basic / Actual calorific value of fuel (KCal per UoM)
1	Namrup Thermal Power Station (APGCL)	Q1		BP1 / AP1	BC1 / AC1
2	Lakwa Thermal Power Station (APGCL)	Q2		BP2 / AP2	BC2 / AC2
3	Chandrapur Thermal Power Station (APGCL)	Q3		BP3 / AP3	BC3 / AC3
4	Bongaigaon Thermal Power Station (APGCL)	Q4		BP4 / AP4	BC4 / AC4

UoM – Unit of measurement

The FAS Rate that shall be charged by APGCL to ASEB Trading shall be equal to:

$$Q1 * [(AP1 * BC1 / AC1) - BP1] + Q2 * [(AP2 * BC2 / AC2) - BP2] + Q3 * [(AP3 * BC3 / AC3) - BP3] + Q4 * [(AP4 * BC4 / AC4) - BP4] +$$

Energy sent out from Namrup TPS + Energy sent out from Lakwa TPS + Energy sent out from Chandrapur TPS + Energy sent out from Bongaigaon TPS

T6: Progress on Commission’s Previous Directives

6.1 The progress achieved on the various directives issued by the Hon’ble Commission as part of its Tariff Order for FY 2005-06, is mentioned in the table below:

Table 20: Replies to AERC Directives

AERC Directive – FY05-06	Action Taken To Date or To Be Taken
<p>Auxiliary Power Consumption for LTPS/NTPS</p> <p>6.14 While appreciating the realities of the situation in NTPS and LTPS, it is felt that there is sufficient flexibility for improving the rates of auxiliary consumption In NTPS and LTPS and APGCL is directed to complete studies to indicate the extent of improvement possible.</p>	<p>A report on Improvement of Auxiliary Power Consumption for LTPS and NTPS to the extent possible is provided at Annexure XI for ready reference.</p>
<p>Revival or Alternate Plan for closed units of LTPS & NTPS</p> <p>3.94 The Commission directs APGCL to submit a report within three months of notification of this tariff order, about revival of/alternate plan for the closed generation units and improvement of PLF of the LTPS and NTPS. It is noted in particular that Unit 5 of NTPS was originally scheduled to return to service in March, 2005 but this has now slipped to June, 2005. The Commission expects that there will be no further slippage and also want to be provided with a copy of the fuel supply agreement with OIL after it is finalized.</p>	<p>Unit 5 of NTPS was under forced shut down since March 2003 due to failure of generator stator coil. M/s BHEL was entrusted with the job of complete repair of the unit including replacement of stator coil. The machine initially schedule to be recommissioned by March 2005 but the same could not be achieved due to delay in receipt of insulation materials. The machine could, therefore, only be recommissioned on 7th June 2005. The unit is currently running at an average load of 20MW.</p> <p>Fresh agreement with OIL for securing additional gas supply of 0.5 mmscmd to LTPS (measured million standard cubic meters per day)</p> <p>LTPS had to curtail its generation in the past due to absence of adequate supply of gas. Against an average requirement of 1.0 mmscmd, the current availability is only 0.5 mmscmd. It had, therefore, become critical to negotiate a further 0.5 mmscmd of gas to remove this bottleneck. The fresh agreement executed with OIL for supply of the additional gas will increase generation level and hence, the Plant Load Factor of LTPS. It is expected that the additional gas supply will be made available to APGCL from December, 2006 and this is reflected in the increased level of generation from Lakwa projected from then onwards..</p> <p>A copy of the agreement has already been filed vide letter no ASEB/CE(G)/Tariff/115/Part II/3 dated 12th November, 2005.</p>

AERC Directive – FY05-06	Action Taken To Date or To Be Taken
<p>Detailed Business Plans for Next 5 Years 11.5 The Commission also requires each of the Licensees to submit detailed business plans for the next 5 years having details of its Capital expenditure and Financing plans as well the future projections of operational performance like losses and collection efficiency.</p>	<p>The work on Business Plans for the next 5 years is underway and it is expected that the same will be completed after the Tariff Filing process for FY 2006-07 is over. Therefore, the utility craves leave to submit the same once they are ready after the Tariff Petition is filed.</p>
<p>Stranded Employees of BTPS & CTPS 6.35 & 11.8 APGCL is directed to prepare a plan to reduce stranded employees of the BTPS and CTPS to the minimum required for repairs and maintenance in phases so as to redeploy/eliminate all unnecessary employees by 2007, and submit the plan to the Commission within the next four months.</p>	<p>A report on Plan for manpower rationalization at BTPS and CTPS is provided at Annexure XII for ready reference.</p>
<p>Interface Metering Points 11.16 The five petitioners are to provide details of interface metering points of the five petitioners for energy accounting, and also the status of accounting as directed by the Commission in the Interim Tariff Order dated 31 March, 2005.</p>	<p>The details of interface metering points between APGCL and AEGCL are provided at Annexure XIII. The energy accounting methodology is in the process of being finalised and will shortly be made operational.</p>

AERC Directive – FY04-05	Action Taken To Date or To Be Taken
<p>Status of Meters Installed at Offices and Premises 8.1 The Commission hereby directs the Board to submit a report on the status of meters installed at offices and premises belonging to ASEB, within two months of the publication of this order.</p>	<p>A report on Status of meters installed at offices and premises is provided in Annexure XIV.</p>
<p>Asset Register 8.18 The Commission hereby directs ASEB to build an asset register that should include information on the status of the assets mentioned. Within two months of publication of this tariff order ASEB should inform the Commission about the expected time to be taken to build the asset register.</p>	<p>Asset Registers for all the power stations under APGCL have been prepared and updated to March 2004 with data available in this office excepting Chandrapur Thermal Power station. The preparation of asset registers for CTPS in under process and will be completed shortly.</p> <p>However, it is necessary to carry out reconciliation of these asset data with that of Accounts and Finance wing of ASEB, which is presently dealing with the matter. Once it is done, the details will be furnished to the Hon'ble Commission.</p>

Chandrapur Thermal Power Station

(Economics of running CTPS for 6 months a year)

Tariff Petition for FY 2006-07

Station Capacity	30	MW	30
Plant Load Factor	80.00%		80.00%
Period under review	183	days	183
Heat rate	3600	KCal per KWh generated	3600
Auxiliary consumption	9.00%		9.00%
Avg cost of fuel delivered to station	17936	Rs per kilolitre	8968.00
Calorific value of fuel	10479	KCal per litre	10479.00
Specific fuel consumption	0.3435	litres per KWh generated	0.34

With subsidy

Annual Fixed costs	83	Rs lacs
Interest & depreciation	0	Rs lacs
Employee cost (marginal increase)	0	Rs lacs
R&M cost	75	Rs lacs
Other fixed costs	8	Rs lacs

Particulars	Net Gen	Total Cost	T cst of gen
	MKWh	Rs lacs	P/KWh
NTPS & LTPS	894.00	14587.00	163.17
Chandrapur	95.92	3330.52	347.21
Total	989.92	17917.52	181.00

Annual Fuel costs	Without subsidy from Govt of Assam	With subsidy from Govt of Assam of 50%
Gross generation	105.408 MKWh	105.408 MKWh
Auxiliary consumption	9.487 MKWh	9.48672 MKWh
Net generation	95.921 MKWh	95.92128 MKWh
Fuel consumption	36212.31 klitres	36212.31 klitres
Fuel cost of generation	6495.04 Rs lacs	3247.52 Rs lacs
Total cost of generation	6578.04 Rs lacs	3330.52 Rs lacs

Average costs of generation

Fixed cost	9	Paise per KWh sent out	8.7	Paise per KWh sent out
Fuel cost	677	Paise per KWh sent out	338.6	Paise per KWh sent out
Total cost	686	Paise per KWh sent out	347.2	Paise per KWh sent out

Plant Characteristics

Name of the Company Assam Power Generating Corporation Ltd

Name of the Power Station Namrup Thermal Power station

Basic characteristics of the plant¹
 (I) 4 Gas Turbines
 (II) 1 Gas Fired Steam Turbine
 (III) 1 Waste Heat Recovery Unit

