ASSAM ELECTRICITY REGULATORY COMMISSION (AERC)

Assam Power Generation Corporation Limited (APGCL)

TARIFF ORDER
FY 2012-13

Petition No. 12/2012

ASSAM ELECTRICITY REGULATORY COMMISSION

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Abbreviations

ABT	Availability Based Tariff
ADB	Asian Development Bank
AEGCL	Assam Electricity Grid Corporation Limited
AERC	Assam Electricity Regulatory Commission
APDCL	Assam Power Distribution Company Limited
APDRP	Accelerated Power Development and Reforms Programme
APGCL	Assam Power Generation Corporation Limited
ARR	Annual Revenue Requirement
ASEB	Assam State Electricity Board
BTPS	Bongaigaon Thermal Power Station
CRL	Canoro Resources Limited
CV	Calorific Value
FY	Financial Year
GCV	Gross Calorific Value
GoA	Government of Assam
GoI	Government of India
KLHEP	Karbi Langpi Hydro Electric Project
KV	Kilo Volt
KVA	Kilo Volt Ampere
KW	Kilo Watt
KWH	Kilo Watt Hour
LTPS	Lakwa Thermal Power Station
MAT	Minimum Alternate Tax
MMSCMD	Million Metric Standard Cubic Meter per day
MU	Million Unit
MYT	Multi-Year-Tariff
NCV	Net Calorific value
NERLDC	North Eastern Region Load Despatch Centre
NTPS	Namrup Thermal Power Station
PAF	Plant Availability Factor
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
R&M	Repairs and Maintenance
ROE	Return on Equity
Rs.	Rupees
SHR	Station Heat Rate
T&D	Transmission and Distribution
T.C.	Transportation Cost
T.O.	Tariff Order
LWHRU	Lakwa Water Heat Recovery Unit
NRPP	Namrup Replacement Power Projects

ASSAM ELECTRICITY REGULATORY COMMISSION
Guwahati

Present

Shri Jayanta Barkakati, Chairperson

Dr. Rajani Kanta Gogoi, Member

Shri Tapan Chatterjee, Member

Petition No. 12 of 2012

Assam Power Generation Corporation Limited (APGCL) — **Petitioner**

ORDER

(Passed on 28.02.2013)

(1) The Assam Power Generation Corporation Limited (APGCL) filed petition for Annual Revenue Requirement (hereinafter called as 'ARR') of FY 2011-12 and truing up for FY 2009-10 and FY 2010-11 on 06.06.2012 under Section 62 of the Electricity Act, 2003..

(2) The APGCL further filed petition for approval of revised ARR and determination of Generation Tariff for FY 2012-13 on 28.09.2012 under Section 62 of the Electricity Act, 2003 in response to the notice served by the Commission to APGCL on 24.07.2012.

(3) The Commission on preliminary scrutiny found both the Tariff Petitions filed by APGCL incomplete in some material particulars. Therefore, additional data and clarifications on the petitions were sought for from APGCL from time to time and replies received and the Commission admitted the petition on 20.11.2012 clubbing both the petitions together.

(4) After the petition was admitted, in accordance with Section 64 of the Electricity Act 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to ensure public participation. Copy of the petition was also made available in website of Commission and APGCL.

(5) Accordingly, a Public Notice was issued by APGCL inviting objections / suggestions from stakeholders on or before 15.12.2012, which was published in 11 (elevel) newspapers on 27.11.2012. Subsequently, time for submission of objections was

extended upto 31.12.2012 and notice in this respect was published in the same 11 (eleven) newspapers on 16.12.2012.

(6) The Commission received no objections/suggestions on the petition. Nevertheless, APGCL gave a power point presentation on the salient features of their petition in the Public Hearing held at NEDFI House, Guwahati on 19.02.2013. The Petition was also discussed in the meeting of the State Advisory Committee (constituted under Section 87 of the Electricity Act, 2003) convened on 19.12.2012.

(7) The Commission, now in exercise of its powers vested in it under Section 61 and 62 of the Electricity Act, 2003 and all other powers enabling on its behalf and taking into consideration the submissions made by the petitioners and all other relevant materials on record, carried out true up for FY 2009-10 and 2010-11, Review for FY 2011-12 and determined the Revised ARR for and Generation Tariff for FY 2012-13 for APGCL and issued order accordingly making the new tariff effective from 08.03.2013

(8) The Commission further directs the utilities to publish a Public Notice of 7 days before the implementation of the order.

(9) Before parting, it would be worth mentioning that while passing the Tariff Order some delay could not be avoided and the factors attributed for the same have been stated herein before.

Sd/-	Sd/-	Sd/-
(T.Chatterjee)	(Dr. R.K. Gogoi)	(J. Barkakati)
Member, AERC	Member, AERC	Chairperson, AERC

1. Introduction

1.1 CONSTITUTION OF THE COMMISSION

1.1.1 The Assam Electricity Regulatory Commission (hereinafter referred to as the AERC or the Commission) was established under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) on February 28,2001.

1.1.2 The AERC came into existence in August 2001 as a one-man Commission. Considering the multidisciplinary requirements of the Commission, it was made a Multi Member Commission consisting of three Members (including Chairperson) from 27th January 2006. The Commission has started functioning as Multi Member Commission on joining of two Members from 1st of February, 2006.

1.1.3 The Commission is mandated to exercise the powers and functions conferred under Section 181 of the electricity Act 2003 (36 of 2003) (hereinafter referred to as the Act) and to exercise the functions conferred on it under Section 86 of the Act.

1.2 TARIFF RELATED FUNCTIONS OF THE COMMISSION

1.2.1 Under Section 86 of the Act, the Commission has the following tariff related functions:

(a) To determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be within the State;

(b) To regulate electricity purchase and procurement process of distribution utilities including the price at which the electricity shall be procured from the generating companies, licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

(c) Facilitate intra-State transmission and wheeling of electricity;

(d) To promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purpose of this Act;

1.2.2 Under Section 61 of the Act in the determination of tariffs, the Commission is to be guided by the following:

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

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

(c) The factors, which would encourage competition, efficiency, economical use of the resources, good performance. Optimum investments, and other matters which the State Commission considers appropriate for the purpose of this Act;

(d) The interests of the consumers are safeguarded and at the same time, the consumers pay for the use of electricity in a reasonable manner.

(e) That the tariff progressively reflects the cost of supply of electricity at an adequate and improving level of efficiency and also gradually reduces cross subsidies.

(f) The National Power Plans formulated by the Central Government including the National Electricity Policy and Tariff Policy;

1.2.3 In accordance with the provisions of the Act, the Commission will not show undue preference to any consumer of electricity in determining the tariff, but may differentiate according to the consumers load factor, power factor, voltage, total consumption of energy during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required. (Section 62 of the Act).

1.2.4 If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the Commission, the State Government shall pay the amount to compensate the person affected by the grant of subsidy in the manner the Commission may direct as a condition for the licensee or any other person concerned to implement the subsidy provided for by the State Government (Section 65 of the Act)

1.3 BACKGROUND AND BRIEF HISTORY

1.3.1 Assam Power Generation Corporation Limited

The Assam Power Generation Corporation Limited, herein after named as APGCL, is the successor Corporate entity of erstwhile ASEB 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 successor entries.

(i) The APGCL is a Company incorporated with the main object of generation of electricity, in the state of Assam.

(ii) The APGCL is a generating Company under the provisions laid down in Section 14, provision 5, read with Section 131(2) of the electricity Act 2003.

1.3.2 Commission's orders for the first control period

APGCL filed the MYT Petition for ARR for the FY 2010-11, FY 2011-12 and FY 2012-13 on 8th February, 2010 in accordance with the AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006.

The Commission, in exercise of the powers vested in it under Section 61, 62 and 64 of Electricity Act 2003 and all other powers enabling it, on its behalf and after taking into consideration, the submissions made by APGCL, the objections/suggestions by various stake holders, response of APGCL, issues raised during public hearing and all other relevant material, issued the MYT order on 16th May, 2011 for the control period comprising FY 2010-11, FY 2011-12 and FY 2012-13 making the new tariff effective from 24.05.2011.

1.4 SUMMARY OF THE PETITION

1.4.1 The summary of the Petition filed by APGCL for Truing up for FY 2009-10 and 2010- 11, for Review for FY 2011-12, and for Revised ARR and tariff determination for FY 2012-13, is given in Table 1.1

Table 1.1 Annual Revenue Requirement claimed by APGCL

(Rs. crore)

APGCL	True-up for FY 2009-10	True-up for FY 2010-11	Review for FY 2011-12	Revised ARR for FY 2012-13
Unit Generated (MU)	1712.208	1707.762	1772.28	1803.08
Unit sent out (MU)	1617.249	1614.873	1671.95	1692.69
Auxiliary Consumption (%)	5.55	5.44	5.66	6.12
Revenue Income				
Revenue from Sale	331.32	422.03	433.96	
Revenue subsides & Grants				
Other Income	35.95	7.04	9.08	8.99
Total Revenue (A)	**367.27**	**429.07**	**443.04**	**8.99**
Expenditure				
Fuel Cost	187.72	280.97	313.64	322.08
Employees Cost	57.44	53.18	65.77	70.09

APGCL	True-up for FY 2009-10	True-up for FY 2010-11	Review for FY 2011-12	Revised ARR for FY 2012-13
R&M Expenses	10.96	14.92	23.69	51.26
A&G Expenses	2.6	3.03	5.33	6.05
Other debits		1.80	4.11	
Depreciation	46.24	32.32	31.06	38.92
Interest on Term Loan	32.37	25.72	26.27	36.49
Interest on Working Capital				22.13
Bank Charge				
Prior Period Expenses (Charges)	0.24	5.24	21.88	
Total Expenditure	**337.57**	**417.18**	**491.75**	**547.04**
ROE			53.9	63.58
Provision for Tax	5.54	3.26	0.93	15.95
F.B.T Provision				
Gross Expenditure	**343.11**	**420.44**	**546.58**	**492.68**
Net Revenue Deficit/(Surplus)	(1) (24.16)	(2) (8.63)	(103.54)	49.64
Total Revenue Deficit/(Surplus)				

(1) – This is wrongly shown as gap of Rs. 24.38 crore.
(2) – This is wrongly shown as gap of Rs. 13.87 crore.

1.4.2 Salient features of tariff petition for FY 2012-13 are given in Table1.2

Table 1.2 Salient features of tariff petition

SL. No.	Particulars	FY 2012-13
1.	Anticipated Gross Generation (MU)	1803.08
2.	Anticipated Net Generation (MU)	1692.69
3.	Annual Fixed cost (Rs crores)	295.49
4.	Annual variable Cost (Rs crores)	322.08
5.	Average tariff (Rs/kwh)	3.65

1.5 ADMISSION OF PETITION

The APGCL filed the Petition under Section 62 of the Electricity Act 2003 read with Assam Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations 2006, for the True up of FY 2009-10 and 2010-11 and performance Review for FY 2011-12 on 06.06.2012. The Petition for Revised Annual Revenue Requirement (ARR) and determination of tariff for FY 2012-13 was submitted on 28.09.2012. The Commission conducted preliminary analysis of these petitions and found that the petitions were not complete in material particulars. Therefore, additional data and clarifications on the tariff petitions were sought from APGCL on 28.06.2012 and the requisite information submitted by APGCL on 10.08.2012.

Both the petitions are merged together and admitted by the Commission on 20.11.2012 and registered as 12 of 2012.

1.6 PUBLIC HEARING PROCESS

1.6.1 In accordance with Section 64 of the Electricity Act, 2003, the Commission directed APGCL to publish its application in the abridged form and manner to ensure public participation. A Public notice was published by APGCL in the following news papers on 27.11.2012 inviting objections/suggestions from its stake holders, on the Petitions filed by APGCL. Subsequently, time for submission of objections was extended upto 31.12.2012 and notice in this respect was published in the same 11 (eleven) newspapers on 16.12.2012.

Date	Newspapers	Language
27.11.2012	1) The Assam Tribune	English
	2) The Telegraph	English
	3) The Sentinel	English
	4) Asomiya Pratidin	Assamese
	5) Ajir Dainik Batori	Assamese
	6) Dainik Janambhumi	Assamese
	7) Janasadharan	Assamese
	8) Dainik Jugasankha	Bengali
	9) Sakal Bela	Bengali
	10) Pratah Khabar	Hindi
	11) Purbanchal Prahari	Hindi

Copies of the petitions were also made available in Website of the Commission and APGCL.

The interested parties / Stake holders were asked to file their objections / suggestions on the Petition on or before 15.12.2012. However no any objections/suggestions received by the Commission.

1.6.2 The Commission received no objections/suggestions on the petition. Nevertheless, APGCL gave a power point presentation on the salient features of their petition in the Public Hearing held at NEDFI House, Guwahati on 19.02.2013. The Petition was also discussed in the meetings of the State Advisory Committee (constituted under Section 87 of the Electricity Act, 2003) convened on 17.02.2012 and 19.12.2012.

1.7 STATE ADVISORY COMMITTEE MEETING

The meeting of the State Advisory Committee (Constituted under section 87 of the electricity Act, 2003) was convened on 19.12.2012 and members were briefed on the Petition of APGCL. The minutes of the meeting are appended to this order as Annexure - 1.1.

1.8 APPROACH OF THIS ORDER

1.8.1 Truing up

The Commission has under taken 'Truing up' of the FY 2009-10 and FY 2010-11, based on submission of the petitioner and the annual audited accounts.

While 'truing up' the Commission has been primarily guided by the following principles.

- Controllable parameters in the case of variable costs have been considered at the level approved in the MYT Tariff order for FY 2010-13, unless the Commission considers there are valid reasons for revision of the same.
- Uncontrollable parameters have been revised based on the actual performance observed.

1.8.2 Performance Review for FY 2011-12

In the case of performance Review for FY 2011-12.

- The controllable parameters have been considered at the level approved in the MYT Tariff order for FY 2010-13 (in the case of variable costs).
- The uncontrollable parameters have been considered as furnished by APGCL subject to revision at the time of Truing up for the year, after Audited Annual Accounts are made available.

1.8.3 Revised ARR and determination of tariff for FY 2012-13

- The controllable parameters such as Heat Rate, Auxiliary consumption are considered at the levels approved in the MYT Tariff order for FY 2010-13.
- The Gross generation is considered as projected by APGCL, subject to revision at the time of 'Truing up', after Audited Annual Accounts are made available.
- The uncontrollable parameters such as weighted average GCV and price of gas are considered at the levels approved in the MYT Tariff order for FY 2010-13, subject to revision at the time of 'Truing up', after the Audited Annual Accounts are made available.

2. Truing up for FY 2009-10 and FY 2010-11

2.1 METHODOLOGY FOR TRUING UP

2.1.1 The Commission approves the cost parameters through approval of the Annual Revenue Requirement at the beginning of the year keeping in view the data available at that point of time. The cost approvals for each of the items are based on projection of expenses and revenue before the beginning of the year and hence the projections might vary over the course of the year.

2.1.2 The actual cost/values for certain elements / parameters may vary as against the approved cost during the year due to various controllable and uncontrollable factors on the part of the Generating Company. The Generating Company may end up with higher or lower expenditure, as the case may be, at the end of the year as against the approved cost. In case of actual expenditure being higher than the approved expenditure, there is no mechanism during the year to recover the additional expenditure over and above the approved expenditure as the tariff for Generating Company cannot be amended more than once as per section 5.1 of the Terms and Conditions for Determination of Tariff Regulations 2006 of AERC, the abstract of which is provided below:

> *" No tariff or part of any tariff may ordinarily be amended,* ***more frequently than once*** *in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified in terms of subsection (4) of section 62 of the Act specified* ***in Regulation 9 of these Regulations"***

2.1.3 In the truing-up mechanism, the APGCL analyzed the difference of actual expenditure in comparison with the approved expenditure by the Commission and requested for recovery of previous year's actual expenditure through truing up.

2.1.4 The Commission analyzes the actual expenditure for the previous year/years based on the Annual Audited Financial Statement of the Licensee/Generating Companies and allows/disallows the recovery of the actual expenditure through the present year tariff, subject to prudence checking.

2.1.5 Based on above methodology, APGCL submitted truing-up exercise for FY 2009-10 and 2010-11 supported by Audited Annual Accounts.