Fuel type² Natural Gas

Details	Module number of Unit number					
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Rated Capacity (MW)	23	23	23	12.5	30	22.5
Date of synchronization	Apr - 65	Apr - 65	Apr - 65	Sep - 75	Apr - 76	Mar - 85
Capacity at the date of synchronization	23	23	23	12.5	30	11.25 (Single Boiler)
Date of entry into commercial operation	Apr - 65	Apr - 65	Apr - 65	Sep - 75	Apr - 76	Apr - 90
Date of stabilisation	Apr - 65	Apr - 65	Apr - 65	Sep - 75	Apr - 76	Apr - 90
Capacity at the date of stabilisation	23	23	23	12.5	24	15
Has any performance test been performed	No	No	No	No	No	No
If yes, capacity at test	NOT APPLICABLE					
Type of cooling system for condenser ³	-	-	-	-	Water	Water
Type of Boiler Feed pump ⁴	-	-	-	-	BF-20 WEIR Make	BF-20 WEIR Make
Type of cooling system for electric generator ⁵	Hydrogen	Hydrogen	Hydrogen	Air	Air	Air
Any other special feature ⁶	-	-	-	-	Could not be loaded upto rated capacity	Could not be loaded upto rated capacity
Has the station received any notice or shut down the power station of penalty imposed for violation of any environmental standard by the Central/State Statutory Authorities						No

If yes, furnish full details

¹ Describe the basic characteristics of the plant e.g. in the case of a coal based plant whether it is a conventional steam generator or circulating fluidized bed combustion generator or sub-critical once through steam generator etc.

² Coal or natural gas or naphtha or lignite etc.

³ Closed circuit cooling, once through cooling, sea cooling etc.

⁴ Motor driven, Steam turbine driven etc.

⁵ Air cooled, water cooled, hydrogen cooled etc.

⁶ Any special feature such as merry-go-round, scrubbers etc. Specify all such features.

PETITIONER

Annexure-III

FORM-3

Normative Parameters

Name of the Company Assam Power Generating Corporation Ltd

Name of the Power Station Namrup Thermal Power station

Particulars	Year Ending March			
	Latest Audited Year 2003-04	Previous Year 2004-05	Current Year 2005-06	Ensuing Year 2006-07
Target Availability (Gross Generation in MU)	389.141	442.573	502.000	560.000
Normative PLF	33.3%	37.8%	42.8%	48%
Auxiliary consumption(%)	2.8%	3.1%	3.3%	4.8%
Station Heat Rate k.Cal/KWh	3437	3044	3293	3450
Hours of operation at Target Availability	-	-	-	5643
Hours of operation at Target PLF	2904	3303	3746	5138
Sp. Oil consumption (ml/KWh)	0.4038	0.3639	0.3874	0.4059
O& M Charges (% of CC for plants less than 5 years old)	-	-	-	-
(Based on actuals for plants more than 5 years	-	-	-	-
Coal stock expense in months for working capital (WC)	-	-	-	-
Oil stock in months for WC	-	-	-	-
Spares stock for WC as % of O&M	-	-	-	-
Receivables in Months for WC	-	-	-	-
Rate of Return on Equity (%)	-	-	-	-

PETITIONER

Plant Characteristics

Name of the Company Assam Power Generating Corporation Ltd

Name of the Power Station Lakwa Thermal Power station

Basic characteristics of the plant¹ Gas Turbine

Fuel type² Natural Gas

Details	Module number of Unit number						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Rated Capacity (MW)	15	15	15	15	20	20	20
Date of synchronization	30-07-83	26-04-81	02-08-81	28-11-86	03-01-94	26-07-94	24-05-99
Capacity at the date of synchronization	15	15	15	15	20	20	20
Date of entry into commercial operation	30-07-83	26-04-81	02-08-81	28-11-86	03-01-94	26-07-94	24-05-99
Date of stabilisation	02-08-83	29-04-81	05-08-81	01-12-86	06-01-94	29-07-94	27-05-99
Capacity at the date of stabilisation	15	15	15	15	20	20	20
Has any performance test been performed	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If yes, capacity at test	15	15	15	15	20	20	20
Type of cooling system for condenser ³	-	-	-	-	-	-	-
Type of Boiler Feed pump ⁴	-	-	-	-	-	-	-
Type of cooling system for electric generator ⁵	Air	Air	Air	Air	Air	Air	Air
Any other special feature ⁶	Scrubbers	Scrubbers	Scrubbers	Scrubbers	Scrubbers	Scrubbers	Scrubbers

Has the station received any notice or shut down the power station of penalty imposed for violation of any environmental standard by the Central/State Statutory Authorities No

If yes, furnish full details

- ¹ Describe the basic characteristics of the plant e.g. in the case of a coal based plant whether it is a conventional steam generator or circulating fluidized bed combustion generator or sub-critical once through steam generator etc.
² Coal or natural gas or naphtha or lignite etc.
³ Closed circuit cooling, once through cooling, sea cooling etc.
⁴ Motor driven, Steam turbine driven etc.
⁵ Air cooled, water cooled, hydrogen cooled etc.
⁶ Any special feature such as merry-go-round, scrubbers etc. Specify all such features.

PETITIONER

Normative Parameters

Name of the Company Assam Power Generating Corporation Ltd

Name of the Power Station LaKWa Thermal Power station

Particulars	Year Ending March			
	Latest Audited Year 2003-04	Previous Year 2004-05	Current Year 2005-06	Ensuing Year 2006-07
Target Availability (Gross Generation in MU)	321.528	313.862	373.000	450.000
Normative PLF	30.6%	29.9%	35.5%	42.8%
Auxiliary consumption(%)	7%	6.9%	6.7%	6.9%
Station Heat Rate k.Cal/KWh	4099	3715	3782	3746
Hours of operation at Target Availability	-	-	-	3942
Hours of operation at Target PLF	2679	2616	3108	3750
Sp. Oil consumption (ml/KWh)	0.4619	0.4211	0.4298	0.432
O& M Charges (% of CC for plants less than 5 years old)	-	-	-	-
(Based on actuals for plants more than 5 years	-	-	-	-
Coal stock expense in months for working capital (WC)	-	-	-	-
Oil stock in months for WC	-	-	-	-
Spares stock for WC as % of O&M	-	-	-	-
Receivables in Months for WC	-	-	-	-
Rate of Return on Equity (%)	-	-	-	-

PETITIONER

Form-AT6A/T6A/D 6A

Employees Costs - Additional information

SI No	Category of employee	Previous year 2004-05		Current year 2005-06		Ensuing year	
		Number		Number		Number	
		Sanctioned	Working	Sanct- ioned	Working	Sanct- ioned	Working
1	Board of directors	-	-	-	-	-	-
2	Chief Engineer & equivalents	2	2	2	2	2	2
3	Superintending Engineers & equivalents	19	16	19	16	19	11
4	Executive Engineers & equivalents	67	51	67	50	67	47
5	Asst Executive Engineers & equivalents	109	98	109	94	109	85
6	Asst Engineers & equivalents	37	24	37	32	37	28
7	All other staff	2872	1708	2872	1683	2872	1521
8	ACEs & Equivalents	5	5	5	5	5	5
	Total	3111	1904	3111	1882	3111	1699

Note:

All numbers of employees should be given on a consistent year-end-basis.

The Cost columns should include remuneration for actual employees, not sanctioned employees.

APGCL

Form-AT15/T15/D15

Gross Fixed Assets

Information shall be provided voltage class (400 KV, 220 KV, 132 KV, 66 KV, 33 KV, 11 KV and below)
Repeat the same format to provide voltage class-wise information.

(Rs crores)

Sl No	Particulars of assets	Previous year-2004-05			Current year -2005-06			Ensuing year-2006-07			
		Balance at the beginning of the year	Additions during the year	Retirement of assets during the year	Balance at the end of the year	Additions during the year	Retirement of assets during the year	Balance at the end of the year	Additions during the year	Retirement of assets during the year	Balance at the end of the year
1.	Land & Rights	14.03	2.42		16.44			16.44			16.44
2.	Building	77.97	0.02		77.99			77.99			77.99
3.	Hydraulic	19.28	(0.01)		19.27			19.27			19.27
4.	Other Civil Works	24.06	0.31		24.37			24.37			24.37
5.	Plant & Machinery	394.43	3.89		398.32			398.32			398.32
6.	Lines & Cable Net work	8.55	0.07		8.62			8.62			8.62
7.	Vehicles	1.62	0.02		1.64			1.64			1.64
8.	Furniture & Fixtures	4.28	0.03		4.31			4.31			4.31
9.	Office Equipment	0.31	0.06		0.37			0.37			0.37
10.	Capital spares at Generating Stations	160.76	-	-	160.76			160.76			160.76
	Total	705.28	6.82	-	712.10	-	-	712.10	-	-	712.10

APGCL

Form - AT8/T8/D8

Depreciation

Information shall be provided voltage class (400 KV, 220 KV, 132 KV, 66 KV, 33 KV, 11 KV and below)

Repeat the same format to provide voltage class-wise information.

(Rs crores)

Sl No	Description of assets	Previous year 2004-05			Current year 2005-06			Ensuing year 2006-07		
		Balance of accumulated depreciation at the beginning of the year	Depreciation provided for the year	Withdrawal of depreciation	Balance of accumulated depreciation at the end of the year	Depreciation provided for the year	Withdrawal of depreciation	Balance of accumulated depreciation at the end of theyear	Depreciation provided for the year	Withdrawal of depreciation
1.	Land & Rights	-	-		-	-	-	-	-	-
2.	Building	43.37	4.18		47.55	3.67	51.22	3.67		54.89
3.	Hydraulic	8.63	1.55		10.18	0.69	10.87	0.69		11.56
4.	Other Civil Works	4.41	0.53		4.94	0.39	5.32	0.39		5.71
5.	Plant & Machinery	287.02	36.33		323.35	22.11	345.46	13.03		358.49
6.	Lines & Cable Net work	6.63	0.83		7.45	0.31	7.76	-		7.76
7.	Vehicles	1.20	0.04		1.24	0.11	1.34	0.11		1.45
8.	Furniture & Fixtures	3.76	0.24		4.00	-	4.00	-		4.00
9.	Office Equipment	0.21	0.02		0.24	0.02	0.25	0.02		0.27
10	Capital spares at Generating Stations	96.61	6.10		102.71	7.30	110.01	7.30		117.31
	Grand Total	451.83	49.82	-	501.65	34.59	536.24	25.20	-	561.44

Annexure-IX

APGCL

Form-AT16/T16/D16

Net Fixed Assets

Information shall be provided voltage class (400 KV, 220 KV, 132 KV, 66 KV, 33 KV, 11 KV and below)

Repeat the same format to provide voltage class-wise information.

(Rs crores)

Sl No	Description of assets	Previous year 2004-05				Current year 2005-06			Ensuing year 2006-07		
		Balance of written down cost of assets at the beginning of the year	Net Addition of assets during the year	Net Depreciation for the Year	Balance of written down cost of assets at the end of the year	Net Addition of assets during the year	Net Depreciation for the Year	Balance of written down cost of assets at the end of the year	Net Addition of assets during the year	Net Depreciation for the Year	Balance of written down cost of assets at the end of the year
1	2	3	4	5	6	7	8	9	10	11	12
1.	Land & Rights	14.03	2.42	-	16.44	-	-	16.44	-	-	16.44
2.	Building	34.60	0.02	4.18	30.45	-	3.67	26.78	-	3.67	23.10
3.	Hydraulic	10.64	(0.01)	1.55	9.09	-	0.69	8.40	-	0.69	7.71
4.	Other Civil Works	19.65	0.31	0.53	19.43	-	0.39	19.04	-	0.39	18.66
5.	Plant & Machinery	107.40	3.89	36.33	74.97	-	22.11	52.86	-	13.03	39.83
6.	Lines & Cable Net work	1.92	0.07	0.83	1.17	-	0.31	0.86	-	-	0.86
7.	Vehicles	0.42	0.02	0.04	0.41	-	0.11	0.30	-	0.11	0.19
8.	Furniture & Fixtures	0.52	0.03	0.24	0.31	-	-	0.31	-	-	0.31
9.	Office Equipment	0.10	0.06	0.02	0.14	-	0.02	0.12	-	0.02	0.11
10	Capital spares at Generating Stations	64.15	-	6.10	58.05	-	7.30	50.75	-	7.30	43.45
	Total	253.45	6.82	49.82	210.45	-	34.59	175.86	-	25.20	150.66

SUBSTATION WISE REQUIREMENTS OF METERS

SL. NO.	Name of Sub-station / Site	QUANTITY (NUMBERS)				CMRI	Name of Consignee
		ABT Meter	Meter Panel/Rack				
			4	8	16		
1.0	132 KV EHV Grid Sub-Station,ASEB, Dhaligaon-783385, Bongaigaon District(Assam)	6	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Dhaligaon-783385, Bongaigaon District (Assam)
2.0	132 KV EHV Grid Sub-Station, ASEB, Barnagar, Sorbhog-781317 Barpeta District (Assam)	4	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Rangia-781354, Kamrup District(Assam)
3.0	132 KV EHV Grid Sub-Station,ASEB, Rangia-781354 Kamrup District (Assam)	4	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Rangia-781354, Kamrup District(Assam)
4.0	132 KV EHV Grid Sub-Station,Kahilipara, Guwahati-781019, Kamrup District(Assam)	18	0	1	1	1	RE,132 KV EHV Grid Sub-Station,Kahilipara, Guwahati-781019, Kamrup District (Assam)
5.0	220 KV EHV Grid Sub-Station,Sarusajai, Guwahati-781034 Kamrup District (Assam)	8	0	0	1	1	RE,220 KV EHV Grid Sub-Station,Sarusajai, Guwahati-781034, Kamrup District (Assam)
6.0	132 KV EHV Grid Sub-Station,ASEB, Rowta-784508 Darrang District (Assam)	4	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB,Depota, Balikipukhuri-784001 Sonitpur District (Assam)
7.0	132 KV EHV Grid Sub-Station,ASEB, Baghjap,Bhakatgaon-782411 Marigaon District (Assam)	6	0	1	0	1	EE,T&T Division,ASEB,Narangi, Guwahati-781026 Kamrup District (Assam)
8.0	132 kV EHV Grid Sub-Station,ASEB,Depota Balikipukhuri-784001 Sonitpur District (Assam)	6	1	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB,Depota, Balikipukhuri-784001 Sonitpur District (Assam)
9.0	132 KV EHV Grid Sub-Station,Panchgram ASEB (NEW) Panchgram-788802 Hailakandi District (Assam)	10	0	0	1	1	RE,132 KV EHV Grid Sub-Station,Panchgram, ASEB,Panchgram-788802 Hailakandi District (Assam)
10.0	132 KV EHV Grid Sub-Station,Panchgram ASEB (OLD), Panchgram-788802 Hailakandi District (Assam)	4	0	1	0	1	RE,132 KV EHV Grid Sub-Station,Panchgram, ASEB,Panchgram-788802 Hailakandi District (Assam)
11.0	132 KV EHV Grid Sub-Station, ASEB, APM Jogighopa-783382 Goalpara District (Assam)	4	0	1	0	1	EE, T&T Division,ASEB, Agia-783120, Goalpara District (Assam)

Annexure-X contd...