2.2 BACKGROUND

2.2.1 The Commission approved the ARR and Tariff for FY 2009-10 and FY 2010-11 in its tariff orders FY2008-09 and FY2009-10 of 24.07.2009 and MYT 2010-13 of 16.05.2011 respectively.

2.2.2 APGCL submitted truing up exercise for FY 2009-10 and FY 2010-11, based on Audited Annual Accounts for FY 2009-10 and FY 2010-11 respectively.

2.2.3 On scrutiny, it was noticed that the data furnished in respect of truing up exercise was deficient in some respects, and in letter dated 28.06.2012, the Commission sought further information. The additional information was furnished by APGCL in its letter dated 10.08.2012.

2.3 TRUING UP FOR THE YEAR FY 2009-10

2.3.1 Capacities of Generating Stations

The capacities of the existing generating stations (full details are given in Chapter – 4) are as given in Table 2.1 below:

Table 2.1: Capacities of generating stations of APGCL

Sl. No.	Station	Total Capacity (MW)
1	NTPS	119.50*
2	LTPS	120.00
3	KLHEP	100.00

* De-rated capacity

2.3.2 Plant Availability Factor (PAF)

As per Regulation 39.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations 2006, full fixed charges shall be recoverable from beneficiaries, if availability is as follows.

Target availability for recovery of full fixed charges (%)

NTPS	50%
LTPS	50%

The actual PAF for the stations of APGCL as submitted by APGCL for FY 2009-10 are, as given in Table-2.2 below:

Table 2.2: Actual PAF for FY 2009-10

Sr. No.	Station	PAF
1	NTPS	55%
2	LTPS	80%
3	KLHEP	90.50%

Hence, APGCL is eligible to recover the full fixed charges for the year FY 2009-10, as PAF achieved is better than the target availability.

2.3.3 Plant Load Factor

The target PLF for eligibility of incentive is 50% for NTPS and LTPS stations, as per Regulation 39.2 of the AERC Regulations 2006. The plant load factors considered for the year FY 2009-10 by the Commission for various generating stations in Tariff Order 2008-09 & 2009-10 and the actuals as submitted by APGCL for FY 2009-10 are given in Table 2.3 below:

Table 2.3: The PLF considered in Tariff Order 2008-09 and 2009-10 and actuals for the year FY2009-10

(%)

Sr. No.	Station	PLF considered in Tariff Order 2008-09&2009-10	Actual for 2009-10, as submitted by APGCL	Approved by the Commission for truing up purpose
1	NTPS	57	52	52
2	LTPS	72	73	73
3	KLHEP	45	46	46

Commission's View:

As the actual PLFs for the stations NTPS and LTPS for FY 2009-10 are more than target PLF, incentive is allowed for the stations.

For truing up purpose, the actual PLFs achieved are approved, for all the stations.

2.3.4 Auxiliary Consumption

APGCL submitted auxiliary consumption (actuals) for FY 2009-10 for different stations as given in the Table 2.4 below:

Table 2.4: Auxiliary Consumption for FY2009-10

(%)

Sr. No.	Station	Auxiliary consumption approved in Tariff Order 2008-09 & 2009-10	Auxiliary consumption considered by the Commission in the review for FY 2009-10 as per order MYT 2010-13	Auxiliary consumption actuals as furnished by APGCL
1	NTPS	3.00	4.50	4.80
2	LTPS	5.59	5.59	8.80
3	KLHEP	0.50	0.50	0.50

It is observed that the actual Auxiliary Consumption (APC) of both LTPS and NTPS is higher than the targets fixed by AERC for the year. It is submitted by APGCL that the reason for higher APC for LTPS is due to Power consumption on Common auxiliaries & Gas booster compressor and the actual figure is higher considering the system loss in the power station switch yard including transformation loss i.e. net energy sent out to the grid at the interfacing point. It is also stated that the Energy Audit for 120 MW LTPS has already been carried out and APC for the plant is expected to be controlled in coming days.

Commission's View:

The commission considered for review purpose for the year 2009-10, in its Tariff order MYT 2010-13, at 4.5% (as per Regulation) for NTPS, 5.59% (as approved in the Tariff order 2008-09 & 2009-10) for LTPS and 0.5% for KLHEP. For Truing up purpose, the same values are approved for FY2009-10, as given in the Table-2.5 below:

Table 2.5: Auxiliary consumption for Truing-up 2009-10

Sl. No.	Station	Auxiliary consumption approved by the Commission for truing-up purpose
1	NTPS	4.50%
2	LTPS	5.59%
3	KLHEP	0.50%

2.3.5 Gross and Net Generation

Based on the above analysis and decisions of the Commission the station wise gross and net generation approved by the Commission, in the Tariff Order for 2008-09 & 2009-10, the actuals submitted by APGCL for FY2009-10 and the generation finally approved by the Commission for truing-up are given in Table-2.6 below:

Table 2.6: Gross and Net Generation for FY 2009-10

(MU)

Sl. No.	Station	Approved by the Commission in T.O 2008-09 & 2009-10		Actuals submitted by APGCL for 2009-10		Now approved by the Commission in Truing-up for 2009-10	
		Gross	Net	Gross	Net	Gross	Net
1	NTPS	602.00	583.84	547.53	521.25	547.53	522.89
2	LTPS	760.00	717.52	762.77	695.65	762.77	720.13
3	Total Thermal	1362.00	1301.36	1310.30	1216.90	1310.30	1243.02
4	KLHEP	394.20	392.23	401.91	399.90	401.91	399.90
5	Total APGCL	1756.20	1693.69	1712.21	1616.80	1712.21	1642.92

The actual gross generation for FY 2009-10, as submitted by APGCL is 1712.21 MU, which tallys with the audited annual statement of accounts. However, plant wise generation is not available in the audited annual statement of accounts and as such the data supplied along with the petition and additional information furnished by APGCL subsequently, has been taken into account by the Commission.

Accordingly, the Commission approves gross generation for FY 2009-10 at 1712.21 MU.

The actual auxiliary consumption now reported by APGCL is higher in respect of thermal stations NTPS and LTPS than the approved ones.

The net thermal generation approved for truing up purpose works out to 1243.02 MU, as shown in coloumn 8 of Table 2.6 against 1216.90 MU furnished by APGCL, as actuals.

The Commission further observes that the actual gross generation for all the stations put together is less by 43.99 MU (1756.20 – 1712.21) and net generation by 76.89 MU (1693.69 – 1616.80) compared to the generation, originally approved.

The Commission thus approves the following generation in truing up for FY 2009-10.

Sr. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	547.53	522.89
2	LTPS	762.77	720.13
3	Total Thermal	1310.30	1243.02
4	KLHEP	401.91	399.90
5	Total APGCL	1712.21	1642.92

2.3.6 Gross Station Heat Rate

APGCL stated that NTPS and LTPS stations recorded Gross station heat rates as follows, against the approved heat rates for FY 2009-10, as shown in Table-2.7 below:

Table 2.7: Gross Station Heat Rates for FY2009-10

(kCal/kWh)

Sr. No.	Station	Heat rate approved in Tariff Order 2008-09&2009-10	Actual heat rate achieved for 2009-10	Heat rate considered by Commission for review purpose for 2009-10 in the MYT 2010-13
1	NTPS	3266	3866	3266
2	LTPS	3435	3976	3435

It was submitted by APGCL that all out efforts are made to operate its existing power plants to obtain optimum performance level to meet the operating norms fixed by AERC. However, due to fluctuation in supply of gas and intermittent underloading and due to technical reasons at times lead to higher SHR for both LTPS & NTPS.

Commission's view:

According to Regulation 39.3(iii) of AERC Tariff Regulations 2006, the Gross Station Heat Rates to be allowed for NTPS and LTPS stations are 3266 k.Cal/kWh and 3658 kCal/kWh, respectively.

The Commission approved the gross station heat rates in the Tariff Order 2008-09 & 2009-10 as shown above. The approved Gross Station Heat Rate for NTPS was the same as per Regulations, but for LTPS the Heat Rate approved was less than that as per Regulations (3435 kCal/kWh against 3658 kCal/kWh as per Regulations).

The Commission considers it to be fair, to approve the Gross station Heat Rate of LTPS at 3658 kCal/kWh, as per Regulations for Truing-up purpose, as the actuals of Heat Rate (3976 kCal/kWh) is much higher when compared to that (3435 kCal/kWh) approved in the Tariff Order for 2008-09 & 2009-10, and that (3658 kCal/kWh) as per Regulations. Though the Heat Rate considered in the Tariff Order FY 2010-11 to 2012-13 by the Commission for FY 2009-10 at 3435 kCal/kWh for review purpose, it was considered at 3435 kCal/kWh (as approved in the tariff order for FY2008-09 & FY2009-10).

For NTPS, however, the Heat Rate approved in the Tariff Order for 2008-09 & 2009-10, is approved for True-up purpose also for FY 2009-10, as it is in line with the Regulations though, the actual Heat Rate is higher.

The Commission thus approves the following Gross Station Heat Rates for truing-up purpose for FY 2009-10.

Table 2.8: Approved Gross Station Heat Rate for FY 2009-10 for Truing-up purpose

Sr. No.	Station	Approved Gross station Heat Rate for Truing-up purpose for FY 2009-10 (kCal/kWh)
1	NTPS	3266
2	LTPS	3658*

* - As per regulations

2.3.7 Fuel Cost

In its tariff order of FY2008-09 & FY2009-10, the Commission approved the fuel cost as Rs. 168.728 crore for gross thermal generation of 1362 MU.

The Annual Accounts for FY 2009-10 furnished by APGCL with its petition has indicated actual fuel cost for FY 2009-10 as Rs. 187.72 crore, for a gross thermal generation of 1310.30 MU. This comprises of Rs. 187.09 crore of Gas Consumption and Rs. 0.63 crore for operating expenses such as lubricants, consumable stores and station supplies. Out of Rs. 187.72 crore, Rs. 0.63 crore as per schedule 16 of annual accounts booked towards operating expenses do not form a part of fuel cost and are being considered under repair and maintenance expenses in Para 2.3.10. Thus the net fuel cost as per Annual Accounts is taken as Rs. 187.09 (187.72 – 0.63) crore.

The plant wise fuel cost is not mentioned in the audited annual accounts of FY 2009-10. Hence, the details of weighted average Gross Calorific Value (GCV) of gas, total cost of gas for each station were obtained from APGCL vide their letter No. APGCL/CGM (G)/MYT/10-13/211/70 dated 10.08.2012. The values furnished by APGCL are as given in the Table 2.9 below:

Table 2.9: Weighted average calorific value of gas and weighted average price of gas / 1000 SCM (Actuals) for FY 2009-10

Sr. No.	Station	Wt. Avg. GCV of Gas Kcal/SCM	Wt. Avg. price of Gas / 1000 SCM (including transport) (Rs.1000/SCM)
1	NTPS	9274	2560.00
2	LTPS	9568	3960.00

The above values have been validated and the Commission approves the weighted average GCV and price of gas for truing-up purpose for FY 2009-10, as given in the Table-2.10 below:

Table 2.10: Approved Gross Calorific Value and price of gas for Truing-up purpose for FY 2009-10

Sr. No.	Station	Wt. Avg. GCV of Gas Kcal/SCM	Wt. Avg. price of Gas / 1000 SCM (including transport) (Rs./1000 SCM)
1	NTPS	9274	2560.00
2	LTPS	9568	3960.00

As already discussed in para 2.3.5, the Commission approved gross thermal generation of 1310.30 MU (547.53 MU for NTPS + 762.77 MU for LTPS). The fuel cost for different thermal stations corresponding to generation approved has been worked out, based on the approved Gross Station Heat Rate in Para no 2.3.6. The Price and GCV of Gas has been adopted as validated and accepted by the Commission, as given in Table-2.10.

On the above basis, fuel cost for the year FY 2009-10 for different thermal stations corresponding to actual generation is as given in Table-2.11.

Table 2.11: Approved Fuel cost for FY 2009-10

Sr. No.	Item	Derivation	Unit	NTPS	LTPS	Total
1	Generation (Gross)	A	MU	547.53	762.77	1310.30
2	Heat Rate	B	k.Cal/kWh	3266.00	3658.00	
3	Calorific Value of gas	C	k.Cal/ScM	9274.00	9568.00	
4	Overall Heat	D = A*B	G. Cal.	1788232.98	2790212.66	4578445.64
5	Gas Consumption	E = D/C	M. ScM	192.82	291.62	484.44
6	Price of Gas	F	Rs./1000 ScM	2560.00	3960.00	
7	Total Cost of Gas	G = E*F/100	Rs. Lakh	4936.25	11548.12	16484.37
8	Percentage of Auxiliary Consumption	H	%	4.50	5.59	
9	Auxiliary Consumption	I = A*H/100	MU	24.64	42.64	67.28
10	Net Generation	J = A-I	MU	522.89	720.13	1243.02
11	Fuel Cost per Unit (Gross)	K = G/A/10	Rs./kWh	0.90	1.51	1.26
12	Fuel Cost per Unit (Net)	L = G/J/10	Rs./kWh	0.94	1.60	1.33

The Commission thus approves the Fuel Cost of Rs. 164.84 crore for gross thermal generation of 1310.30 MU for the year 2009-10.

2.3.8 Incentive for Generation in Excess of Target Plant Load Factor

As discussed in para 2.3.3, APGCL is eligible for incentive for the thermal stations at a flat rate of 25 Ps./kWh, for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target plant load factor.

In the present case, the actual generation for FY2009-10, and the ex-bus energy corresponding to target PLF are as given in Table 2.12 below.

Table 2.12: Approved Ex-bus Generation and Target Ex-bus Generation for FY2009-10

Sl. No.	Station	Target PLF for allowing incentive (%)	Gross Generation with target PLF (MU)	Approved aux. consumption (%)	Net generation with target PLF (MU)	Actual PLF (%)	Gross generation (Actual)	Net generation (Actual) (approved)	Ex-bus energy eligible for incentive
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10=(9-6)**
1	NTPS	50%	523.41	4.5%	499.86	52%	547.53	522.89	23.03
2	LTPS	50%	525.60	5.59%	496.22	73%	762.77	720.13	223.91
	Total		1049.01		996.08		1310.30	1243.02	246.94

Thus the APGCL is eligible for incentive of 25 P/Unit for 247 MU of ex-bus energy for the year 2009-10, which works out to Rs. 6.18 crore. This amount is to be passed on as incentive in the ARR of 2012-13.

2.3.9 Employee Cost

The Commission had approved the employee cost at Rs. 66.19 crore for the year 2009-10 in the Tariff Order for 2008-09 and 2009-10.

The employee cost as per Audited Annual Accounts for FY2009-10 is Rs. 57.45 crore (net of capitalization).

The Commission accordingly approves the employee cost at Rs. 57.45 crore as per the Audited Annual Accounts in the Truing up for FY2009-10.

2.3.10 Repairs and Maintenance (R&M) Expenses

The Commission had approved the R&M expenses at Rs. 9.72 crore for FY2009-10 in the Tariff Order for 2008-09 and 2009-10.

The actual R&M expenses as per Audited Annual Accounts for the year are Rs.10.96 crore. Considering the operating expenses of Rs. 0.63 crore disallowed under fuel cost (para 2.3.7) the R&M expenses work to Rs.11.59 crore for the year 2009-10.

The Commission approves the R&M expenses at Rs. 11.59 crore in the Truing up for 2009-10.

2.3.11 Administration and General (A&G) Expenses

The Commission had approved Rs. 2.27 crore towards A&G expenses for FY2009-10 in the Tariff Order of 2008-09 and 2009-10.

The A&G expenses as per Audited Annual Accounts are Rs. 2.60 crore.

The Commission now approves the A&G expenses at Rs. 2.60 crore in the truing up for 2009-10 as per the Audited Annual Accounts.

2.3.12 Depreciation Charges

The Commission had approved the depreciation charges at Rs. 34.31 crore for the year 2009-10 in the Tariff Order for 2008-09 and 2009-10.

As per the audited annual accounts the actual depreciation charges are Rs. 46.24 crore for the year 2009-10.