SL. NO.	Name of Sub-station / Site	QUANTITY (NUMBERS)				CMRI	Name of Consignee
		ABT Meter	Meter Panel/Rack				
			4	8	16		
12.0	132 KV EHV Grid Sub-Station, Gauripur-783331 Dhubri District (Assam)	4	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Dhaligaon-783385, Bongaigaon District.(Assam)
13.0	132 KV EHV Grid Sub-Station, ASEB, Gohpur-784168, Sonitpur District.(Assam)	8	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Depota Balikpuukhuri-784001 Sonitpur District.(Assam)
14.0	132 KV EHV Grid Sub-Station , ASEB, North Lakhimpur-787001 Lakhimpur District.(Assam)	4	0	1	0	1	Executive Engineer,T&T Division North Lakhimpur-787001 Lakhimpur District.(Assam)
15.0	132 KV EHV Grid Sub-Station , ASEB, Dullavcherra, Dullavcherra-788736 Karimganj District.(Assam)	6	0	1	0	1	Executive Engineer,T&T Division, ASEB, Silchar-788001 Cachar District.(Assam)
16.0	132 KV EHV Grid Sub-Station Assam State Electricity Broad, Pailapool	6	0	1	0	1	Executive Engineer,T&T Division, ASEB, Silchar-788001 Cachar District.(Assam)
17.0	132 KV EHV Grid Sub-Station, ASEB, Haflong-788819 NC Hills District.(Assam)	6	1	0	0	1	Executive Engineer,T&T Division, ASEB, Silchar-788001 Cachar District.(Assam)
18.0	220 KV EHV Grid Sub-Station, Assam State Electricity Board, Samaguri	14	1	0	1	1	RE, 220 KV EHV Grid Sub-Station, Samaguri-782140 Nowgong District.(Assam)
19.0	220 KV EHV Grid Sub-Station, ASEB, Mariani-785634, Jorhat District.(Assam)	16	0	0	1	1	RE, 220 KV EHV Grid Sub-Station,ASEB, Mariani-785634, Jorhat District.(Assam)
20.0	132 KV EHV Grid Sub-Station, ASEB, Dibrugarh-786001, Dibrugarh District.(Assam)	8	0	1	0	1	RE,132 KV EHV Grid Sub-Station,ASEB, Dibrugarh-786001, Dibrugarh District.(Assam)
21.0	132 KV EHV Grid Sub-Station, Sankardev Nagar,Jorapukhuri, Nowgong District,(Assam)	4	0	1	0	1	RE, 220 KV EHV Grid Sub-Station, Samaguri-782140, Nowgong District.(Assam)

Annexure-X contd...

SL. NO.	Name of Sub-station / Site	QUANTITY (NUMBERS)				CMRI	Name of Consignee
		ABT Meter	Meter Panel/Rack				
			4	8	16		
22.0	132 KV EHV Grid Sub-Station, Gossaigaon (Joyma) Gossaigaon-783360, Kokrajhar District. (Assam)	4	0	1	0	1	RE, 132 KV EHV Grid Sub-Station, ASEB, Dhaligaon-783385, Bongaigaon District, (Assam)
23.0	66 KV EHV Grid Sub-Station, ASEB, Golaghat-785621 Golaghat District, (Assam)	8	1	1	0	1	EE, T&T Division, ASEB, Jorhat-785001, Jorhat District, (Assam)
24.0	66 KV EHV Grid Sub-Station, ASEB, Bokajan-782480 Karbi Anglong District, (Assam)	10	0	0	1	1	EE, T&T Division, ASEB, Jorhat-785001, Jorhat District, (Assam)
25.0	220 KV Sub-Station, Bongaigaon Thermal Power Station, Assam State Electricity Board, P.O. Salakati-783369, Dist. Kokrajhar, Assam	12	0	0	1	1	Power Station Superintendent, Bongaigaon Thermal Power Station, Assam State Electricity Board, P.O. Salakati-783369, Dist. Kokrajhar, Assam
26.0	220/132/66/33 KV Grid Sub-Station, Assam State Electricity Board, Tinsukia-786125, District: Tinsukia, Assam.	10	0	2	0	1	Resident Engineer, 220/132/66/33 KV Grid Sub-Station, Assam State Electricity Board, Tinsukia-786125, District: Tinsukia, Assam
27.0	66/33 KV Rupai Grid Sub-Station, Assam State Electricity Board, Doomdoma, District: Tinsukia, Assam	6	1	1	0	1	Resident Engineer, 220/132/66/33 KV Grid Sub-Station, Assam State Electricity Board, Tinsukia-786125, District: Tinsukia, Assam
28.0	132/33 KV EHV Grid Sub-Station, Assam State Electricity Board, Margherita (Ledo) Margherita-786181, District: Tinsukia, Assam	12	4	1	0	1	Resident Engineer, 220/132/66/33 KV Grid Sub-Station, Assam State Electricity Board, Tinsukia-786125, District: Tinsukia, Assam
29.0	132/33 KV EHV Grid Sub-Station, Assam State Electricity Board, Garmur, Jorhat-785001, District: Jorhat, Assam	4	0	1	0	1	Resident Engineer, 220 KV Grid Sub-Station, Assam State Electricity Board, Mariani-785634, Jorhat District, Assam

SL. NO.	Name of Sub-station / Site	QUANTITY (NUMBERS)					Name of Consignee
		ABT Meter	Meter Panel/Rack			CMRI	
			4	8	16		
30.0	132/66/33 KV Nazira (Gargaon) Assam State Electricity Board, Nazira-785685 Sibsagar District, Assam	8	1	1	0	1	Resident Engineer, 220 KV Grid Sub-Station, Assam State Electricity Board, Mariani-785634, Jorhat District, Assam
31.0	66/33 KV Grid Sub-Station, Assam State Electricity Board, Diphu-782460 District: Karbi Anglon, Assam	4	0	1	0	1	Executive Engineer, T&T Division, Assam State Electricity Board, Jorhat-785001, District: Jorhat, Assam
32.0	132/33/11KV Grid Sub-Station, Dispur Assam State Electricity Board, Guwahati-781006, District:Kamrup, Assam	8	0	1	0	1	To be notified later.
33.0	132/33 KV Dhemaji Sub-Station	4	0	1	0	1	Executive Engineer, T&T Division North Lakhimpur-787001 Lakhimpur District.(Assam)
34.0	132/33 KV Grid Sub-Station, Sisugram, District-Kamrup, Assam	6	0	1	0	1	Executive Engineer, Assam State Electricity Board, Transmission Division, Narangi, Guwahati-781026, District: kamrup, Assam
35.0	132/33 KV Chandrapur Sub-Station, Chandrapur Thermal Power Station, Chandrapur-781150 District: Kamrup, Assam.	10	0	0	1	1	Executive Engineer, Assam State Electricity Board, Transmission Division, Narangi, Guwahati-781026, District: kamrup, Assam
36.0	Lakwa Thermal Power Station, ASEB P.O. Mathurapur, District: Sibsagar, Assam	12	0	0	1	1	Senior Thermal Power Station, Lakwa Thermal Power Station, Maibella, P.O. Mathurapur, District: Sibsagar, Assam
37.0	Namrup Thermal Power Station, Assam State Electricity Board, P.O. NTPS, Namrup District: Dibrugarh, Assam.	28	1	0	2	1	Senior Power Station Superintendent, Namrup Thermal Power Station, Assam State Electricity Board, P.O. NTPS, Namrup District: Dibrugarh, Assam
38.0	12 New Sub-Station under Construction	24	0	12	0	12	To be notified later
39.0	Others points	16	10	1	0	0	To be notified later
40.0	Spare	12	0	0	0	2	To be notified later
TOTAL		348	21	41	11	51	

A Report on Reduction of Auxiliary Power Consumption (APC) for LTPS

A detailed study has been made on improvement of APC for LTPS. APGCL's observations and comments on the same are furnished below:

1. The detailed list of auxiliaries for 4 x 15 MW and 3 x 20 MW Gas Turbines of LTPS and their power consumption figures are furnished at **Annexure XIA**.
2. Calculation of auxiliary consumption for a month is also done on the basis of 3 machines and 4 machines condition with different machine and gas compressor combinations are furnished at **Annexure XIB**.
3. The percentages of auxiliary consumption have been computed on the basis of different machine combinations and gas compressor conditions as mentioned above and compared with actuals. It is seen that in all cases it is above 6.60%. The details are furnished at **Annexure XIC**.
4. It is seen that the auxiliary consumption of LTPS is higher than NTPS (similar gas turbine installation of ASEB) only due to the gas compressor. It is seen that gas compressors consumption is above 90% of total auxiliary consumption i.e. auxiliary consumption for turbine auxiliaries is only 0.66% that is well within 1% as per stipulated value for open cycle plants.
5. The scope of reduction of APC in LTPS has already been examined fully and all feasible steps have been taken for its reduction.
6. However, the techno-economic feasibility of retrofitting of a compressor capacity control system is being examined in consultation with the Original Equipment Manufacturer.