APGCL has qualified vide schedule 24 of Annual Accounts that depreciation for the period in respect of assets has been provided on straight line method as per Schedule 14 of Companies Act 1956 to cover depreciation upto 95% of the original cost after taking 5% of the residual value. It is further mentioned that consumer contribution, subsidies and grants towards cost of capital assets have not been reduced from the cost of assets but have been treated as reserves and surplus and the depreciation pertaining to fixed assets constructed out of consumers' contribution, subsidies and grants towards cost of capital assets is charged.

The depreciation charges for the year 2009-10 have now been computed in accordance with Regulation 14 of AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006. The depreciation is arrived at Rs. 30.63 crore for FY 2009-10. As specified in Regulation 14 of AERC Tariff Regulations, consumer contribution or capital subsidy / grants etc need to be excluded from the asset value for the purpose of depreciation. The cumulative grants towards cost of capital grants upto end of March 2010 were Rs.214.40 crore as per the audited annual accounts. This includes capital assets to the extent of Rs. 10.85 crore and the balance is allocated to the work in progress as indicated in the annual accounts for the FY 2009-10. Thus the grants in the form of assets were Rs.10.85 crore only and the depreciation on this needs to be deducted from the depreciation calculated at Rs. 30.63 crore on GFA for the year. The weighted average rate of depreciation has worked out to 3.25%. At this rate the depreciation on the assets created by grants works out to Rs. 0.32 crore, this amount is deducted from the depreciation amount of Rs.30.63 crore. The allowable depreciation is determined at Rs. 30.31 crore in the truing up for FY 2009-10.

Depreciation on the assets relating to the stations of BTPS and CTPS is not allowed, as these stations are not contributing any generation.

The detailed calculation of depreciation is given in the Table below:

Table 2.13: Depreciation approved in Truing up for FY 2009-10

(Rs. crore)

Sl. No.	Particulars	All stations		BTPS	CTPS	Net GFA	Rate of depreciation	Dep as per AERC			
		GFA 01.04.2009	Additions during FY 2009-10					All Stations	BTPS	CTPS	Net Dep.
1	Land & Rights	18.86		0.83	0.31	17.72					
2	Buildings	75.17		26.58	0.04	48.55	1.80%	1.22	0.43	0.00	0.79
3	Hydraulic	164.18	17.20	7.08	0.11	156.99	2.57%	4.00	0.16	0.00	3.83
4	Other civil works	149.66	0.02	12.81	0.18	136.67	1.80%	2.42	0.21	0.00	2.21
5	Plant machinery Gas	214.64	2.38			214.64	6.00%	11.65	0.00	0.00	11.65
	Plant machinery Hydel	174.80				174.80	2.57%	4.04	0.00	0.00	4.04
	Plant machinery Thermal	64.87		33.79	31.08	0.00	3.60%	2.10	1.09	1.01	0.00
6	Lines & Cable net work	41.14		5.05	1.49	34.60	2.57%	0.95	0.12	0.03	0.80
7	Vehicles	1.00	0.05	0.16	0.05	0.79	18.00%	0.17	0.03	0.01	0.13
8	Furniture & Fixtures	4.39	0.04	0.80	0.16	3.43	6.00%	0.24	0.04	0.01	0.19
9	Office equipment	0.63	0.15	0.08	0.01	0.54	6.00%	0.04	0.00	0.00	0.03
10	Capital Spares	160.76	5.63	0.03	0.93	159.80	4.75%	6.99	0.00	0.04	6.95
	Total	**1070.09**	**25.48**	**87.21**	**34.36**	**948.52**		**33.82**	**2.09**	**1.10**	**30.63**
	Average Assets of OB & CB in 2009-10	943.53					3.25%				
	Assets created through grants	-10.85									-0.32
	Depreciation										**30.31**

The Commission accordingly approves the depreciation charges at Rs. 30.31 crore in the truing up for the year 2009-10.

2.3.13 Interest and Finance charges / Interest on Working Capital

The Commission had approved the interest and finance charges at Rs. 38.49 crore for the year 2009-10 in the Tariff Order for 2008-09 and 2009-10.

APGCL has now submitted the audited annual accounts for 2009-10 and the interest and finance charges (actual) as per the accounts are Rs. 32.37 crore net of capitalization. The net interest charges of Rs. 32.37 crore includes 0.22 crore towards interest on OD and Rs. 3.64 crore towards interest on GPF. Interest on OD is excluded from the interest and finance charges as interest on working capital is calculated as a separate item. Regarding the interest on GPF it is observed that APGCL has not created any fund nor GPF money was invested with separate identification with some designated bank. Therefore, the interest on GPF is disallowed for FY 2009-10, consistent with the decision taken in the earlier tariff orders. Interest on State Government loans including public bond is also not considered for calculating interest and finance charges as APGCL has not submitted the documentary evidence establishing that the Government loans were utilized for creation of capital assets.

The Commission accordingly approves the interest and finance charges at Rs. 12.78 crore in the truing up for FY 2009-10.

Interest on Working Capital

The Commission approved the interest on working capital at Rs. 11.73 crore in the Tariff Order for 2008-09 and 2009-10.

Based on the truing-up the interest on working capital claimed by APGCL is as detailed in Table 2.14 below:

Table 2.14: Interest on Working Capital

(Rs. crore)

Particulars	**2009-10**
One month fuel cost	13.74
One month O&M cost	5.97
Maintenance spares (1 % of GFA)	9.49
2 months receivables (Fixed + Variable charges)	52.32
Total Working Capital	**81.51**
Rate of interest (SBI PLR as on 01/04/2009)	12.25%
Interest on working capital	**9.98**

The Commission approves interest on working capital at Rs. 9.98 crore for the truing up for FY 2009-10.

2.3.14 Prior Period Expenses and Other Debits

APGCL has shown Rs. 0.24 crore towards prior period expenses.

The amount of Rs. 0.24 crore is towards other charges relating to the prior period and these charges have not been substantiated in the claim for truing up.

The Commission is not in favour of passing on these prior period expenses in the truing up for FY 2009-10.

2.3.15 Return on Equity

The Commission had approved the return on equity at Rs. 18.80 crore for the year 2009-10 in the Tariff Order for 2008-09 and 2009-10.

The Commission retains the return on equity at Rs. 18.80 crore in the truing up for FY 2009-10 as approved in the Tariff Order for FY 2008-09 and 2009-10 as there is no further infusion of equity during the year.

2.3.16 Provision for Tax

An amount of Rs. 5.54 crore was provided in the Annual Accounts towards tax.

The Commission not allowed the provision for tax at Rs. 5.54 crore as this is not actually incurred during FY 2009-10.

2.3.17 Other Income

The Commission had approved an amount of Rs. 5.44 crore towards other income in the Tariff Order for FY 2008-09 and 2009-10.

As per the Audited Annual Accounts for FY 2009-10 the other income is Rs. 35.95 crore.

The Commission approves the other income at Rs. 35.95 crore in the Truing up for FY 2009-10 as per the actuals.

2.3.18 Revenue from Sale of Power

The Commission had approved the revenue from sale of power at Rs. 344.81 crore for FY2009-10 in the Tariff Order for FY 2008-09 and 2009-10. The revenue from sale of power as per Audited Annual Accounts for FY 2009-10 is Rs. 331.32 crore.

The Commission approves the revenue from sale of power at Rs. 331.32 crore as per Audited Annual Accounts in the truing up for FY 2009-10.

2.3.19 Truing up of ARR for 2009-10

The aggregate revenue requirement for the year 2009-10 based on the actuals as per audited annual accounts as analyzed in the above paras and the revenue requirement approved in the tariff order for FY 2009-10 are detailed in the Table 2.15 below:

Table 2.15: Revenue Requirement 2009-10 (Truing up)

(Rs. crore)

Sl. No.	Item of Expense	Approved by the commission in T.O. for 2008-09 &2009-10	Audited Actuals as per Annual Accounts for 2009-10	Considered by the Commission for 2009-10
1	**2**	**3**	**5**	**6**
1	Units Generated MU	1756.20	1712	1712.00
2	Units Sent out MU	1693.69	1617	1643.00
3	Auxiliary Consumption (%)	3.56%	5.55%	4.03%
	Revenue Income			
4	Revenue from Sale of power	344.80	331.32	331.32
5	Revenue from Subsidies & Grants			
6	Other Income	5.44	35.95	35.95
7	**Total Revenue**	**350.24**	**367.27**	**367.27**
	Expenditure			
1	Cost of Fuel	168.73	187.09	164.84
2	Employee Cost	66.19	57.44	57.45
3	R&M Expenses	9.72	11.59	11.59
4	A&G Expenses	2.27	2.60	2.60
5	Depreciation Charges	34.31	46.24	30.31
6	Interest & Finance charges	38.49	32.15	12.78
7	Interest on working capital	11.73	0.22	9.98
8	Prior Period Expenses/(Charges)	-	0.24	-
9	Other debits and extraordinary items	-	-	-
10	Fringe Benefit Tax	-	-	-
11	Provision for Tax	-	5.54	5.54
12	Return on Equity	18.80	-	18.80
13	**Revenue Requirement**	**350.24**	**343.12**	**308.35**
14	Add incentive for generation for FY 2009-10			**6.18**
15	**Total Revenue Requirement (13+14)**	**--**		**314.53**
16	Net Revenue Surplus for FY 2009-10	**--**		**52.74**
17	Net Revenue Surplus in Truing up for 2007-08 & 2008-09			**43.64**
18	**Net Revenue Surplus for truing up for the control period 2007-08 to 2009-10 (16+17)**			**96.38**

From the above truing up for the control period 2007-08 to 2009-10, it is noted that there is revenue surplus of Rs. 96.38 crore based on the audited annual accounts.

This net surplus amount of Rs. 96.38 crore will be carried over to the ARR of FY 2012-13.

2.4 TRUING UP FOR THE YEAR 2010-11

2.4.1 Plant Availability

The actual PAFs for the stations of APGCL, as submitted by APGCL for the year 2010-11 are as given in the Table 2.16 below:

Table 2.16: Actual PAF for 2010-11

Sl. No.	Station	PAF (%)
1	NTPS	53.00%
2	LTPS	80.00%
3	KLHEP	90.50%

As the PAFs of the stations NTPS and LTPS are more than 50%, as provided in the Regulation 39.1 of the AERC (Terms and Conditions for determination of tariff) Regulations, 2006, the APGCL is eligible to recover the full fixed charges, for the year 2010-11.

2.4.2 Plant Load Factor

The plant load factor considered by the Commission for various generating stations for the year 2010-11 and actuals as submitted by APGCL for 2010-11, are as given in Table 2.17 below:

Table 2.17: PLF approved for 2010-11 in the Tariff Orders 2010-11 to 2012-13 and actuals

Sl. No.	Station	PLF approved for 2010-11 in Tariff Order	Actuals for 2010-11 as submitted by APGCL	Approved by the Commission for truing up purpose for 2010-11
1	NTPS	52.10%	51.00%	51.00%
2	LTPS	71.46%	73.00%	73.00%
3	KLHEP	45.00%	47.00%	47.00%

Commission's view

As the actual PLFs for the stations NTPS and LTPS, for the year 2010-11 are more than the target PLF (50%), incentive is allowed for these stations. According to Regulation 47 of AERC (Tariff) Regulations 2006, incentive shall be payable at a flat rate of 25.0Paise/kWh, for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target plant load factor.

For truing up purpose, the actual PLFs achieved are approved for all the stations as in table 2.17 above.

2.4.3 Auxiliary consumption

APGCL has submitted auxiliary consumption (actual) for the year 2010-11 for different stations, as given in the Table 2.18 below:

Table 2.18: Auxiliary consumption for the year 2010-11

Sl. No.	Station	Approved for 2010-11 in Tariff Order	Actual for 2010-11 as submitted by APGCL	Approved by the Commission in truing up for 2010-11
1	NTPS	4.50%	4.50%	4.50%
2	LTPS	5.50%	8.74%	5.50%
3	KLHEP	0.5%	0.50%	0.50%

In the Tariff Petition for the years 2010-11 to 2012-13, APGCL proposed auxiliary consumption of 5.50% for NTPS, 7.90% for LTPS station and 0.5% for KLHEP station for the year 2010-11. The Commission allowed 4.5% for NTPS, and 5.50% for LTPS, as per Regulations.

APGCL submitted that the approved APC (auxiliary Consumption) is achieved for NTPS during 2010-11, while that for KLHEP has been maintained.

The reason for higher APC for LTPS is stated to be due to power consumption on common auxiliary & Gas booster compressors. It is also submitted that the energy Audit for LTPS has already been carried out and APC for the plant is expected to be controlled in coming days.

Commission's view

The Commission approves the auxiliary consumption of 4.5% for NTPS and 5.50% for LTPS and 0.5 %for KLHEP, as per Regulations and as approved in the Tariff Order for 2010-11 to 2012-13, for truing up purpose for the year 2010-11.

2.4.4 Gross and Net Generation

Based on the above analysis and decisions of the Commission, the station wise gross and net generation approved by the Commission in the Tariff Order 2010-11, actuals now furnished by APGCL and generation finally approved by the Commission for truing up purpose are given in Table 2.19 below:

Table 2.19: Generation 2010-11

Sl, No.	Station	Approved by the Commission in T.O. 2010-11 to 2012-13		Actuals for FY 2010-11 as submitted by APGCL		Now approved by the Commission for truing up purpose	
		Gross	Net	Gross	Net	Gross	Net
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	NTPS	545.38	520.84	530.455	506.58	530.455	506.58
2	LTPS	751.19	709.87	767.615	700.53	767.615	725.40
3	Total thermal	1296.57	1230.54	1298.070	1207.11	1298.070	1231.98
4	KLHEP	390.00	388.05	409.492	407.44	409.492	407.44
5	Total APGCL	1686.57	1618.76	1707.560	1614.55	1707.560	1639.42

The gross generation for 2010-11 now submitted by APGCL is 1707.56 MU. However, plant wise generation is not available in the audited annual statement of accounts and as such, the data supplied along with the petition and additional information furnished by APGCL subsequently, has been taken into account by the Commission to arrive at station-wise generation.

Accordingly, the Commission approves the gross generation for the year 2010-11 at 1707.56 MU.

It is observed that the actual auxiliary consumption now reported by APGCL is higher in respect of the thermal station LTPS, than the approved one.

The net thermal generation works out to be 1231.98 MU, as shown in column 8 of Table 2.19, against 1206.98 MU furnished by APGCL, as actuals.

The Commission further observes that the APGCL has over achieved the gross generation by 20.99 MU (1707.56 – 1686.57) and net generation approved for truing up purpose by 20.66 MU (1639.42 – 1618.76), as compared to generation originally approved.

2.4.5 Gross Station Heat Rate

APGCL stated that NTPS and LTPS recorded gross station heat rates as follows, against the approved heat rates, for the year 2010-11 as shown in Table 2.20 below:

Table 2.20: Gross Station Heat Rate for FY2010-11

Sl. No.	Station	Heat rate approved in Tariff Order 2010-11 to 2012-13	Actual heat rate achieved for 2010-11	Heat rate approved by the Commission for 2010-11 for truing up purpose
1	NTPS	3266	3918	3266
2	LTPS	3658	3972	3658

It is observed that the actual heat rates achieved for 2010-11 for both the stations, are more than those approved in the Tariff Order 2010-11 to 2012-13.

The Commission approves the heat rates as approved in the Tariff Order 2010-11 to 2012-13 for the year 2010-11 for truing-up purpose as given in Table 2.20 above.

2.4.6 Fuel Costs

In its tariff order of 2010-11 to 2012-13, the Commission approved the fuel cost as Rs. 161.06 crore for a gross Thermal generation of 1296.57 MU, for the year 2010-11.

APGCL in its Petition in the Annual Accounts of 2010-11 has indicated actual fuel cost for FY2010-11 for a gross thermal generation of 1298.27 MU as Rs 280.97 crore. This comprises of Rs. 280.08 crore for Gas Consumption and Rs. 0.89 crore (as per schedule 16 of annual accounts) for operating expenses such as Lubricants, consumable stores and station supplies. These expenses are being considered under repair and maintenance expenses in para 2.4.9. Thus the net fuel cost as per Annual Accounts is taken as Rs. 280.08 crore (280.97 – 0.89) crore.

The plant wise fuel cost is not mentioned in the audited annual accounts of FY 2010-11. Hence, the details of weighted average GCV of gas, total gas for each station were obtained from APGCL vide the letter No. APGCL/CGM (G)/MYT/10-13/211/70 dated 10th August 2012.