List of Equipment of 4 x 15 MW P/H - Unit Nos. 1, 2 & 3

Sl. No.	Particulars	KW	Auxiliary Load		
			Unit running	Unit not running	
1	Primary auxiliary pump	22.38	0.00	22.38	For 72 hours
2	Secondary auxiliary lube oil pump	2.24	0.00	0.00	
3	Vapour Extractor pump	0.38	0.38	0.38	For 72 hours
4	Turning gear motor	3.73	0.00	3.73	
5	Instrument Air Compressor motor	9.33	9.33	9.33	(Intermittent)
6	Clutch Air Compressor motor	1.22	1.22	1.22	(Intermittent)
7	Lube oil cooler fan	22.38	22.38	0.00	
8	Battery charger 110V, 7A	0.77	0.77	0.77	
		62.43	34.08	37.81	

Unit No. 4

1	Primary auxiliary pump	45.00	0.00	45.00	For 72 hours
2	Secondary auxiliary pump	4.20	0.00	0.00	
3	Vapour Extractor pump	0.38	0.30	0.38	For 72 hours
4	Turning gear motor	3.70	0.00	3.70	
5	Instrument Air Compressor motor	7.50	7.50	7.50	(Intermittent)
6	Clutch Air Compressor motor	2.20	2.20	2.20	(Intermittent)
7	Lube oil cooler fan	22.40	22.40	0.00	
		85.38	32.40	58.78	

Gas Compressors of 4 x 15 MW P/H

Sl. No.	Particulars	KW	When running	When not running
Gas Compressor Unit Nos. 1, 2 & 3				
1	Main Drive motor	520.00	520.00	0.00
2	Water pump	3.70	3.70	0.00
3	Pre-lube Pump	3.73	3.73	3.73
4	Cooling fan	14.92	14.92	0.00
		542.35	542.35	3.73
Gas Compressor Unit Nos. 4 & 5				
1	Main Drive motor	825.00	825.00	0.00
2	Water pump	1.12	1.12	0.00
3	Pre-lube Pump	1.12	1.12	1.12
4	Cooling fan	29.84	29.84	0.00
		857.08	857.08	1.12

List of equipment of 3 x 20 MW P/H – Unit Nos. 5, 6 & 7

Sl. No.	Particulars	KW	Unit running	Unit not running	
1	Auxiliary lube oil pump	37.00	0.00	37.00	For 72 hours
2	Aux. hydraulic oil pump	5.97	0.00	5.97	
3	Turbine & Acc. Comp. Van Fan	5.50	5.50	0.00	
4	Load gear vent fan	11.00	11.00	0.00	
5	Cooling water pump	14.92	14.92	0.00	
6	Ratchet Motor	0.56	0.00	0.56	(62% for 72 hours)
7	Cooling water fan	59.68	59.68	0.00	
8	EOP	7.46	0.00	0.00	
9	Diesel Starter motor	7.46	0.00	0.00	
10	Instrument Air Comp.	30.00	30.00	30.00	
11	Instrument Air Com. W/Pump	2.24	2.24	2.24	
12	Battery Charger 126V, 25A	3.15	3.15	3.15	
		184.94	126.49	78.92	

Gas Compressors of 3 x 20 MW P/H

Sl. No.	Particulars	KW	When running	When not running	
Gas Compressor Unit Nos. 6, 7 & 8					
1	Primary motor	1375.00	1375.00	0.00	(Intermittent)
2	Auxiliary lube oil pump	7.46	7.46	7.46	
3	Cooling water pump	7.46	7.46	0.00	
4	Ex. Fan motor	22.68	22.68	0.00	
		1412.60	1412.60	7.46	

Other Auxiliaries

Sl. No.	Particulars	KW	When running	When not running	
A					
4 x 15 MW P/H					
	AC Plant - (i) Control room	14.92	14.92	14.92	
	(ii) Switchyard C/R	2.80	2.80	2.80	
	(iii) A.H. unit	3.73	3.73	3.73	
		21.45	21.45	21.45	
3 x 20 MW P/H					
	AC Plant	36.00	36.00	36.00	(Seasonal)
	Air Cooler	3.20	3.20	3.20	(Seasonal)
		39.2	39.2	39.2	

Annexure XIA contd...

B. General illumination of complete plant					
1	Sodium Vapour bulb	49.9	49.9	49.9	(12 hour per day)
2	Mercury bulb	8.38	8.38	8.38	(12 hour per day)
3	Fluorescent bulbs	5.8	5.8	5.8	(12 hour per day)
		64.08	64.08	64.08	
C. Workshop					
1	Lathe machine - I	3.73			
2	Water pump for above	0.19			
3	Lathe machine - II	5.23			
4	Shaping machine	2.20	21.78	21.78	
5	Milling machine	2.76			
6	Water pump for above	0.19			
7	Grinding machine - I	2.24			
8	Grinding machine - II	0.19			
9	Drilling machine - I	4.11			
10	Water pump for above	0.19			
11	Drilling machine - II	0.75			
		21.78	21.78	21.78	
D. Fire Fighting & Pump House including service water.					
1	Fire Fighting pump	55.20	55.20	55.20	
2	Service water pump	5.60	5.60	5.60	
		60.80	60.80	60.80	
E. 220 Volt Battery system for:					
1	132 KV, 33 KV, 3.3 KV Control & Protection - 1000A & 220V	22.00	22.00	22.00	
2	PLCC Battery 58V, 2.6A	0.15	0.15	0.15	
		22.15	22.15	22.15	
F. Water supply					
1	River - 40 HP x 4	104.44	104.44	104.44	2 hours per day
	20 Hp x 2	29.84	29.84	29.84	
2	O T W - 22.5 x 1 & 10 x 2	-	-	-	
		134.28	134.28	134.28	

Annexure XI A contd...

Calculation of Monthly Energy Consumption by Other Station Auxiliaries

1	AC plant and air cooler	60.65 x 720 (60%)	=	26.20	MWH
2	General Illumination (12 Hours/day)	64.08 x 12 x 30 (60%)	=	13.83	MWH
3	Workshop (2 Hrs/day for 25 days)	11.63 x 2 x 25	=	0.58	MWH
4	Fire Fighting (1 Hr/day)	55.0 x 30	=	1.65	MWH
5	Service Water (6 Hrs/day)	5.60 x 6 x 30	=	1.00	MWH
6	220 V Battery system	6 KW x 720	=	5.48	MWH
7	PLCC Battery system	0.15 x 720	=	0.11	MWH
8	Water supply from river and DTW (assuming 40% of total power consumed for water supply to P/H and Gas Compressors)	134.28 x 4 x 30 (40%)	=	6.44	MWH
Total				55.29	MWH

Normal load current of

Gas Compressor Unit Nos. 1, 2 & 3	=	94.30	Ampere
Gas Compressor Unit Nos. 4 & 5	=	149.60	Ampere
Gas Compressor Unit Nos. 6 & 7	=	250.00	Ampere

Normal power consumed by

Gas Compressor Unit Nos. 1, 2 & 3	=	457.60	KW
Gas Compressor Unit Nos. 4 & 5	=	726.00	KW
Gas Compressor Unit Nos. 6 & 7	=	1,213.00	KW

Monthly auxiliary Power Consumption

(A) For three machines running condition

1) Gas Turbine Unit Nos. 2, & 6 or 7 running with Gas Compressor Unit No. 1 or 2 and 4 or 5 with 6 or 7
= $(34.08 \times 2 + 126.49 + 457.6 + 726 + 213) \times 720 + \text{other auxiliary}$
= 1865.70 + 55.29
= 1920.99 MWH

2) Gas Turbine Unit No. 2 or 3 and 6 and 7 running with Gas Compressor 4 or 5 and 6 and 7
= $(34.08 + 126.49 \times 2 + 726 + 1213 \times 2) \times 720 + \text{other auxiliary}$
= 2476.12 + 55.29
= 2531.41 MWH

(B) For four machine running condition

1) Gas Turbine Unit Nos. 1, 2 and 3 running with Gas Compressor Unit Nos. 4 and 5 and 1 or 2 and 6 or 7 with 6 or 7
= $(34.08 \times 3 + 726 \times 2 + 457.6 + 126.49 + 1213) \times 720 + \text{other auxiliary}$
= 2412.95 + 55.29
= 2468.24 MWH

2) Gas Turbine Unit Nos. 1 and 2 or 2 and 3 or 1 and 3 with Gas Compressor Unit No. 1 or 2 and 4 or 5 along with Gas Turbine Unit Nos. 6 and 7 with Gas Compressor Unit Nos. 6 and 7
= $(34.08 \times 2 + 457.6 + 726 + 126.49 \times 2 + 1213 \times 2) \times 720 + \text{other auxiliary}$
= 2830.13 + 55.29
= 2885.42 MWH

Auxiliary Consumption for April to September 2005 as per Energy Meter readings

LTPS:

Month	Gross Generation (MWH)	Auxiliary consumption (MWH)	Auxiliary consumption (%)
Apr 2005	32.916	1.98691	6.04%
May 2005	26.768	1.74217	6.51%
Jun 2005	31.742	2.23700	7.05%
Jul 2005	33.588	2.11418	6.29%
Aug 2005	28.244	1.92028	6.80%
Sep 2005	25.599	1.90728	7.45%
Total	178.857	11.91	6.66% (wt avg)

The monthly auxiliary consumption on conditions A (1), A (2), B (1) & B (2) respectively, assuming 80% PLF on expected generation for each condition are shown below:

$$\begin{aligned}
 \text{A (1) ---} & \quad 15 \text{ MW} \times 2 & = & \quad 30 \text{ MW} \\
 & \quad 20 \text{ MW} \times 1 & = & \quad \underline{20 \text{ MW}} \\
 & & & \quad 50 \text{ MW}
 \end{aligned}$$

$$\begin{aligned}
 \text{Monthly generation at full capacity} & = 50 \text{ MW} \times 720 \text{ hours} & = & 36,000 \text{ MWH} \\
 \text{Assuming PLF of 80\%, monthly generation} & = 36,000 \text{ MWH} \times 0.8 & = & 28,800 \text{ MWH} \\
 \text{Calculated auxiliary consumption} & & = & 1,980.99 \text{ MWH} \\
 \text{Percentage auxiliary consumption} & & = & 6.67\%
 \end{aligned}$$

$$\begin{aligned}
 \text{A (2) ---} & \quad 15 \text{ MW} \times 1 & = & \quad 15 \text{ MW} \\
 & \quad 20 \text{ MW} \times 2 & = & \quad \underline{40 \text{ MW}} \\
 & & & \quad 55 \text{ MW}
 \end{aligned}$$

$$\begin{aligned}
 \text{Monthly generation at full capacity} & = 55 \text{ MW} \times 720 \text{ hours} & = & 39,600 \text{ MWH} \\
 \text{Assuming PLF of 80\%, monthly generation} & = 39,600 \text{ MWH} \times 0.8 & = & 31,680 \text{ MWH} \\
 \text{Calculated auxiliary consumption} & & = & 2,531.41 \text{ MWH} \\
 \text{Percentage auxiliary consumption} & & = & 7.99\%
 \end{aligned}$$

$$\begin{aligned}
 \text{B (1) ---} & \quad 15 \text{ MW} \times 3 & = & \quad 45 \text{ MW} \\
 & \quad 20 \text{ MW} \times 1 & = & \quad \underline{20 \text{ MW}} \\
 & & & \quad 65 \text{ MW}
 \end{aligned}$$

$$\begin{aligned}
 \text{Monthly generation at full capacity} & = 65 \text{ MW} \times 720 \text{ hours} & = & 46,800 \text{ MWH} \\
 \text{Assuming PLF of 80\%, monthly generation} & = 46,800 \text{ MWH} \times 0.8 & = & 37,440 \text{ MWH} \\
 \text{Calculated auxiliary consumption} & & = & 2,468.24 \text{ MWH} \\
 \text{Percentage auxiliary consumption} & & = & \underline{\underline{6.60\% (Min^m)}}
 \end{aligned}$$

B (2) ---

$$\begin{array}{rcl} 15 \text{ MW} \times 2 & = & 30 \text{ MW} \\ 20 \text{ MW} \times 2 & = & \underline{40 \text{ MW}} \\ & & 70 \text{ MW} \end{array}$$

Monthly generation at full capacity = 70 MW x 720 hours = 50,400 MWH

Assuming PLF of 80%, monthly generation = 50,400 MW x 0.8 = 40,320 MWH

Calculated auxiliary consumption = 2,885.42 MWH

Percentage auxiliary consumption = 7.16%

Annexure XII

Plan for Manpower Rationalization at BTPS & CTPS

BTPS

Out of 456 employees of BTPS, 142 employees were transferred vide order No. ASEB (PL) 35/2002/Pt/16 dated 07-06-05 and redeployed in different wings of ASEB by September 2005. Another 50 employees are being transferred for which necessary order will be placed shortly. The balance 264 employees will also be redeployed in phases for utilization in different wings of ASEB as necessary, in view of taking over of BTPS by NTPC. It may be mentioned here that as per decision of Government of India, NTPC is to set up a new 2 x 250 MW Thermal Plant using Assam coal at the existing location of BTPS. It has been decided that ASEB will take care of the existing employees of BTPS and redeploy them as appropriate.

CTPS

At the initiative of Government of Assam, it is proposed to restore CTPS and run one unit (Unit No. 2) with Furnace Oil to meet the requirement of power in the State to the extent possible. Since cost of generation would be high (Rs 6.86 per unit sent out), the Government of Assam has been requested to provide a 50% fuel cost subsidy of Rs. 32.50 crores for running one unit for six months in a year in a commercially viable manner. The decision from Government of Assam is awaited in this regard.

In view of the above, it is now decided to maintain status quo regarding transfer of the existing employees (199) of CTPS. Manpower planning will be finalised once the plant is made operational. This will be done by redeploying some employees from BTPS or else where, if necessary.

Details of interface metering points for energy accounting

The details of interface metering points and status thereof are furnished hereunder:

Sr. No.	Category	Name of Generation Station	Name of Outgoing Feeder	Voltage Level (KV)	Brief Status
1	State Sector Generator	NTPS	132 KV Dibrugarh	132 KV	All energy meters in the interface points are in service and in light of interim tariff order dated 31.03.05 the monthly meter readings are being regularly furnished to Addl. Chief Engineer (T&SLDC), AEGCL in the given format for energy accounting.
2	--- Do ---	--- Do ---	132 KV LTPS-I	132 KV	
3	--- Do ---	--- Do ---	132 KV LTPS-II	132 KV	
4	--- Do ---	--- Do ---	66 KV Gargaon (Nazira) -I	66 KV	
5	--- Do ---	--- Do ---	66 KV Gargaon (Nazira) -II	66 KV	
6	--- Do ---	--- Do ---	66 KV HFCL - I	66 KV	
7	--- Do ---	--- Do ---	66 KV HFCL – II	66 KV	
8	--- Do ---	--- Do ---	66 KV Tinsukia - I	66 KV	
9	--- Do ---	--- Do ---	66 KV Tinsukia - II	66 KV	
10	--- Do ---	--- Do ---	33 KV A.P.L.	33 KV	
11	--- Do ---	--- Do ---	33 KV Duliajan	33 KV	
12	--- Do ---	--- Do ---	33 KV Joypore	33 KV	
13	--- Do ---	--- Do ---	33 KV Sapekhati	33 KV	
14	--- Do ---	--- Do ---	33 KV Moran	33 KV	
15	--- Do ---	--- Do ---	33 KV Township	33 KV	
16	--- Do ---	LTPS	132 KV Gargaon (Nazira)	132 KV	
17	--- Do ---	--- Do ---	132 KV Mariani	132 KV	
18	--- Do ---	--- Do ---	132 KV NTPS-I	132 KV	
19	--- Do ---	--- Do ---	132 KV NTPS-II	132 KV	
20	--- Do ---	--- Do ---	33 KV ONGC	33 KV	
21	--- Do ---	--- Do ---	33 KV Sonari	33 KV	
22	--- Do ---	BTPS	220 KV Salakati (PGCIL) Feeder- I	220 KV	
23	--- Do ---	--- Do ---	220 KV Salakati (PGCIL) Feeder- II	220 KV	
24	--- Do ---	--- Do ---	132 KV Dhaligaon – I	220 KV	
25	--- Do ---	--- Do ---	132 KV Dhaligaon – I	132 KV	
26	--- Do ---	--- Do ---	220 KV BTPS-Agia Feeder – I	220 KV	
27	--- Do ---	--- Do ---	220 KV BTPS-Agia Feeder – II	220 KV	
28.	--- Do ---	CTPS	132 KV Baghjap (Jagiroad)	132 KV	
29.	--- Do ---	--- Do ---	132 KV Kahilipara (Guwahati)	132 KV	
30.	--- Do ---	--- Do ---	33 KV Narengi	33 KV	

Steps are being taken to ensure real time recording of quantum of energy transmitted through standard interface metering system. This will help in improving accountability of energy flow to each company including correct technical loss measurement. AEGCL is in the process of procuring and installing MRI based ABT compliant electronic meters at every point of interface.