The values furnished by APGCL are given in the Table 2.21 below:

Table 2.21: Wt. Average Gross Calorific value and price of gas as submitted by APGCL for 2010-11

Sl. No.	Station	NCV of Gas (kcal/SCM)	Price of Gas (Rs/ SCM)
1	NTPS	9192	4570.00
2	LTPS	9545	5710.00

The above values have been validated and the Commission approved the Wt. Average GCV of gas at price of gas for FY 2010-11 as given in the Table 2.22 below:

Table 2.22: Gross Calorific Value and price of Gas for 2010-11 as approved by the Commission for truing up purpose

Sl. No.	Station	GCV of Gas (kcal/SCM)	Price of Gas (Rs/1000SCM) (including transport)
1	NTPS	9192	4570.00
2	LTPS	9545	5710.00

The Commission has now approved gross thermal generation of 1298.07 MU as discussed in para 2.4.4. The fuel cost for different thermal stations corresponding to generation now approved has been worked out, based on the normative parameters approved by the Commission in its tariff order of 2010-11 to 2012-13. The price and GCV of Gas has been adopted as validated and accepted by the Commission.

On the above basis, fuel cost for the year FY 2010-11 for different thermal stations corresponding to actual generation is as given in Table 2.23.

Table 2.23: Approved Fuel cost for FY 2010-11

Sl. No.	Item	Derivation	Unit	NTPS	LTPS	Total
1	Generation (Gross)	A	MU	530.46	767.62	1298.07
2	Heat Rate	B	k.Cal/kWh	3266.00	3658.00	
3	Calorific Value of gas	C	k.Cal/ScM	9192.00	9545.00	
4	Overall Heat	D = A*B	G. Cal.	1732466.03	2807935.67	4540401.70
5	Gas Consumption	E = D/C	M. ScM	188.48	294.18	482.66
6	Price of Gas	F	Rs./1000 ScM	4570.00	5710.00	
7	Total Cost of Gas	G = E*F/100	Rs. Lakh	8613.33	16797.60	25410.93
8	Percentage of Auxiliary Consumption	H	%	4.50	5.50	
9	Auxiliary Consumption	I = A*H/100	MU	23.87	42.22	66.09
10	Net Generation	J = A-I	MU	506.58	725.40	1231.98
11	Fuel Cost / Unit (Gross)	K = G/A/10	Rs./kWh	1.62	2.19	1.96
12	Fuel Cost / Unit (Net)	L = G/J/10	Rs./kWh	1.70	2.32	2.06

The Commission thus approves the Fuel Cost of Rs. 254.11 crore for gross thermal generation of 1298.07 MU for the year 2010-11.

2.4.7 Incentive for Generation in Excess of Target Plant Load Factor

As discussed in para 2.4.2, APGCL is eligible for incentive for the thermal stations at a flat rate of 25.0 Ps./kWh, for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target plant load factor.

In the present case, the actual generation for 2010-11, and the ex-bus energy corresponding to target PLF are as given in Table 2.24 below.

Table 2.24: Approved Ex-bus Generation and Target Ex-bus Generation for 2010-11

Sl. No.	Station	Target PLF for allowing incentive (%)	Gross Generation with target PLF (MU)	Approved aux. consumption (%)	Net generation with target PLF (MU)	Actual PLF	Gross Generation (Actual)	Net Generation (Actual) (Approved)	Ex-bus energy eligible for incentive
1	2	3	4	5	6	7	8	9	10=(9-6)
1	NTPS	50%	523.41	4.5%	499.86	51%	530.46	506.58	6.72
2	LTPS	50%	525.60	5.5%	496.69	73%	767.62	725.40	228.71
	Total		1049.01		996.55		1298.08	1231.98	235.43

Thus the APGCL is eligible for incentive of 25 P/Unit for 235.43 MU of ex-bus energy for the year 2010-11, which works out to Rs. 5.89 Crore. This amount is to be passed on as incentive in the ARR of 2012-13.

2.4.8 Employee Cost

The Commission had approved the employee cost at Rs. 60.90 crore for the year 2010-11 in the Tariff Order for 2010-11.

The employee cost as per Audited Annual Accounts for 2010-11 is Rs. 53.18 crore (net of capitalization).

The Commission accordingly approves the employee cost at Rs. 53.18 crore as per the Audited Annual Accounts in the Truing up for 2010-11.

2.4.9 Repairs and Maintenance (R&M) Expenses

The Commission had approved the R&M expenses at Rs. 11.84 crore for 2010-11 in the Tariff Order for 2010-11.

The actual R&M expenses as per Audited Annual Accounts for the year are Rs.14.92 crore. Considering the operating expenses of Rs. 0.89 crore disallowed under fuel cost (para 2.4.6) the R&M expenses work to Rs.15.81 crore for the year 2010-11.

The Commission approves the R&M expenses at Rs. 15.81 crore in the Truing up for 2010-11.

2.4.10 Administration and General (A&G) Expenses

The Commission had approved Rs. 2.76 crore towards A&G expenses for 2010-11 in the Tariff Order of 2010-11.

The A&G expenses as per Audited Annual Accounts are Rs. 3.03 crore.

The Commission approves the A&G expenses at Rs. 3.03 crore in the truing up for 2010-11 as per the Audited Annual Accounts.

2.4.11 Depreciation Charges

The Commission had approved the depreciation charges at Rs. 22.64 crore for the year 2010-11 in the Tariff Order for 2010-11.

As per the audited annual accounts the actual depreciation charges are Rs. 32.32 crore for the year 2010-11.

APGCL has qualified vide schedule 24 of Annual Accounts that depreciation for the period in respect of assets has been provided on straight line method as per Schedule 14 of Companies Act 1956 to cover depreciation upto 95% of the original cost after taking 5% of the residual value. It is further mentioned that consumer contribution, subsidies and grants towards cost of capital assets have not been reduced from the cost of assets but have been treated as reserves and surplus and the depreciation pertaining to fixed assets constructed out of consumers' contribution, subsidies and grants towards cost of capital assets is charged.

The depreciation charges for the year 2010-11 have now been computed taking into consideration the opening balance of Gross Fixed assets as on 01.04.2010 based on the Audited Annual Accounts for FY 2010-11 in accordance with Regulation 14 of AERC (Terms and Conditions for Determination of Tariff) Regulations, 2006. The depreciation is arrived at Rs. 32.79 crore for FY 2010-11. As specified in Regulation 14 of AERC Tariff Regulations, consumer contribution or capital subsidy / grant etc needs to be excluded from the asset value for the purpose of depreciation.

The detailed calculation of depreciation is given in the Table 2.25 below:

Table 2.25 Depreciation approved in truing up for FY 2010-11

Rs. crore

Sl . No.	Particulars	GFA 01.04.2010	Additions during FY 2010-11	Rate of depreciation	Depreciation as per AERC
1.	Land & Rights	18.86	1.53		
2.	Buildings	51.62	-7.59	1.80%	0.77
3.	Hydraulic	164.70	10.22	2.57%	3.93
4.	Other civil works	140.59	-8.48	1.80%	2.21
5.	Plant machinery Gas	218.35	33.72	6.00%	12.70
	Plant machinery Hydel	174.82		2.57%	4.04
	Plant machinery Thermal			3.60%	0.00
6.	Lines & Cable net work	38.77	-2.66	2.57%	0.87
7.	Vehicles	-0.07	1.24	18.00%	-0.01
8.	Furniture & Fixtures	3.39	0.52	6.00%	0.20
9.	Office equipment	0.77	0.05	6.00%	0.04
10	Capital Spares	166.39	5.94	4.75%	8.04
	Total	**978.20**	**34.49**		**32.79**
	Average Assets of OB & CB in 2010-11	975.82		3.36%	
	Average capital subsidy & contributions/grants	-226.59			-6.85
				Depreciation	25.94

Depreciation on the assets built by Grants and Subsidies

Rs. crore

Average grants & subsidies for 2010-11	
Grants & subsidies as on 01/04/2010	214.39
Grants & subsidies as on 01/04/2011	238.78
Average grants & subsidies	226.59
Depreciation on the 90% of the average grants/subsidies	6.85
Depreciation for the year	25.94

The Commission accordingly approves the depreciation charges at Rs. 25.94 crore in the truing up for the year 2010-11.

2.4.12 Interest and Finance charges / Interest on Working Capital

The Commission had approved the interest and finance charges at Rs. 29.89 crore for the year 2010-11 in the Tariff Order for 2010-11.

APGCL has now submitted the audited annual accounts for 2010-11 and the interest and finance charges (actual) as per the accounts are Rs. 25.72 crore net of capitalization. The net interest charges of Rs. 25.72 crore includes 0.04 crore towards interest on OD and Rs. 3.92 crore towards interest on GPF. Interest on OD is excluded from the interest and finance charges as interest on working capital is calculated as a separate item. Regarding the interest on GPF it is observed that APGCL has not created any fund nor GPF money was invested with separate identification with some designated bank. Therefore, the interest on GPF is disallowed for FY 2010-11, consistent with the decision taken in the earlier tariff orders. Interest on State Government loans including public bond is also not considered for calculating interest and finance charges as APGCL has not submitted the documentary evidence establishing that the Government loans were utilized for creation of capital assets.

The Commission accordingly approves the interest and finance charges at Rs. 20.05 crore (Rs. 25.72 – (0.04 +3.92 crore) in the truing up for FY 2010-11.

Interest on Working Capital

The Commission approved the interest on working capital at Rs. 9.87 crore in the Tariff Order for 2010-11.

Based on the truing up the interest on working capital is as detailed in Table 2.26 below:

Table 2.26: Interest on Working Capital

(Rs. crore)

Particulars	2010-11
One month fuel cost	21.18
One month O&M cost	6.00
Maintenance spares (1 % of GFA)	9.78
2 months receivables (Fixed + Variable charges)	69.32
Total Working Capital	**106.28**
Rate of interest (SBI PLR as on 01/04/2010)	11.75%
Interest on working capital	**12.49**

The Commission approves interest on working capital at Rs. 12.49 crore for the truing up for FY 2010-11.

2.4.13 Prior Period Expenses and Other Debits

APGCL has shown Rs. 5.24 crore towards prior period expenses.

The amount of Rs. 5.24 crore is towards other charges relating to the prior period and these charges have not been substantiated in the claim for truing up.

The Commission is not in favour of passing on these prior period expenses in the truing up for FY 2010-11.

2.4.14 Return on Equity

The Commission had approved the return on equity at Rs. 28.06 crore for the year 2010-11 in the Tariff Order for 2010-11.

The Commission retains the return on equity at Rs. 28.06 crore in the truing up for FY 2010-11 as approved in the Tariff Order for FY 2010-11 as there is no further infusion of equity during the year.

2.4.15 Provision for Tax

The Commission had approved an amount of Rs. 5.54 crore towards tax on income in the Tariff Order for FY 2010-11.

As per the Audited Annual Accounts for FY 2010-11 an amount of Rs.3.26 crore is provided for Income Tax.

The Commission not allowed the provision for tax at Rs. 3.26 crore this is not actually incurred during FY 2010-11.

2.4.16 Other Income

The Commission had approved an amount of Rs. 5.37 crore towards other income in the Tariff Order for FY 2010-11.

As per the Audited Annual Accounts for FY 2010-11 the other income is Rs. 7.04 crore.

The Commission approves the other income at Rs. 7.04 crore in the Truing up for FY 2010-11 as per the actuals.

2.4.17 Revenue from Sale of Power

The Commission had approved the revenue from sale of power at Rs. 327.19 crore for 2010-11 in the Tariff Order for FY 2010-11. The revenue from sale of power as per Audited Annual Accounts for FY 2010-11 is Rs. 422.03 crore.

The Commission approves the revenue from sale of power at Rs. 422.03 crore as per Audited Annual Accounts in the truing up for FY 2010-11.

2.4.18 Truing up of ARR for 2010-11

The aggregate revenue requirement for the year 2010-11 based on the actuals as per audited annual accounts as analyzed in the above paras is detailed in the Table 2.27 below:

Table 2.27: Revenue Requirement 2010-11 (Truing up)

(Rs. crore)

Sl. No.	Item of Expense	Approved by the commission in T.O. for 2010-11	Actuals as per Audited Annual Accounts for 2010-11	Approved in the Truing-up for FY 2010-11
1	**2**	**3**	**4**	**5**
1	Units Generated MU	1686.57	1707.76	1707.56
2	Units Sent out MU	1618.76	1614.87	1639.42
3	Auxiliary Consumption (%)	4.02%	5.44%	3.99
	Revenue Income			
4	Revenue from Sale of power	327.19	422.03	422.03
5	Revenue from Subsidies & Grants			
6	Other Income	5.37	7.04	7.04
7	**Total Revenue (A)**	**332.56**	**429.07**	**429.07**
	Expenditure			
1	Cost of Fuel	161.06	280.97	254.11
2	Employee Cost	60.9	53.18	53.18
3	R&M Expenses	11.84	14.92	15.81
4	A&G Expenses	2.76	3.03	3.03
5	Depreciation Charges	22.64	32.32	25.94
6	Interest & Finance charges	29.89	25.72	10.05
7	Interest on working capital	9.87		12.49
8	Prior Period Expenses/(Charges)	-	5.24	
9	Other debits and extraordinary items	-	1.80	
10	Fringe Benefit Tax	-	-	
11	Provision for Tax	5.54	3.26	-
12	Return on Equity	28.06	-	28.06
13	**Total Revenue Requirement (B)**	**332.56**	**420.44**	**402.67**
14	Add incentive for generation 2010-11			**5.89**
15	Gross expenditure			**408.56**
16	**Net Revenue Surplus**	**--**		**20.51**

From the above truing up for the year 2010-11, it is noted that there is revenue surplus of Rs. 20.51 crore based on the audited annual accounts for the year 2010-11. This revenue surplus of Rs.20.51 crore will be carried over to the ARR of FY 2012-13.

3. Review of Tariff Order for FY 2011-12

3.1 The Tariff Order FY 2010-11 to 2012-13 was notified by the Commission on 16th May 2011 and came into effect from 24th May 2011. Before issuing the next Tariff Order, it is important that the Commission does a prudence check of the technical as well as financial performance of the APGCL's vis-à-vis the last tariff order notified by the Commission. Also it is pertinent and desirable that the Commission does take Truing up / Review of its own estimation and directives to ensure better and effective implementation of its next tariff order.

While the true up exercise examines the audited financial statements for FY 2009-10 and FY 2010-11, the review exercise examine the technical and financial performance of APGCL based on approved parameters in the MYT tariff order FY 2010-13 and the provisional financial statements of FY 2011-12. The exercise also attempts to gauge the effectiveness of the last Tariff Order by evaluating the extent of implementation of the directives in the Tariff Order. These aspects are discussed in the following paragraphs.

3.1.1 Plant Availability Factor (PAF)

The actual PAFs for the stations of APGCL, as submitted by APGCL for the year 2011-12 are as given in the Table 3.1 below:

Table 3.1 : Actual PAF for 2011-12

Sl.N	Station	PAF(%)
1	NTPS	56.50%
2	LTPS	74.10%
3	KLHEP	---

As the PAFs of the stations NTPS and LTPS are more than 50% as provided in the Regulations, the APGCL is eligible to recover the full fixed charges for the year 2011-12.

3.1.2 Plant Load Factor (PLF)

The plant load factors approved by the Commission for various generating stations for the year 2011-12 and actuals as submitted by APGCL for FY 2011-12, are as given in Table 3.2 below:

Table 3.2 : PLF approved for 2011-12 in the Tariff Order 2010-11 to 2012-13 and actual

S.N	Station	Approved for 2011-12 in Tariff Order	Actuals for 2011-12 as submitted by APGCL	Considered by the Commission for review purpose
1	NTPS	53.49%	53.90%	53.90%
2	LTPS	65.53%	67.10%	67.10%
3	KLHEP	45.00%	52.00%	52.00%

Commission's view

As the actual PLFs for the stations NTPS and LTPS, for the year 2011-12 are more than the target PLF (50%), incentive can be allowed for these stations, after audited annual accounts are made available and truing up is finalized.

For review purpose, the actual PLFs achieved are considered for all the stations.

3.1.3 Auxiliary consumption

APGCL had submitted auxiliary consumption (actual) for the year 2011-12 for different stations, as given in the Table-3.3 below.

Table 3.3: Auxiliary consumption for the year 2011-12

Sl.No.	Station	Approved for 2011-12 in Tariff Order	Actual for 2011-12 as submitted by APGCL	Approved by the Commission for review purpose
1	NTPS	4.50%	4.61%	4.50%
2	LTPS	5.50%	9.57%	5.50%
3	KLHEP	0.50%	0.50%	0.50%

Though the actuals of Auxiliary consumption for NTPS is marginally higher than the approved one, the same is very high in the case of LTPS.

Commission's view

The Commission considers the auxiliary consumption of 4.5% for NTPS and 5.50% for LTPS and 0.50%for KLHEP as approved in the Tariff Order for FY 2010-11 to 2012-13, for the purpose of review for the year FY 2011-12.

3.1.4 Gross and Net generation

Based on the above analysis and decisions of the Commission, the station wise gross and net generation approved by the Commission in the Tariff Order for FY 2011-12, actuals now supplied by APGCL and generation finally approved by the Commission for review purpose are given in Table 3.4 below:

Table 3.4: Generation for 2011-12

Sl. No.	Station	Approved by the Commission in Tariff Order 2010-11 / 2012-13		Actuals for 2011-12 as submitted by APGCL		Now approved by the Commission in review for 2011-12	
		Gross	Net	Gross	Net	Gross	Net
1	NTPS	559.95	534.75	565.66	539.64	565.66	540.21
2	LTPS	902.80	853.15	752.00	679.81	752.00	710.64
3	Total thermal	1462.75	1387.90	1317.66	1219.45	1317.66	1250.85
4	KLHEP	390.00	388.05	455.00	452.73	455.00	452.73
5	Total APGCL	1852.75	1775.95	1772.66	1672.18	1772.66	1703.58

The gross generation for 2011-12 now submitted by APGCL is 1772.66 MU.

The Commission approves the gross generation for the year 2011-12 at 1772.66 MU.

The net thermal generation on the basis of approved auxiliary consumption works out to 1250.85MU, as shown in Table 3.4 above against 1219.45 MU furnished by APGCL, as actuals.

The Commission further observes that the APGCL has achieved lesser gross generation by 80.09MU (1852.75-1772.66) and net generation approved for review purpose is less by 72.37MU (1775.95–1703.58), as compared to generation originally approved.

3.1.5 Gross Station Heat Rate

APGCL stated that NTPS and LTPS stations recorded gross station heat rates as follows, against the approved heat rates, for the year 2011-12 as shown in Table 3.5 below:

Table 3.5: Station Heat Rate for 2011-12

Sl. No.	Station	Heat rate approved in Tariff Order 2010-11 to 2012-13	Actual heat rate achieved for 2011-12	Heat rate considered for 2011-12 for review purpose
1	NTPS	3266	3972	3266
2	LTPS	3211	3819	3566

It is observed that the actual heat rates achieved for 2011-12 for NTPS and LTPS stations are more than those approved in the Tariff Order for 2011-12.

The Commission approves for FY 2011-12, for review purpose, the heat rate approved in the Tariff Order for FY 2010-11 to 2012-13 in the case of NTPS. In the case of LTPS, however, the heat rate is approved at 3566 Kcal/kWh, based on the actual generation of LTPS WHRU for 2011-12, which is 19 MU. The basis is as given below:

Heat Rate as per AERC Regulations = 3658 kCal/Kwh

Total generation of LTPS for 2011-12 = 752 MU

Generation in WHRU for 2011-12 = 19 MU

Generation other than WHRU = 733 MU

Approved heat rate taking into consideration WHRU generation = (3658/752) x733

= 3566 kCal/kWh

3.1.6 Fuel Costs

In its tariff order of 2010-11 to 2012-13, the Commission approved the fuel cost as Rs. 168.57 crore for a gross Thermal generation of 1462.75 MU for FY 2011-12.

APGCL in its profit and loss accounts of 2011-12 furnished in its petition for review of 2011-12 has indicated actual fuel cost for 2011-12 for a gross thermal generation of 1317.32 MU as Rs 313.64 crore.

The details of actuals of weighted average GCV of gas and weighted average price of gas for the year 2011-12 were furnished by APGCL vide its letter No. APGCL/CGM (G)/MYT/10-13/211/70 dated 10.08.2012, which are as given in the Table 3.6 below:

Table 3.6: Actuals of Wt. Avg. GCV and Wt. Avg. Price of gas for 2011-12

Sl.No.	Station	GCV of Gas (kcal/SCM)	Price of Gas (Rs/ 1000SCM) including transport
1	NTPS	9155	5180.00
2	LTPS	9481	6020.00

For review purpose for FY2011-12, the actuals of weighted average GCV of gas and weighted average price of gas, as furnished by APGCL are considered, subject to correction after audited Annual accounts are made available.

Table 3.7: Gross Calorific Value and price of Gas for 2011-12 as approved by the Commission for review purpose

Sl. No.	Station	GCV of Gas (kcal/SCM)	Price of Gas (Rs/1000SCM) (including transport)
1	NTPS	9155	5180.00
2	LTPS	9481	6020.00

The Commission has now approved gross thermal generation of 1317.66 MU (565.66 MU for NTPS + 752.00 MU for LTPS) as discussed in para 3.1.4. The fuel cost for different thermal stations corresponding to generation now approved has been worked out, based on the normative parameters approved by the Commission in paras 3.1.3 and 3.1.5. The actual price and GCV of Gas has been adopted as furnished by APGCL, for review purpose for the year 2011-12.

On the above basis, fuel cost for the year 2011-12 for different thermal stations corresponding to actual generation is as given in Table 3.8 below:

Table 3.8: Fuel Cost for FY 2011-12 (For Review purpose)

Sl. No.	Item	Derivation	Unit	NTPS	LTPS	Total
1	Generation (Gross)	A	MU	565.66	752.00	1317.66
2	Heat Rate	B	k.Cal/kWh	3266.00	3566.00	
3	Calorific Value of gas	C	k.Cal/ScM	9155.00	9481.00	
4	Overall Heat	D = A*B	G. Cal.	1847445.56	2681632.00	4529077.56
5	Gas Consumption	E = D/C	M. ScM	201.80	282.84	484.64
6	Price of Gas	F	Rs./1000 ScM	5180.00	6020.00	
7	Total Cost of Gas	G = E*F/100	Rs. Lakh	10453.05	17027.13	27480.18
8	Percentage of Auxiliary Consumption	H	%	4.50	5.50	
9	Auxiliary Consumption	I = A*H/100	MU	25.45	41.36	66.81
10	Net Generation	J = A-I	MU	540.21	710.64	1250.85
11	Fuel Cost / Unit (Gross)	K = G/A/10	Rs./kWh	1.85	2.26	2.09
12	Fuel Cost / Unit (Net)	L = G/J/10	Rs./kWh	1.94	2.40	2.20

The Commission thus considers the fuel cost at Rs.274.80 crore for gross thermal Generation of 1317.66 MU for the year 2011-12 which is subject to truing up as per the Audited Annual Accounts for the year 2011-12.

3.2.1 Employee Cost

The Commission approved employee cost at Rs. 64.38 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR for FY 2011-12, the employee cost is estimated at Rs. 64.99 crore for the year 2011-12.

The employee cost as per provisional accounts submitted by APGCL for 2011-12 is Rs. 65.76 crore.

The Commission considers the employee cost at Rs. 65.76 crore for the year 2011-12 as per provisional accounts, which is subject to truing up as per the Audited Annual Accounts later.

3.2.2 Repairs and Maintenance (R&M) Expenses

The Commission approved the R&M expenses at Rs. 12.78 crore for 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR petition for FY 2011-12 the R&M expenses are estimated at Rs. 25.77 crore for 2011-12. The R&M expenses as per the provisional accounts submitted by APGCL for 2011-12 are Rs.23.69 crore including the operating expenses of Rs.0.83 crore.

The Commission considers the R&M expenses including operating expenses at Rs. 23.69 crore for 2011-12 as per provisional accounts, which is subject to truing up as per Audited Annual Accounts.

3.2.3 Administration and General (A&G) Expenses

The Commission approved the A&G expenses at Rs. 2.92 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR petition for FY 2011-12 APGCL has estimated the A&G expenses at Rs. 4.41 crore for 2011-12.

The actual A&G expenses as per provisional accounts submitted by APGCL for 2011-12 are Rs. 5.34 crore.

The Commission considers the A&G expenses at Rs. 5.34 crore as per the provisional accounts, which is subject to truing up as per the Audited Annual Accounts for 2011-12.

3.2.4 Depreciation Charges

The Commission approved the depreciation charges at Rs. 23.93 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR petition for FY 2011-2012 APGCL has claimed the depreciation charges at Rs. 31.07 crore based on the provisional accounts for FY 2011-12.

The depreciation charges for FY 2011-12 are computed based on the AERC Tariff Regulations as detailed in the Table 3.9 below:

Table 3.9: Depreciation Approved in the review for FY 2011-12

Rs. crore

S. No	Particulars	GFA 01.04.2011	Additions during FY 2011-12	Rate of depreciation	Dep. As per AERC
1	Land & Rights	20.39	0.40		
2	Buildings	44.04	0.01	1.80%	0.71
3	Hydraulic	174.92	0.09	2.57%	4.05
4	Other civil works	132.11	52.36	1.80%	2.56
5	Plant machinery Gas	252.09	218.89	6.00%	19.52
	Plant machinery Hydel	174.80		2.57%	4.04
	Plant machinery Thermal			3.60%	0.00
6	Lines & Cable net work	36.11	7.91	2.57%	0.93
7	Vehicles	1.17	0.07	18.00%	0.19
8	Furniture & Fixtures	3.91	0.09	6.00%	0.21
9	Office equipment	0.82	0.08	6.00%	0.04
10	Capital Spares	172.33	0.00	4.75%	8.19
	Total	**1012.69**	**279.90**		**40.45**
	Average Assets of OB & CB in 2011-12	1132.05		3.57%	
	Average capital subsidy & contributions/grants	-251.83			-8.73
				Depreciation	31.73

Depreciation on the assets built by Grants and Subsidies

Rs. crore

Average grants & subsidies for 2011-12	
Grants & subsidies as on 01/04/2011	238.78
Grants & subsidies as on 01/04/2012	304.75
Average grants & subsidies	271.77
Depreciation on the 90% of the average grants/subsidies	8.73
Depreciation for the year	31.73

The Commission accordingly considers depreciation at Rs. 31.73 (40.45-8.10) crore for the year 2011-12 in the review for 2011-12.

3.2.5 Interest and Finance Charges

The Commission approved the interest & finance charges at Rs. 49.97 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR for FY 2011-12 the APGCL has estimated the interest and finance charges at Rs. 26.27 crore for the year 2011-12. based on the provisional accounts. This includes Rs. 4.30 crore towards interest on GPF. In respect of interest on GPF it is observed that APGCL has not created any fund nor GPF money was invested with separate identification with some designated bank. Therefore, interest on GPF is disallowed for FY 2011-12, consistent with the decision taken in the earlier tariff orders. Interest on State Government loans including public bond is also not considered for calculating interest and finance charges as APGCL has not submitted the documentary evidence establishing that the Government loans were utilized for creation of capital assets.

The Commission accordingly considers interest and finance charges at Rs. 9.48 crore for the year 2011-12 as per provisional accounts, which is subject to truing up as per Audited Annual Accounts for 2011-12.

3.2.6 Interest on Working Capital

The Commission approved interest on working capital at Rs. 10.89 crore for the year 2011-12 in the Tariff Order.

The interest on working capital is arrived at Rs. 15.69 crore as detailed below:

Table 3.10: Interest on working capital

(Rs. crore)

Particulars	2011-12
One month fuel cost	22.90
One month O&M cost	7.90
Maintenance spares (1% of GFA)	10.13
2 months receivables (Fixed + Variable charges)	77.31
Total	**118.23**
Rate of interest (SBI PLR as on 01/04/2010)	13%
Interest on working capital	**15.37**

The Commission considers interest on working capital at Rs.15.37 crore in the review for FY 2011-12.

3.2.7 Provision for Tax

In the annual accounts for 2011-12 (un audited) there is a provision of Rs. 0.93 crore towards tax.

The Commission not considered provision for tax on income in the review for the FY 2011-12 as this is not actually incurred during FY 2011-12

3.2.8 Return on Equity

The Commission approved return on equity at Rs. 37.99 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

The Commission considers the return on equity at Rs. 37.99 crore in the review for 2011-12 as approved in the Tariff Order for FY 2010-11 to 2012-13.

3.2.9 Other Debits and prior period expenses

APGCL has shown (1) Rs. 4.10 crore towards other Debits and (2) Rs. 21.88 crore towards prior period expenses and these charges have not been substantiated in the claim.

The Commission is not in favour of passing on these other debits and prior period expenses in the review for FY 2011-12.

3.2.10 Other Income

The Commission approved the other income at Rs. 5.19 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13 as there is no further infusion of equity during the year.

In the APR petition for FY 2011-12 APGCL has estimated the income from other sources at Rs. 7.17 crore.

As per the provisional accounts submitted by APGCL the other income for 2011-12 is Rs. 9.08 crore.

The Commission considers the other income at Rs. 9.08 crore in the review as per the provisional accounts for 2011-12, which is subject to truing up as per the Audited Annual Accounts.

3.2.11 Revenue from sale of power

The Commission approved the revenue from sale of power at Rs. 371.78 crore for the year 2011-12 in the Tariff Order for FY 2010-11 to 2012-13.

In the APR petition for FY 2011-12 APGCL has estimated the revenue from tariff including miscellaneous charges at Rs. 433.96 crore based on the provisional accounts for 2011-12 submitted by APGCL.

The Commission considers the revenue from sale of power at Rs. 433.96 crore in the review for FY 2011-12 as per the provisional accounts which is subject to truing up after the Audited Annual Accounts are made available to the Commission.

3.2.12 Review of ARR for the year 2011-12

Based on the above analysis the revenue requirement in the review for the year 2011-12 is as per the details given in the Table 3.11 below:

Table 3.11: Revenue Requirement 2011-12 (Review)

(Rs. crore)

Sl. No.	Item of Expense	Approved by the commission in T.O. for 2011-12	Actuals as per provisional Annual Accounts for 2011-12	Considered for FY 2011-12
1	**2**	**3**	**5**	**6**
1	Units Generated MU	1852.75	1772.28	1772.66
2	Units Sent out MU	1775.95	1671.95	1703.58
3	Auxiliary Consumption (%)	4.14%	5.66	3.90%
	Revenue Income			
4	Revenue from Sale of power	371.78	433.96	433.96
5	Revenue from Subsidies & Grants			
6	Other Income	5.19	9.08	9.08
7	**Total Revenue (A)**	**376.97**	**443.04**	**443.04**
	Expenditure			
1	Cost of Fuel	168.57	313.64	274.80
2	Employee Cost	64.38	65.76	65.76
3	R&M Expenses	12.78	23.69	23.69
4	A&G Expenses	2.92	5.34	5.39
5	Depreciation Charges	23.93	31.07	31.73
6	Interest & Finance charges	49.97	26.27	9,48
7	Interest on working capital	10.89	-	15.37
8	Prior Period Expenses/(Charges)	-	21.88	
9	Other debits and extraordinary items	-	4.10	
10	Fringe Benefit Tax	-	-	
11	Provision for Tax	5.54	0.93	-
12	Return on Equity	37.99	-	37.99
13	**Total Revenue Requirement (B)**	**376.97**	**491.86**	**464.16**
	Net Revenue (Gap) / Surplus (A-B)	**--**		**(21.12)**

The review reveals a revenue deficit of Rs. 21.12 crore for the year 2011-12. This is indicative only in the absence Audited Annual Accounts for FY 2011-12. Hence, this is not carried forward to ARR of FY 2012-13. It will be considered after the Audited Annual Accounts are made available in the next Tariff Order.

4. Determination of revised ARR and Generation Charges for FY 2012-13

4.1 INTRODUCTION

This chapter deals with determination of revised fixed and variable charges for APGCL for the FY 2012-13. Commission considered the ARR approved in the MYT order dated 16.05.2011 for FY 2012-13, and the details in the petition filed by APGCL on 28.09.2012, while determining the generation tariff for FY 2012-13.