The energy meters shall be indoor type meters connected with the secondary side of outdoor CT and PT and shall be 3-phase 4-wire type suitable for connection to 3-phase 3-wire or 3-Phase 4-wire system. The meters shall have the following parameters:

- | | |
|--------------------------------|---|
| (a) Type of Installation | : Indoor Panel/Rack mounted. |
| (b) Accuracy | : 0.2 |
| (c) Rated CT Secondary Current | : 1 A / 5 A |
| (d) Rated PT Secondary Voltage | : $110/\sqrt{3}$ Volts (phase to neutral) |
| (e) Auxiliary AC Supply | : 230 Volts AC +/- 10% |
| (f) Auxiliary DC Supply | : 110 Volts / 220 Volts +/- 10% |
| (g) System Frequency | : 50 Hz +/- 5% |
| (h) System Earthing | : Solidly Earthed |

Funds for procurement, installation and commissioning of electronic meters have already been earmarked. Evaluation of tenders is under process and the work for installation and commissioning of all meters will be completed by June 2006.

Status of Energy meters installed at offices and premises of ASEB Power Stations

Power Station	No. of residential buildings / units	No. of meters installed in residential buildings / units	No. of non-residential buildings / units	No. of meters installed in non-residential buildings / units	Total No. of residential and non-residential buildings / units	Total Nos. of meter installed in residential and non-residential buildings / units	Remarks and comments in case of non-completion of 100% metering
LTPS	307	287	6	6	313	293	100% meters are installed in occupied buildings. 20 quarters are not metered as these are not occupied.
BTPS	950	511	43	36	993	547	100% meters are installed in occupied buildings.
NTPS	484	484	30	30	514	514	100% metering is completed.
CTPS	426	193	23	6	449	199	Metering is completed in occupied buildings to enable 100% billing of energy consumption.

GOVERNMENT OF ASSAM
POWER (ELECT.) MINES & MINERALS DEPARTMENT

ORDERS BY THE GOVERNOR OF ASSAM
N O T I F I C A T I O N

NO.PEL.151/2003/Pt/349 : Dated Dispur, the 16th August, 2005.

In pursuance of Clauses 5 (6), 5(11), 6(3), 6(6) 9 and 13 of the Assam Electricity Reforms First Transfer Scheme, 2004, notified by the Government of Assam on 10th December 2004 (hereinafter called the Transfer Scheme), the Government of Assam is hereby pleased to make the following orders to give effect to the reorganization of the Assam State Electricity Board and the finalization of the provisional transfers effected as per the provisions of the Electricity Act, 2003 and the Transfer Scheme :

1. Subject to the terms and conditions contained in this order the Transfer Scheme shall be final.
2. Effective from 1st April 2005 the function of --
 - a) Generation Undertakings as specified in Schedule A to Transfer Scheme shall be conducted and shall be deemed to be and shall continue to be conducted and carried on by Assam Power Generating Corporation Limited as its own business and not as an agent of or on behalf of the Assam State Electricity Board ;
 - b) Transmission Undertaking as specified in Schedule B to the Transfer Scheme, State Transmission Utility and State Load Dispatch Centre shall be conducted and shall be deemed to be and shall continue to be conducted and shall be carried on by Assam Electricity Grid Corporation Limited as its own business and not as an agent of or on behalf of the Assam State Electricity Board;
 - c) Distribution Undertaking as specified in Schedules C to E to the Transfer Scheme shall be conducted and shall be deemed to be and shall continue to be conducted and shall be carried on by the distribution companies i.e. Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited in the respective area of distribution and supply as their own business and not as an agent of or on behalf of the Assam State Electricity Board.

Contd.....2/-

- 3 -

3. Effective 1st April 2005 the properties, rights and interests in the Bijulee Bhawan, Paltan Bazar, Guwahati and liabilities attached thereto shall stand transferred from the Assam State Electricity Board to Assam Electricity Grid Corporation Limited for all intent and purposes.
4. In pursuance of sub clause (6) of clause 5 of the Transfer Scheme the Government of Assam may, from time to time, transfer and vests such part of the functions, undertakings, properties, liabilities including contingent assets and contingent liabilities of the Assam State Electricity Board in such corporation or companies including the Transferees under the Transfer Scheme as the Government may consider appropriate.
5. (a) The provisional opening balance sheets of Assam Power Generating Corporation Limited, Assam Electricity Grid Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited notified under Part II of the respective schedules A to E to the Transfer Scheme shall stand substituted by the opening balance sheets as provided in Schedules I to V to this order respectively as on 1st April 2005 for all intent and purposes.
(b) The balance sheet as provided in Schedule VI to this order shall be the residual opening balance sheet of Assam State Electricity Board as on 1st April 2005 after giving effect to the opening balance sheets of Assam Power Generating Corporation Limited, Assam Electricity Grid Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited as on 1st April 2005.
(c) The opening balance sheets as per Schedules I to VI to this order have been prepared based on the approved accounts of Assam State Electricity Board as on 31st March 2004 and such opening balance sheets shall all be subject to all consequential adjustments on the update, finalization and audit of accounts of Assam State Electricity Board as on 31st March 2005.
(d) In modification to the holding of shares by Assam State Electricity Board in the five companies, namely: Assam Power Generating Corporation Limited, Assam Electricity Grid Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited provided in Schedules A to E to the Transfer Scheme, the Shares in the said five companies and also in Assam State Electricity Board shall be held by the Government of Assam as provided in Schedules I to VI to this order.

- 3 -

6. The retail supply tariff shall continue to be the same as determined by the Commission and applicable as on the date of this order till the tariffs are varied, amended, altered, substituted or changed by the Assam Electricity Regulatory Commission.
7. The Assam State Electricity Board and the five companies, namely: Assam Power Generating Corporation Limited, Assam Electricity Grid Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited, and Lower Assam Electricity Distribution Company Limited shall seek the approval of the Assam Electricity Regulatory Commission on the inter se agreements. The inter se agreements are (a) a Power purchase agreement between the Assam Power Generating Corporation Limited and the Assam State Electricity Board for the sale and supply of electricity in bulk; (b) the Transmission Services Agreement between the Assam Electricity Grid Corporation Limited and the Assam State Electricity Board, Assam Power Generating Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited for the services of the transmission of electricity and related functions and (c) the Bulk Supply Agreement between the Assam State Electricity Board and the three distribution companies viz Upper Assam Electricity Distribution Company Limited Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited.
8. The Government of Assam shall pass separate orders in terms of the Transfer Scheme in regard to the transfer and absorption of personnel of Assam State Electricity Board in the five Companies, namely : Assam Power Generating Corporation Limited, Assam Electricity Grid Corporation Limited, Upper Assam Electricity Distribution Company Limited, Central Assam Electricity Distribution Company Limited and Lower Assam Electricity Distribution Company Limited.

SD/- S.K.Srivastava,
Principal Secretary to the Govt. of Assam,
Power(Elect.) Department

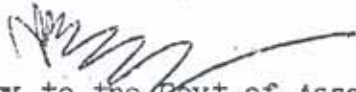
Contd....4/-

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Memo NO.PEL.151/2003/Pt/349-A, Dated Dispur, the 16th August'05.
Copy to:-

1. The A.G., Assam, Beltola, Maidamgaon, Guwahati-28.
2. The Chairperson, A.E.R.C., ASEB Complex, G.S.Road, Six Mile, Guwahati-22.
3. The Chairman, A.S.E.B., Paltan Bazar, Guwahati- 1.
4. The Commissioner & Secy., Govt. of Assam, Finance Department, Dispur.
5. The Principal Secy., Govt. of Assam, P & D Deptt., Dispur.
6. The Joint Secy., Govt. of India, Ministry of Power, Shyam Shakti Bhawan, New Delhi.
7. The Under Secy. Govt. of India, Ministry of Finance, Deptt. of Economic Affairs (ADB Section) New Delhi.
8. The Under Secretary, Govt. of Assam, Political (Cabinet Cell) Deptt., Dispur.
9. The Managing Director, APGCL/AEGCL/LADCL/UADCL/CADEL, Paltan Bazar, Guwahati -1.
10. The P.P.S. to Chief Minister, Assam, Dispur.
11. The P.S. to Minister of State (Ind.) Power etc., Assam, Dispur.
12. The P.S. to Principal Secy., Power Department, Assam, Dispur.
13. The Commissioner & Secy., Power Department, Assam, Dispur.
14. The Under Secy. to the Govt. of Assam, P & S Department, Dispur. He is requested to take necessary action for publication of notification in the Assam Gazette.
15. The Director, Assam Govt. Press, Bamunimaidan, Guwahati-21.