4.2 BRIEF STATUS OF APGCL POWER STATIONS

The Status of the APGCL Power Stations, as furnished by APGCL is as follows:

Namrup Thermal Power Station (Gas based) (119.5 MW):

Currently Namrup Thermal Power Station is generating at a daily average of 60-70 MW. The brief status of units are as under.

- Unit - 1 (20 MW, GT): Unit is running presently at full load.
- Unit - 2 (21 MW, GT): Unit is running at an average capacity of 20 MW.
- Unit - 3 (21 MW, GT): Unit is running with an average load of 15 to 17 MW due to non – availability of hydrogen cooling system.
- Unit – 4 (11 MW, GT): Unit is running presently at full load.
- Steam Turbine Unit 5 (24 MW): The Unit is under shut down for damage in stator winding w.e.f 16.06.2010. The unit is expected to be restored by 21st September 2012.
- Waste Heat Unit 6 (22.5 MW): Unit is running with an average load of 10 to 11 MW due to technical / design constraint.

Lakwa Thermal Power Station (Gas based) (157.2 MW):

Currently Lakwa Thermal Power station is generating a daily average of 110-120 MW based on availability of gas from GAIL & OIL. The brief status of units are as under:

- Unit – 1 (15 MW, GT): This unit was under shutdown w.e.f 26.03.2012 due to generator earth fault. However the unit was restored on 8th September 2012 and currently running at full load.
- Unit –2 (15 MW, GT): Presently the unit is running at full load subject to the availability of gas.

- Unit – 3 (15 Mw, GT): The Unit is under shutdown w.e.f. 18.10.2011 for generator earth fault. Restoration process is going on and the unit is expected to be resume operation from mid December 2012.
- Unit – 4 (15 MW, GT): Presently the unit is running at full load subject to the availability of gas.
- Unit – 5 (20 MW, GT): Presently the unit is running at full load subject to the availability of gas.
- Unit – 6 (20 MW, GT): Presently the unit is running at full load subject to the availability of gas.
- Unit – 7 (20 MW, GT): Presently the unit is running at full load subject to the availability of gas.
- Waste Heat Recovery Unit – 8 (37.2, MW): The unit is commissioned in 13th January 2012 and the commercial operation started from 17th January 2012. Presently the unit is running at full load subject to full load operation of mother units 5,6 &7 depending on availability of Gas.

Karbi Langpi Hydro electric Project (100 MW):

Both the units are operating at full capacity based on availability of water. The total Gross Generation for FY 2010-11 and 2011-12 was 409.492 and 454.96 MU respectively.

4.3 PLANT AVAILABILITY FACTOR (PAF)

APGCL projected the PAF for FY 2012-13 against PAF approved in MYT Tariff Order is given the table 4.1 below.

Table 4.1: PAF Projected by APGCL for FY 2012-13

(%)

S. No	Stations	PAF (%) Projected by APGCL	PAF (%) approved for FY 2012-13 in the MYT order 2010-13
1	NTPS	53	63
2	LTPS	75	82
3	KLHEP	90	90
4	Myntriang SHEP	(Stage-II) 90	90

The Commission considers the PAF for different stations for the FY 2012-13, as projected by APGCL for the purpose of revised ARR. The PAF achieved is better than the target availability of 50%, as per Regulations, and hence APGCL is eligible to recover the full fixed charges for the year 2012-13.

4.4 PLANT LOAD FACTOR (PLF)

The target PLF for eligibility of incentive is 50% for NTPS and LTPS stations, as per Regulation 39 of the AERC Tariff Regulations, 2006.

The projected Plant Load Factor (PLF) for FY 2012-13, against the PLF approved in the MYT order 2010-13, is given in the table 4.2 below:

Table 4.2: PLF Projected by APGCL for FY 2012-13

(%)

Sl. No.	Stations	PLF (%) Projected by APGCL	PLF (%) approved for FY 2012-13 in the MYT order 2010-13
1	NTPS	50	60
2	LTPS with WHRU	68	75
3	KLHEP	38	45
4	Myntriang SHEP	49(stage-II)	49

APGCL explained the reasons for deviations in PLF as follows.

LTPS:

i) LTPS units 1 & 3 are under forced shut down for generator problem w.e.f 26^{th} March 2012 and 8^{th} October 2011 respectively. However, unit no.1 was restored on 08.09.2012 and the unit no.3 is expected to be restored by middle of December 2012. As per the present status available with the Commission, the LTPS-Unit-3 restored on 04.02.2013 and LTPS-Unit-1 was not available w.e.f. 01.02.2013 for shifting of some spares to LTPS-Unit-3.

ii) The projected generation has been set based on present gas supply trend by M/s OIL and approved gas linkage of M/s GAIL (ONGCL), as it is seen in the past that some times more gas is received than the linkage if there is less demand from the other gas consumers. However, there is no certainty of availability of gas beyond the linkage.

Namrup TPS (NTPS):

i) Unit no.5 is under shut down due to generator problem w.e.f 16^{th} June 2010, which is expected to be restored by 15^{th} September 2012 only. The unit was restored to grid on 28.09.2012 as per the information available with the Commission.

ii) As stated above in case of LTPS, generation target, of NTPS is projected based on approved gas linkage only.

Namrup Replacement Power Project (100 MW):

The progress is behind schedule. The revised scheduled Commissioning date for open cycle is December 2012 and for close cycle is March 2013. No generation is projected for the FY 2012-13.

Lungnit Small Hydro Electric Project:

The Schedule date of Commissioning for stage – I (2X1.5 MW) and stage – II (2X1.5 MW) are expected to be December 2012 and August 2013 respectively. Hence no generation is projected for FY 2012-13.

Myntriang SHEP (2X3 MW stage – I and 2X1.5 MW stage – II = 9 MW):

Only stage – II (3 MW) is expected to be Commissioned by January 2013. Hence, a generation of only 3.18 MU is projected from this project for FY 2012-13.

Commission's Analysis:

Considering the constraints in gas supply, generator problems, and progress of works in new projects, the Commission considers the PLF, as projected by APGCL for FY 2012-13. Any variations, however would be considered in the Truing up, for the year.

Thus the PLFs considered for various stations, by the Commission for FY 2012-13 are, as given in the table 4.3 below:

Table 4.3: PLFs approved for the FY 2012-13

S. No.	Stations	PLF (%) approved for the FY 2012-13
1	NTPS	50
2	LTPS with WHRU	68
3	KLHEP	38
4	Myntriang Small HEP	49

4.5 AUXILIARY CONSUMPTION

APGCL projected auxiliary consumption for the FY 2012-13, against the approved ones for different stations, as given in the table 4.4 below:

Table 4.4: Auxiliary Consumption Projected by APGCL for FY 2012-13

(%)

S. No	Stations	Projected by APGCL	As approved by the Commission for FY 2012-13 in the MYT order 2011- 2013
1	NTPS	4.90	4.50
2	LTPS with WHRU	8.82	5.50
3	KLHEP	0.50	0.50
4	Myntriang SHEP (Stage-II)	0.02	0.50

The projected auxiliary consumption is more than that approved for the Stations NTPS and LTPS

Commission's Views:

As auxiliary consumption is a performance parameter, the same is considered as approved in the MYT Tariff order for FY 2012-13, as given in the Table 4.5 below:

Table 4.5: Auxiliary Consumption Considered for FY 2012-13

(%)

S. No	Stations	Auxiliary Consumption Considered for FY 2012-13
1	NTPS	4.50
2	LTPS	5.50
3	KLHEP	`0.50
4	Myntriang SHEP (Stage-II)	0.50

4.6 GROSS AND NET GENERATION

Based on the above analysis and decisions of the Commission, the station wise gross and net generation projected by the APGCL and considered by the Commission are given in the table 4.6 below:

Table 4.6: Gross and Net Generation for FY 2012-13

(MU)

S. No	Stations	Projected by APGCL		Considered by the Commission for FY 2012-13	
		Gross	Net	Gross	Net
1	NTPS	525.25	499.50	525.25	501.61
2	LTPS	940.71	857.77	940.71	888.97
3	Total Thermal	1465.96	1357.27	1465.96	1390.58
4	KLHEP	333.94	332.27	333.94	332.27
5	Myntriang(Stage-II)	3.18	3.16	3.18	3.16
6	Total Hydel	337.12	335.43	337.12	335.43
7	Total APGCL	1803.08	1692.70	1803.08	1726.01

The gross generation for FY 2012-13 as projected by APGCL is 1803.08 MU, which is considered by the Commission. The net generation is however, considered at 1726.01 MU based on auxiliary consumption approved by the Commission against 1692.70 MU projected by APGCL.

4.7 GROSS STATION HEAT RATE

APGCL projected the Gross station Heat Rate for FY 2012-13, against the approved Heat Rate by the Commission in the MYT order for 2011-13, as given in the table 4.7 below:

Table 4.7: Station Heat Rate Projected by APGCL for FY2012-13

(Kcal/Kwh)

S. No.	Station	Heat Rate Projected by APGCL	Heat Rate approved by the Commission for FY 2012-13 in the MYT order 2010-13
1	NTPS	3919	3266
2	LTPS with WHRU	3022	2870
3	Namrup Replacement Project	-	1950

Commission's View:

As the Heat Rate is a performance parameter, the Commission considers the same as approved in the MYT order 2010-13 for the FY 2012-13, as given in the table 4.8 below:

Table 4.8: Station Heat Rate Considered by the Commission for FY 2012-13

(Kcal/Kwh)

Sl. No.	Station	Station Heat for FY 2012-13
1	NTPS	3266
2	LTPS with WHRU	2870

4.8 WEIGHTED AVERAGE GCV AND PRICE OF GAS

APGCL projected the Wt. AV. GCV and Price of gas for different stations as given in the table 4.9 below, for the FY 2012-13.

Table 4.9: Projected Wt. Avg. GCV and Price of gas

Sl. No.	Station	Wt. AV. GCV of gas (Kcal/SCM)	Wt. AV. Price of gas including transport (Rs. / 1000 SCM)
1	NTPS	9157.50	Rs. 5387
2	LTPS	9455.91	Rs. 6652.47

Commission's view:

In the MYT order for FY 2010-11 to FY 2012-13, the weighted average GCV and unit Cost of gas, as actually, obtained for FY 2009-10, were approved for the MYT period i.e. FY 2010-11 to FY 2012-13. The Commission considers the same for the purpose of ARR and Tariff for FY 2012-13 as given in the table 4.10 below:

Table 4.10: Wt. AV. GCV and Price of Gas considered for the FY 2012-13

Sl. No.	Station	Wt. AV. GCV of gas (Kcal/ Kwh)	Wt. AV. Price of gas including transport (Rs. / 1000 SCM) consider for FY 2012-13
1	NTPS	9274	2469.60
2	LTPS with WHRU	9567	3956.09

Any Variation in the GCV and price of gas may be claimed under Fuel Purchase Cost adjustment and will be considered in the Truing up for the year 2012-13.

4.9 APPROVED FUEL COST

APGCL had claimed Rs. 322.08 crore based on the fuel prices projected. As discussed in the earlier paragraphs, the Commission now considered a gross thermal generation of 1465.96 MU (525.25 MU for NTPS + 940.71 MU for LTPS). The fuel costs for different stations considering the generation now considered has been worked out based on the Heat Rate, Wt. AV. GCV and Price of gas, as considered in the earlier paras for FY 2012-13.

Based on the above the fuel costs worked out for FY 2012-13, for different stations, corresponding to the considered generation are as given in the table 4.11 below.

Table 4.11: Fuel Cost consider for FY 2012-13

S No.	Item	Derivation	Unit	NTPS	LTPS	Total
1	Generation (Gross)	A	MU	525.25	940.71	1465.96
2	Heat Rate	B	KCal/Kwh	3266.00	2870.00	
3	Calorific Value of gas	C	KCal/ScM	9274.00	9567.00	
4	Overall Heat	D = A*B	G. Cal.	1715466.50	2699837.70	4415304.20
5	Gas Consumption	E = D/C	M. SCM	184.98	282.20	467.18
6	Price of Gas	F	Rs./1000 SCM	2469.60	3956.09	
7	Total Cost of Gas	G = E*F/100	Rs. Lakh	4568.16	11164.21	15732.38
8	Percentage of Auxiliary Consumption	H	%	4.50	5.50	
9	Auxiliary Consumption	I = A*H/100	MU	23.64	51.74	75.38
10	Net Generation	J = A-I	MU	501.61	888.97	1390.58
11	Fuel Cost / Unit (Gross)	K = G/A/10	Rs./Kwh	0.87	1.19	1.07
12	Fuel Cost / Unit (Net)	L = G/J/10	Rs./Kwh	0.91	1.26	1.13

The Commission thus considers the fuel cost at Rs. 157.32 Cr for a gross thermal generation of 1465.96 MU and net thermal generation of 1390.58 MU, for the year FY 2012-13, against 322.08 Cr projected by APGCL for a gross thermal generation of 1465.96 MU and a net generation of 1357.27 MU.

The cost of thermal generation per unit sent out works out to Rs. 1.13 / Kwh, against Rs.2.37/ Kwh projected by APGCL. Any variation in the GCV and price of gas may be claimed under Fuel price adjustment charges as per AERC (FPPPA) Regulations, 2010.

4.10 ANNUAL CAPACITY CHARGES

4.10.1 Operation and Maintenance (O&M) Charges

The O&M charges comprise employee cost, Repairs and Maintenance (R&M) expenses and Administration and General (A&G) expenses. The O&M expenses are discussed component wise in the following paragraphs.

1. Employee Cost

APGCL had estimated the employee expenses at Rs.70.09 Crore net of Capitalisation in the Revised ARR for FY 2012-13 against Rs.68.07 Crore approved for FY 2012-13 in the MYT order for FY 2010-11 to FY 2012-13. The details of employee coat projected by APGCL in the Revised ARR for FY 2012-13 are given in the table 4.12 below.

Table 4.12: Employee Cost projected in the Revised ARR for FY 2012-13

(Rs. Crore)

Particulars	**2012-13**
Salaries	35.03
Overtime	0.45
Dearness Allowance	18.47
Other Allowances	6.09
Bonus	0.03
Medical Allowances	0.18
Leave Travel Assistance	0.03
Earned Leave Encashment	0.20
Workmen Compensatory Payment	0.00
Other Staff Cost	0.19
Staff Welfare Expenses	0.02
Terminal Benefits	10.82
TOP Arrear	
Sub total	**71.51**
Less: Capitalisation	1.41
Total	**70.09**

Petitioner's submission

The petitioner has submitted that fixed charges are projected considering the actual trend of the previous 3 years assuming yearly escalation of 6%. APGCL has projected 5.72% escalation for FY 2012-13 in the revised ARR.

Commission's Analysis

The Commission has observed that the employee cost of Rs.70.09 crore projected in the Revised ARR for FY 2012-13 is higher by 2.97% over the cost approved in the MYT order dated 16th May 2011. The Commission has approved Rs.65.76 Crore in the Review for FY 2011-12 based on the provisional accounts submitted by APGCL for FY 2011-12. APGCL has projected the employee cost assuming 5.72%. Applying this 5.72% escalation over the employee cost of Rs.65.76 Crore, the employee cost for FY 2012-13 works out to Rs.69.52 Crore against Rs 68.07 Crore approved in the MYT order for the year FY 2012-13.

The Commission accordingly approves the employee cost at Rs 69.52 Crore in the Revised ARR for FY 2012-13.

2. Repairs and Maintenance (R&M) Expenses

APGCL has projected the R&M expenses at Rs.51.26 Crore in the Revised ARR for FY 2012-13 against Rs.13.81 Crore approved for the year in the MYT order for FY 2010-11 to 2012-13. The details of R&M expenses projected are given in the table 4.13 below:

Table 4.13: R&M expenses projected in the Revised ARR for FY 2012-13

(Rs. crore)

Particulars	**2012-13**
Plant & Machinery	30.99
Buildings	7.44
Other Civil Works	3.46
Hydraulic	6.26
Lines & Cable Network	0.03
Vehicles	0.37
Furniture & fixture	1.65
Office equipment	1.04
Total	**51.26**

Petitioner's submission

The petitioner has submitted that increased provisions for R&M to power stations have been proposed to cover the routine O&M works and for adequate and effective maintenance of old plant and machinery in existing power plant. APGCL has further submitted that G T Unit – 1 and G T Unit – 5 of LTPS require major over hauling. APGCL has estimated Rs. 5 Crore for proper upkeep of the upcoming Waste Heat Project and Rs 6 Crore for repairing of units – 5 of NTPS stating that the unit- 5 is over aged requiring urgent repairs. APGCL has also mentioned that huge financial involvement is required to supply and fitting of mandatory spares for 5th Annual Inspection of Karbi Lanpi Hydro Electric Project.

Commission's Analysis

The Commission has observed that the R&M expenses of Rs.51.26 Crore projected in the Revised ARR for FY 2012-13 are very high when compared to the R&M expenses of Rs.13.81 Crore approved in the MYT order. APGCL should have taken into consideration the above expenses in the MYT Petition for FY 2010-11 to FY 2012-13. The Commission has approved Rs.23.69 Crore in the Review for FY 2011-12 based on the provisional accounts submitted by APGCL for FY 2011-12.The Commission considers it appropriate to apply 8% escalation over the R&M expenses approved, in the tariff order MYT 2010-13 and the R&M expenses work out to Rs.25.58 crore.

The Commission accordingly approves the R&M expenses at Rs.25.58 Crore in the Revised ARR for FY 2012-13.

3. Administration and General (A&G) Expenses

APGCL has projected the A&G expenses at Rs.6.05 Crore in the Revised ARR for FY 2012-13 against Rs.3.10 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13. The details of A&G expenses projected are given in the table 4.14 below:

Table 4.14: A&G expenses projected in the Revised ARR for FY 2012-13.

(Rs. crore)

Particulars	**2012-13**
Rent, Rates & Taxes	0.72
Insurance	1.17
Telephone Charges	0.20
Postage & Telegram	0.06
Legal charges	0.34
Audit Fees	0.02
Consultancy Charges	0.09
Technical Fees	0.02
Other Professional Fees	0.10
Conveyance & Travel Charges	0.95
Freight	0.25
Other purchase related expenses	2.45
Sub Total	6.37
Less: Capitalized	0.32
Total	6.05

Commission's Analysis

The Commission has approved the A&G expenses at Rs.5.34 Crore in the Review for FY 2011-12 based on the provisional accounts submitted by APGCL. Considering 6% escalation as approved in the tariff order MYT 2010-13, the A&G expenses work at Rs 5.66 crore for FY 2012-13.

The Commission accordingly approves the A&G expenses at Rs.5.66 crore in the Revised ARR for FY 2012-13.

4.10.2 Investment Plan

APGCL has projected an amount of Rs.286.53 Crore comprising of Rs.36.53 Crore as equity plus grant and Rs.250 Crore of debt in the Revised ARR for FY 2012-13 against an investment of Rs.661 Crore projected for the year in the MYT petition for FY 2010-11 to 2012-13. The details of the investment plan are given in the table 4.15 below:

Table 4.15: Investment Projected in the Revised ARR for FY 2012-13

(Rs. crore)

Investments		**FY 2012-13**
Renovation & Modernization		
R&M of NTPS	State Govt. Loan	5.00
	State Govt. Grant	
	PFC Loan	
	Others	
R&M of LTPS	State Govt. Loan	3.50
	State Govt. Grant	
	PFC Loan	
	Others	
On – going Schemes		
Namrup RPP	State Govt. Loan	
	State Govt. Grant	
	PFC Loan	250.0
	Others	
Myntriang SHEP	State Govt. Loan	
	State Govt. Grant	5.533
	PFC Loan	
	Others	
New Schemes		
Lakwa Replacement Power Project	State Govt. Loan	5.00
	State Govt. Grant	
	PFC Loan	
	Others	
Distributed Generation System by Gas IC Engine	State Govt. Loan	1.00
	State Govt. Grant	
	PFC Loan	
	Others	
Lower Kopili HEP	State Govt. Loan	15.00
	State Govt. Grant	
	PFC Loan	
	Others	
Upper Borpani HEP	State Govt. Loan	0.50

	State Govt. Grant	
	PFC Loan	
	Others	
Intermediate HEP	State Govt. Loan	0.30
	State Govt. Grant	
	PFC Loan	
	Others	
Survey & Investigation of HEP	State Govt. Loan	0.20
	State Govt. Grant	
	PFC Loan	
	Others	
500 MW Margherita TPP Joint Venture with NTPC/ Other Govt. agencies	State Govt. Loan	0.50
	State Govt. Grant	
	PFC Loan	
	Others	
Total	**State Govt. Loan**	**31.00**
	State Govt. Grant	**5.533**
	PFC Loan	**250.00**
	Others	**0.00**

Commission's Analysis

In the MYT petition for FY 2010-11 to FY 2012-13 APGCL has projected an investment of RS. 661.00 Crore for FY 2012-13. In the Revised ARR APGCL has substantially reduced the Investment Plan to Rs.286.53 Crore. APGCL has increased the provision towards construction of Namrup RPP from Rs.150 Crore to 250 Crore. The Amguri CCGT Project for which Rs. 138.80 Crore was projected for the year in MYT petition did not find place in the Revised ARR. The investment inrespect of Lower Kopili HEP and Upper Borpani Projects has been substantially reduced in the Revised for FY 2012-13.

The Commission takes note of the reduced Investment Plan of Rs.286.53 Crore in the Revised ARR for FY 2012-13. The depreciation and interest charges on new borrowings will be regulated according to the reduced Investment Plan.

4.10.3 Depreciation

APGCL has projected the depreciation at Rs. 38.92 Crore in the Revised ARR for FY 2012-13 against Rs.46.55 crore approved for the year in the MYT order for FY 2010-11 to 2012-13. The details of depreciation claimed by APGCL are given in the table 4.16 below:

Table 4.16: Depreciation Projected in the Revised ARR for FY 2012-13

(Rs. Crore)

S. No.	Asset Classification	Depreciation for FY 2012-13
1	Land & Rights	
2	Buildings	0.71
3	Hydraulic	6.38
4	Other Civil Works	3.29
5	Plant & Machinery	26.21
6	Lines & Cable Network	1.97
7	Vehicles	0.05
8	Furniture & Fixtures	0.01
9	Office Equipment	0.03
10	Sub Total	38.65
11	Capital spares at Generating Stations	0.27
12	**Total**	**38.92**

Commission's Analysis

The depreciation claimed in the Revised ARR for FY 2012-13 is Rs.38.92 Crore against the depreciation of Rs.46.55 Crore approved for the year in the MYT order for FY 2010-11 to 2012-13. The lower claim is on account of reduced investment of Rs.286.53 Crore against Rs.661 Crore projected in the MYT Petition and approved.

The Commission, therefore approves the depreciation at Rs.38.92 Crore as projected by APGCL in the Revised ARR for FY 2012-13.

4.10.4 Interest and Finance Charges

APGCL has estimated the interest and finance charges at Rs.36.49 Crore (net of Capitalisation) in the Revised ARR for FY 2012-13 against Rs.71.11 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13. The details of Rs.36.49 Crore are given in the table 4.17 below:

Table 4.17: Interest and Finance Charges projected in the Revised ARR for FY 2012-13

(Rs. crore)

S. No	Particulars	FY 2012-13
1	Interest on existing loans	45.56
2	Interest new loans	-
3	Other finance charges	4.49
4	Sub total	50.05
5	Less. Interest capitalized	13.56
6	Total Interest & Finance Charges	36.49

Commission's Analysis

APGCL has claimed the interest charges of Rs.36.49 Crore against Rs.71.11 crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13 and the reduction in interest charges is mainly on account of reduction in the proposed capital expenditure.

The Commission, therefore, approves the interest and finance charges at Rs. 36.49 Crore (net of Capitalisation) in the Revised ARR for FY 2012-13.

4.10.5 Interest on Working Capital

APGCL has claimed Rs.22.13 Crore towards interest on working capital in the Revised ARR for FY 2012-13 against Rs.12.68 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13. The details of working capital and interest thereon claimed are given in the table 4.18 below.

Table 4.18: Interest on Working Capital Projected in the Revised ARR for FY 2012-13

(Rs. Crore)

Particulars	**FY 2012-13**
One month Fuel Cost	26.84
One month approved O&M Cost	10.72
Maintenance Spares	12.13
Two month Receivables	108.37
Total	**158.07**
Interest @ 14%	22.13

Commission's Analysis

APGCL has claimed the rate of interest at 14% against 11.75% approved in the MYT order. The SBI PLR as on 01.04.2012 is 14.75% and this is applicable for FY 2012-13 in accordance with Regulation 42.2 of AERC Tariff Regulations, 2006. The Commission has computed the working capital and interest thereon as detailed in the table 4.19 below:

Table 4.19: Interest on Working Capital approved in the Revised ARR for FY2012-13

(Rs. Crore)

Particulars	**FY2012-13**
Fuel Cost (1 month)	13.11
O&M Cost (1 month)	8.40
Maintenance Spares @ 1% of GFA	12.93
Receivables equivalent to two months of fixed and variable charges	63.69
Total Working Capital	98.13
Rate of Interest (SBI PLR as on 01.04.2012)	14.75%
Interest Charges	14.47

The Commission, accordingly, approves the interest on working capital at Rs.14.47 crore in the Revised ARR for FY 2012-13.

4.10.6 Return on Equity

APGCL has claimed Rs. 63.58 Crore towards return on equity in the Revised ARR for FY 2012-13 against Rs.37.99 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13. The details of the return on equity claimed are given in the table 4.20 below:

Table 4.20: Return on Equity Projected in the Revised ARR for FY 2012-13

(Rs. crore)

Particulars	FY 2012-13
NTPS	19.93
LTPS	21.16
KLHEP	10.56
LWHRP	10.99
Myntriang SHEP	0.94
Total	**63.58**

Petitioner's submission

APGCL has submitted that the return on equity is proposed at 15.5% considering overall improvement in performance LTPS (71%) and NTPS (51%).

Commission's Analysis

The return on equity of Rs.37.99 Crore at 14% approved for the year in the MYT order FY 210-11 to FY 2012-13 does not include return on equity of LWHRP and Myntriang SHEP. APGCL has submitted that stage – II (2x1.5 MW) of Myntriang SHEP is scheduled for Commissioning by December 2012 and claimed Rs.0.94 Crore towards return on equity inrespect of the Project. The Commission is of the view that ROE inrespect of this Project may be considered in the Truing up for FY 2012-13 based on actual Commissioning of the Project.

The Commission retains the ROE of Rs. 37.99 Crore approved in the MYT order dated 16th May 2011 for FY 2012-13.

4.10.7 Taxes on Income

APGCL has projected the tax on income at Rs. 15.95 Crore in the Revised ARR for FY 2012-13 against Rs. 5.54 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13.

Commission's Analysis

APGCL has not furnished any details for the tax on income, which is to be a pass through. The Commission has approved Rs. 0.93 Crore towards tax on income in the Review for FY 2011-12 based on the provisional accounts.

The Commission however, retains the tax on income at Rs. 5.54 crore in the Revised ARR as approved for FY 2012-13 in the MYT order for FY 2010-11 to FY 2012-13.

4.10.8 Other Income

APGCL has projected the other income at Rs. 8.99 Crore in the Revised ARR for FY 2012-13 against Rs. 5.02 Crore approved for the year in the MYT order for FY 2010-11 to FY 2012-13. The details of other income projected by APGCL are given in the table 4.21 below:

Table 4.21: Other Income Projected in the Revised ARR for FY 2012-13

(Rs. Crore)

Particulars	**FY 2012-13**
Interest on Staff Loans and advance	0.00
Income from Investment	6.77
Income from sale of scrap	0.23
Rebate for timely payment	1.21
Misc. receipts (except 62.901 & 62.908)	0.77
Rent from residential building	0.01
Total	**8.99**

Petitioner's submission

APGCL has submitted that the other income includes interest on investments made by the company.

The Commission approves the other income at Rs. 8.99 Crore in the Revised ARR for FY 2012-13 as projected by APGCL.

4.10.9 Revised ARR for FY 2012-13

The Commission has arrived at the fixed charges and variable charges based on the analysis and decisions in the above paras. The fixed charges and variable charges as projected in the Revised ARR for FY 2012-13 and as approved by the Commission are given in the table 4.22 below:

Table 4.22: Revised ARR approved for FY 2012-13

(Rs. Crore)

S. No.	**Particulars**	**FY 2012-13**		
		Approved in MYT Order dated 16.05.2012	**Claimed in Revised ARR**	**Approved in Revised ARR**
1	Gross Generation (MU)	2176.97	1803.08	1803.08
2	Aux. Power Consumption (MU)	92.08	110.39	77.07
3	Net Generation (MU)	2084.89	1692.69	1726.01
	Fixed Charges			
	Operation & Maintenance			
1	Employee Cost	68.07	70.09	69.52

2	Repairs & Maintenance	13.81	51.26	25.58
3	Administrative & General Expenses	3.10	6.05	5.56
4	Interest & Finance Charge	71.11	36.49	36.49
5	Interest on Working Capital	12.68	22.15	14.47
6	Taxes on income	5.54	15.95	5.54
7	Depreciation	46.55	38.92	38.92
8	Provision for Bad & Doubtful Debts	0.00	0.00	0.00
9	Return on Equity	37.99	63.58	37.99
10	Less: Other Income	-5.02	-8.99	-8.99
	(A) Total Fixed Charges	**253.81**	**295.50**	**225.18**
	(B) Fuel Cost	**183.08**	**322.08**	**157.32**
	ARR (A) + (B)	**436.89**	**617.57**	**382.50**
1	Fixed cost in Rs / Kwh (sent out)	1.22	1.75	1.30
2	Fuel Cost in Rs / Kwh (sent out)	0.88	1.90	0.91
	Tariff Rs / Kwh (sent out)	2.10	3.65	2.21

The Commission has carried out the truing-up for FY 2009-10 and FY 2010-11 based on the audited annual accounts and review for FY 2011-12 based on the provisional accounts for FY 2011-12. The Commission has taken into consideration the Surplus revealed in the truing-up of FY 2009-10 and FY 2010-11 in the table nos. 3.7 and 3.17 of APDCL Tariff Order for FY 2012-13.

4.10.10 Approved Generation Tariff

The generation charges will include separate energy charges for NTPS and the LTPS (on sent out basis) and a monthly fixed charges for APGCL. The approved charges are given below:

Table 4.23: Approved Generation Tariff

Energy charge (Net)	**For FY 2012-13 (Rs./kWh)**
NTPS	0.91
LTPS with WHRU	1.26
KLHEP	0.00
Fixed charge	Rs. crore
Total fixed charge	225.18
Monthly fixed charge	18.77

4.10.11 Effectuation of Generation Tariff

The approved rate of energy charge and fixed charge shall be effective from 08.03.2013 or until replaced by another order of the Commission.

APGCL has to file the MYT petition for the period FY 2013-14 to FY 2015-16 for determination of ARR and tariff for FY 2013-14 along with the petition for truing up of FY 2011-12 and Annual Performance Review for FY 2012-13 at the earliest.

5. Compliance of Directives and Fresh Directives

5.0 The Commission in its Tariff order dated 16th May, 2011, had issued 11 nos. fresh Directives to APGCL. The Commission, in its Directive 10, directed APGCL to submit quarterly report on implementation of various directives to the Commission for review.

The Commission also made its comments on the directives already issued duly giving specific directives wherever required.

5.1 COMPLIANCE OF THE FRESH DIRECTIVES ISSUED BY THE COMMISSION.

5.1.1 APGCL has submitted the compliance of the Fresh Directives and the other specific Directives issued.

5.1.2 Commission's comments on the status of compliance of Fresh Directives by APGCL are given below.

Directive No - 1: Auxiliary Consumption (NTPS and LTPS)

The auxiliary consumption of both the thermal stations is on high side. APGCL is directed to carry out energy audit of both the thermal stations and take steps to reduce the auxiliary consumption to the required levels and compliance submitted to Commission within two months from the date of this tariff order.

Compliance

NTPS: Energy Audit has been carried out by M/s National Productivity Council, Guwahati (NPC) and draft report was submitted in the end part of May, 2012. However, action is being taken up to reduce auxiliary consumption to the extent feasible on the basis of the recommendation in the report. The final report is expected from M/s NPC shortly.