By Order etc.,


Deputy Secretary to the Govt. of Assam,
Power (Elect.) Department

16/8/05

SCHEDULE – I

ASSAM POWER GENERATION CORPORATION LIMITED
OPENING BALANCE SHEET
AS ON APRIL 01st, 2005

SLNO.	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	7,052,802,603
2	less Accumulated Depreciation	4,621,013,032
3	Net Fixed Assets	2,431,789,571
4	Capital Expenditure in progress	3,492,846,612
5	Assets not in use	-
6	Deferred Costs	-
7	Intangible Assets	-
8	Investment	153,061,157
9	Total Current Assets	1,254,152,688
10	Less Current Liabilities Security Deposit from consumers	-
11	Other Current Liabilities	423,036,972
12	Total Current Liabilities (10 + 11)	423,036,972
13	Net Current Assets	831,115,717
14	Subsidies receivable from Government	-
	Total Assets	6,908,813,057
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	115,600,052
17	Capital Liabilities	1,578,281,079
18	Fund/Loan from State Government	114,810,000
19	Equity Share Capital	4,607,565,239
20	Contribution Grants and subsidies towards cost of capital assets	108,447,500
21	Reserve and funds	384,109,188
22	Deficit/Surplus	-
	Total Fund	6,908,813,057



SCHEDULE – II

ASSAM ELECTRICITY GRID CORPORATION LIMITED
OPENING BALANCE SHEET
AS ON APRIL 01st, 2005

SLNO	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	5,017,347,795
2	less Accumulated Depreciation	4,786,300,196
3	Net Fixed Assets	231,047,599
4	Capital Exepnditure in progress	966,752,588
5	Assets not in use	-
6	Deferred Costs	-
7	Intengible Assets	-
8	Investment	119,132,645
9	Total Current Assets	263,977,842
10	Less Current Liabilities Security Deposit from consumers	-
11	Other Current Liabilities	51,223,367
12	Total Current Liabilities (10 + 11)	51,223,367
13	Net Current Assets	212,754,476
14	Subsidies receivable from Government	-
	Total Assets	1,529,687,308
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	31,982,525
17	Capital Liabilities	284,374,166
18	Fund/Loan from State Government	25,740,000
19	Equity Share Capital	805,473,696
20	Contribution Grants and subsidies towards cost of capital assets	-
21	Reserve and funds	382,116,920
22	Deficit/Surplus	-
	Total Fund	1,529,687,308

SCHEDULE – III

UPPER ASSAM ELECTRICITY DISTRIBUTION COMPANY LIMITED
OPENING BALANCE SHEET
AS ON APRIL 01st, 2005

SL.NO.	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	2,358,542,234
2	less Accumulated Depreciation	1,255,639,532
3	Net Fixed Assets	1,102,902,701
4	Capital Exepnditure in progress	638,172,626
5	Assets not in use	-
6	Deferred Costs	-
7	Intengible Assets	-
8	Investment	531,703,569
9	Total Current Assets	629,831,862
10	Less Current Liabilities Security Deposit from consumers	350,238,281
11	Other Current Liabilities	590,512,132
12	Total Current Liabilities (10 + 11)	940,750,413
13	Net Current Assets	(310,918,551)
14	Subsidies receivable from Government	-
	Total Assets	1,961,860,346
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	14,878,837
17	Capital Liabilities	115,440,109
18	Fund/Loan from State Government	207,308,694
19	Equity Share Capital	615,280,531
20	Contribution Grants and subsidies towards cost of capital assets	267,629,410
21	Reserve and funds	741,322,763
22	Deficit/Surplus	-
	Total Fund	1,961,860,346

SCHEDULE – IV

CENTRAL ASSAM ELECTRICITY DISTRIBUTION COMPANY LIMITED
 OPENING BALANCE SHEET
 AS ON APRIL 01st, 2005

SLNO.	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	2,249,595,813
2	less Accumulated Depreciation	1,403,467,908
3	Net Fixed Assets	846,127,905
4	Capital Exepnditure in progress	723,577,024
5	Assets not in use	-
6	Deferred Costs	-
7	Intengible Assets	-
8	Investment	499,957,285
9	Total Current Assets	598,337,268
10	Less Current Liabilities Security Deposit from consumers	183,768,842
11	Other Current Liabilities	501,095,279
12	Total Current Liabilities (10 + 11)	684,864,121
13	Net Current Assets	(86,526,853)
14	Subsidies receivable from Government	-
	Total Assets	1,983,135,361
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	30,236,252
17	Capital Liabilities	250,510,197
18	Fund/Loan from State Government	236,832,405
19	Equity Share Capital	532,623,197
20	Contribution Grants and subsidies towards cost of capital assets	259,945,325
21	Reserve and funds ¹	672,987,985
22	Deficit/Surplus	-
	Total Fund	1,983,135,361

SCHEDULE – V

LOWER ASSAM ELECTRICITY DISTRIBUTION COMPANY LIMITED
OPENING BALANCE SHEET
AS ON APRIL 01st, 2005

SL.NO.	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	2,925,109,475
2	less Accumulated Depreciation	(1,799,495,261)
3	Net Fixed Assets	1,125,614,214
4	Capital Expenditure in progress	972,403,580
5	Assets not in use	-
6	Deferred Costs	-
7	Intangible Assets	-
8	Investment	635,696,246
9	Total Current Assets	935,235,872
10	Less Current Liabilities Security Deposit from consumers	(408,926,871)
11	Other Current Liabilities	(950,388,307)
12	Total Current Liabilities (10 + 11)	(1,359,315,178)
13	Net Current Assets	(424,079,306)
14	Subsidies receivable from Government	-
	Total Assets	2,309,634,734
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	27,474,352
17	Capital Liabilities	220,448,974
18	Fund/Loan from State Government	298,388,901
19	Equity Share Capital	623,399,781
20	Contribution Grants and subsidies towards cost of capital assets	257,945,874
21	Reserve and funds	881,976,854
22	Deficit/Surplus	-
	Total Fund	2,309,634,734

SCHEDULE – VI

ASSAM STATE ELECTRICITY BOARD
OPENING BALANCE SHEET
AS ON APRIL 01st, 2005

SL.NO.	PARTICULARS	OBS
	NET ASSETS	
1	Gross Block of Fixed Assets	-
2	less Accumulated Depreciation	-
3	Net Fixed Assets	-
4	Capital Exepnditure in progress	703,744,991
5	Assets not in use	-
6	Deferred Costs	-
7	Intengible Assets	341,000
8	Investment	-
9	Total Current Assets	2,014,113,192
10	Less Current Liabilities Security Deposit	-
11	Other Current Liabilities	2,002,801,258
12	Total Current Liabilities (10 + 11)	2,002,801,258
13	Net Current Assets	11,311,935
14	Subsidies receivable from Government	-
	Total Assets	715,397,926
	Financed by	
15	Borrowing for working capital	-
16	Payment due on capital liabilities	-
17	Capital Liabilities	-
18	Fund/Loanfrom State Government	-
19	Equity share capital	715,397,926
20	Contributions Grants and subsidies	-
21	Reserve and funds	-
22	Deficit/Surplus	-
	Total Fund	715,397,926



List of Hon'ble Commission's formats for which data has been furnished in the Tariff Petition for FY 2006-07

As applicable for the Generation Company

Formats for which data has been submitted	Form Nos – 2,3,14,16,
Formats for which data was not readily available	Form Nos – 7,12,14,15,17
Formats which are found not to be relevant	Form Nos – 5,6,8,9,10,11,13,

Note: Certain information as required vide the above Forms has been furnished in the Tariff Petition, though not strictly as per the format given in these Forms, due to non- availability of such detailed information as required in the prescribed formats.