LTPS: Action is being taken up as per energy audit report submitted by NPC. A good number of measures were taken to execute Electrical & Thermal Energy saving & to Prevent Skin Loss on Machine, as informed by LTPS vide letter No: LTPS/GM/2012/T-135/2144 dated 24.02.2012 (Copy enclosed as Annexure – 5.1).

Commission's Comments:

The efforts should continue and the Auxiliary Consumption levels of both the stations need to be brought down to the levels specified in the Regulations by 31st March, 2013.

Directive No - 2: Investment Plan

APGCL has proposed an investment of Rs. 127 Crore for renovation and modernization (R&M) of Namrup and Lakwa gas based stations during the control period FY 2010-11 to FY 2012-13 and another Rs. 45 Crore during FY 2013-14 and FY 2014-15.

APGCL is directed to submit a report on the likely benefits of the investment and cost benefit analysis of implementation of R&M by September, 2011.

If, the benefits anticipated on implementation of R&M are not achieved on completion of R&M, the Commission will be constrained not to allow the interest, depreciation, ROE etc., on the investment. The APGCL shall be judicious in taking up the R&M works.

Compliance:

APGCL had earlier proposed an investment of Rs. 127.0 Crore & Rs. 45.0 Crore for implementation of R&M schemes of LTPS & NTPS in the FY 2010-11 to 2012-13 & FY 2013-14 and 2014-15 respectively.

However, the R&M Ph –III scheme is now being implemented at an estimated cost of Rs. 28.5 Cr. and Rs. 10.5 Cr for LTPS and NTPS respectively for the FY 2010-11 to FY 2012-13.Meanwhile, an amount of Rs. 0.5 Cr and Rs. 2.5 Cr & Rs. 0.5 Cr and 1.5 Cr already invested for LTPS & NTPS respectively in the FY 2010-11 & 2011-12. Moreover, investment of Rs. 3.5 Cr and Rs. 5.0 Cr from assistance of GoA is already taken up for LTPS and NTPS respectively in the year 2012-13

The R&M scheme is now in continuation with implementation on essential items yearly through Government assistance which will indicate the likely benefit of the investment and also from which cost benefit can be achieved. The assistance from GoA contributes reduction of loan component considerably. More time has been taken for submission of DPR mainly because of non-fixation of loan component. The DPR is in the draft stage. As soon as the loan component is finalized, the final DPR will be placed for approval and made available to the Commission.

Commission's Comments:

The final DPR, with cost benefit analysis may be submitted for approval early.

Directive No - 3: Employee's Provident Fund

Under Employees Provident Fund Scheme the provident fund is recovered from the employees and the amount recovered from the employees has to be invested in the trust .The interest to be paid to the employees on provident fund recovered shall be met from the investments made by the trust.

The APGCL is utilizing the amount recovered from the employees. No account of such amount recovered is maintained and it is not known for what purpose the amount is utilized. The Commission can allow interest on the amount utilized for capital investment only.

The utility is directed to maintain separate accounts for the amounts recovered from the employees towards Provident Fund and its utilization duly audited by Statutory Auditors. It is directed to report compliance of the directive by end of September,2012.

Compliance:

Regarding Employees Provident Fund, the Board of Directors of APGCL has decided to form a separate Trust in the name of "APGCL General Provident Fund Trust ". In this respect the BoD on its 42nd meeting held on 31st March, 2012 has approved the APGCL Trust Deed, APGCL GPF Trust Regulation, 2011 & APGCL GPF Rules, 2011.

The same has already been forwarded to the Government of Assam for inclusion of APGCL & its GPF Rules and Regulations under Provident Fund Act, 1925 (Act. No. XIX of 1925) vide letter no. MD/APGCL/ACT/GPF Trust /11 – 12/335/5 dated 16.04.2012. On receipt of the necessary approval from GoA, further necessary action will be initiated.

Commission's Comments:

The matter may be pursued with the GoA, and the formalities of forming the Trust may be completed by March 2013, and a report submitted to the Commission.

Directive No - 4: Re-commissioning of NTPS Unit - 5

Unit – 5 (24 MW) of NTPS is under shutdown since 16th June 2010 due to damage in stator winding. APGCL shall expendite re-commissioning of this unit-5 at the earliest so that the availability of power can be increased to that extent.

Compliance:

Turn Key basis repairing work of NTPS Unit-5 (24MW) was completed by Evans Electric Private Limited, Mumbai and re-commissioned on 28th September, 2012. The unit is now running with an average generation of 14-15 MW.

Commission's Comments:

Noted

Directive No - 5: Procurement of Gas

The Commission noted that APGCL is not getting the committed quantity of gas from the gas suppliers due to which generation of energy is getting reduced correspondingly. APGCL shall make all the efforts to get the gas supply as per commitment and also to get allotment of additional gas supply to overcome the problem of inadequate availability of power in the state.

Compliance:

APGCL made all efforts to get the gas supply as per commitment and also to get allotment of additional gas supply to overcome the serious set back for poor generation of power in the State.

An agreement regarding the supply of additional quantity of 0.15 MSCM DAPM gas to LTPS has been signed between GAIL and APGCL on 06.12.2011 effecting from April 2011.

During the Quarter July – September 2012, the gas supplied by OIL was erratic due to strike / bandh, natural calamities etc.

In spite of constant persuasion and initiative from APGCL both the gas suppliers GAIL & OIL India Ltd. have failed to supply gas with desired gas pressure and found to be inconsistent which hampers power generation from time to time.

Commission's Comments:

APGCL should make all out efforts to procure committed quantity of gas and to get additional allotments, to over come the generation problem. The efforts made and the out come should be periodically reported to the Commission.

Directive No - 6: Performance Parameters

The Performance Parameters of the gas-based power stations (NTPS, LTPS) are far below the national standards. APGCL shall endeavor for R&M assistance from the Government of India schemes and implement such steps so that the performances of the plants are brought to the national average level.

Compliance:

To improve the plant performance of LTPS & NTPS, extensive R&M Programmes are initiated. However, in case of NTPS, the generating units are very old and derated, hence, a 100 MW Namrup replacement & Modernization power plant is being implemented and the Ph-II (20X3 MW) units of LTPS are given due attention while formulating R&M schemes to achieve sustained generation in view of recently commissioned 37.2 MW Waste Heat Unit.

As a result of implementation of R&M schemes, the performance of LTPS and NTPS in terms of Generation, PLF, Availability Factors and SHR have improved considerably during 2011-12. Performances of NTPS & LTPS for the FY 2011-12 are given below for ready reference.

Power Station	Generation (MU)	PLF (%)	Availability (%)	Heat Rate (Kcal/kwh)
NTPS	565.660	53.89	57	3530
LTPS	732.661	69.51	74	3578

LTPS is maintaining performance almost at par with the national average level though facing crisis of gas from time to time. In view of the vast ageing of the units, the performance of NTPS can perhaps be considered as satisfactory.

Commission's Comments:

Not much improvement in Station Heat Rates is observed.

It may be mentioned here that, during the State Advisory Committee Meeting held on 19.12.2012, the representatives from APGCL informed the members that CERC has relaxed SHR of Agartala GPS in its Terms-and-Conditions-of-Tariff - Regulations-2009-14 stating the reasons for higher actual station heat rate (SHR) than the normative as due to part load / low load operation due to non-availability of adequate gas and deteriorating quality of gas. It was informed that CERC relaxed the SHR norm for the Assam GPS (CCGT) to 2400 kcal/kWh for the tariff period 2009-14 from the earlier SHR norms of 2250 Kcal/Kwh (for the Tariff period 2004-09). APGCL stated that since, LTPS and NTPS are also facing similar constraints of part load /low load operation due to non-availability of adequate gas and deteriorating quality of gas etc, leading to higher actual heat rate than the SHR norms, therefore, the Commission may consider CERC's above Heat Rate norms while truing-up for FY 2009-10 & 2010-11.

The Commission suggested that an institution like IIT, Guwahati or Assam Engineering College may be engaged to carry out tests for studying the actual position of the generating stations witnessed by CEA/ NTPC and a report may be submitted to the Commission. The Commission further suggested that open cycle and combined cycle generating stations may be considered separately as the norms of operation are different for these stations.

APGCL informed during the Public Hearing held on 19.02.2013 that it has engaged IIT, Guwahati for conducting the study as suggested by the Commission.

The Commission directs that the report after completion of the study be submitted and meanwhile APGCL shall continue to make efforts for improving the Station Heat Rates of the units.

Directive No - 7: Monitoring of Progress of New Power Projects

The detailed progress report on new and ongoing R&M and generation projects is to be submitted by the utility quarterly before the Commission without fail for review.

Compliance:

The detailed quarterly progress reports of new projects (Thermal) & (Hydro) for each quarter are being submitted to AERC regularly. The progress report for latest quarter (July – September, 2012) had also been submitted to AERC.

Commission's Comments:

Noted. It is also recorded that APGCL has always been submitting all required data/information to the AERC on time.

Directive No - 8: Energy Audit of Power Station

APGCL is directed that a time bound Programme for energy audit of all of its power stations should be prepared and an action plan to this effect needs to be submitted to the Commission within 60 days from the date of this order. Such energy audit is required to be undertaken in-house or by outsourcing energy auditors for ensuring accuracy in proper perspective.

Compliance:

NTPS: M/s National Productivity Council (NPC), Guwahati – 781 007 (Assam) has carried out energy Audit of the Power Station and submitted the Draft Report in end part of May, 2012, final report is expected shortly from M/s NPC.

LTPS: Copy of “Final Energy Audit Report “had already been furnished to AERC vide our letter No. APGCL/CGM(G)/MYT/2010-13/211/52 dated 20.07.2011.

KLHEP: Regarding Energy Audit at KLHEP, it was informed by Chief Electrical Inspector, GoA that Hydro Power Station is not considered as designated consumer.

Commission’s Comments:

The latest status of the Energy Audit of the Station NTPS, may be furnished by 31st March 2013.

Directive No - 9: Performance of Petitioner’s Plants

A lot of concern has been expressed by the stakeholders on the need for improvement in the performance of NTPS and LTPS where most of the units are more that 25 years old. There is a scope for improvement in generation from these plants by raising their existing capacities, which have been stated to have reduced due to wear and tear during past many years, to at least their original design values. The more important issue is that of ensuring generation availability from these plants for longer duration of time as most of these plants have already outlived their originally envisaged useful life. Accordingly, the Commission is of the view that these plants urgently need Renovation, Modernization and Up-gradation (RMU) for both improvement in generation capacity and life extension.

The Commission therefore, directs the Petitioner to make comprehensive RMU scheme for efficiency improvement and life extension of these plants and submit the DPRs for the same to the Commission within a period of six months giving roadmap for implementation of these schemes.

Compliance:

While formatting R&M scheme, the works are incorporated keeping in mind the upcoming 100 MW Replacement Project of Namrup TPS & Ph-I (15X4 MW) replacement project of LTPS with higher efficiency CCGT / Gas Engines, envisaged to be commissioned during 12th plan. However, the Ph-II (20X3 MW) units of LTPS are given due attention while implementing R&M schemes to achieve sustained generation in view of recently commissioned 37.2 MW Waste Heat Unit.

The R&M scheme is now in continuation with implementation on essential items yearly through Government assistance which will indicate the likely benefit of the investment and also from which cost benefit can be achieved. The assistance from Government of Assam has contributed to reduction of loan component considerably. The preparation of DPR is in final stage and will be placed for approval and made available to the Commission.

Commission's Comments:

The final DPR with cost benefit analysis shall be submitted for approval early.

Directive No - 10: Compliance of Directives

APGCL shall submit quarterly status report on implementation of the above directives to the Commission for review.

Compliance:

Being submitted regularly.

Commission's Comments:

The Quarterly Status reports are being received by the Commission.

Directive No- 11: Need for Augmenting Own Generating Capacity

AERC is concerned to note that the state has hardly any generation of its own as practically 67% of the entire power requirement of the state is dependent on share allocated to Assam in Central Generating plants located in the NE region. Any power utility cannot run efficiently without a reasonable generating capacity of its own. In the interest of the energy security of the state, APGCL needs to take very urgent steps to augment its own Generating capacity. This issue has to be given top priority by the APGCL and the Government of Assam.

Compliance:

Details of ongoing and upcoming power projects of APGCL and brief status of each projects is attached in Annexure - 5.2.

Commission's Comments:

Noted. APDCL shall make all out efforts to complete the on-going projects within estimated time to avoid cost and time overruns.

5.2 COMPLIANCE OF THE SPECIFIC DIRECTIVES ON ALREADY ISSUED DIRECTIVES PRIOR TO THE TARIFF ORDER DATED 16TH MAY, 2011.

5.1.3 APGCL furnished the details of the compliance of specific directives issued in the Tariff Order dated 16th May, 2011, on the old directives.

5.1.4 Commission's comments on the Status of compliance of these specific directives are given below.

<u>Directive-3:</u>

File Fixed Assets Registers duly authenticated incorporating Gross Fixed Assets (GFA) at the beginning of the relevant financial year, addition, dispositions/sale proceeds if any, made during the relevant financial year and written down value of the assets at the end of relevant financial year.

Further, to maintain proper and detailed fixed assets registers at field offices to work out depreciation expenses the Commission directs to submit a report to the Commission citing clearly as to how they are maintaining fixed assets registers for various assets.

APGCL's Original Compliance:

Fixed Asset Register as on 01.04.2005 has been submitted by the appointed consultant M/s D. Mitra & Associate. Necessary process of updating is going on. On completion of compilation the same will be submitted.

Commission's comments, in the Tariff Order dated 16th May 2011

The fixed asset register as on 01/04/2009 shall be submitted to the Commission for perusal. The Register for the further years shall be expedited.

APGCL's latest Compliance

The fixed asset Register has been updated up to 31st March'12

Commission's Present Comments

Noted

<u>Directive-4:</u>

File Physical Verification of Fixed Assets by a competent and reliable authority as at the end of each financial year beginning with FY 2005-06 and onwards

APGCL's Original Compliance:

Fixed Assets Physically verified and found no discrepancy.

Commission's Comments, in the Tariff Order dated 16th May 2011

The verification for subsequent years shall be got expedited.

APGCL's latest Compliance

Fixed Asset verification is being carried out and expected to be completed by 31st March'13.

Commission's Present Comments

This may be perused and completed by 31st March, 2013 positively.

Directive-6:

Capital works-in-progress: To submit the detailed analysis of amount locked up in Capital Works-in-progress year wise beginning from FY 2005-06 to 2008-09 and the conversion of CWIP into Fixed Assets duly reconciling with the Assets Register within two months from the date of issue of Tariff Order 2008-10. The utilities shall submit in detail the cost and time of completion of each project and reason for delay (if any).

APGCL's Original Compliance:

Furnished vide letter No: APGCL/CGM (G)/AERC/2007-08/115/Pt.-IV/72 Dated. 06.01.10

Commission's Comments, in the Tariff Order dated 16th May 2011

The report for 2009-10 may also be submitted at the earliest.

APGCL's latest Compliance

For the year 2009-10, no CWIP had been converted to Fixed Assets. Details as follows:

Sl. No.	Details	Amount (in Rs.)
1.	CWIP as at 31st March'09	3,84,80,69,032
2.	Addition of CWIP during 2009-10:	
	a. NTPS :18,13,13,862/-	
	b. LTPS:15,75,41,714/-	
	c. KLHEP: 5,778/-	

	d. Other Ongoing Projects:13,21,68,955/-	
	e. HQ Adjustment entry made:13,61,81,207/-	60,72,11,516
3.	CWIP as at 31st March'10	4,45,52,80,548

Commission's Present Comments

Noted

Directive-9.2

Performance guarantee test of all future units scheduled to be commissioned in 2009-10 and 2010-11.

APGCL's Original Compliance:

Performance guarantee test will be completed within 60 days from the date of Commercial operation of 37.2 MW Lakwa waste Heat Recovery Unit which is scheduled to be commissioned by 30th June 2010.

APGCL's latest Compliance

The Lakwa Waste Heat Project was commercially commissioned on 17th January'12 and the PG Test of the plant was carried out by BHEL from 4th October to 8th October 2012 in presence of APGCL and its consultant, DCPL's engineers. APGCL contacted CEA prior to the test for deputation of their representative to witness the PG Test but no positive response was received from CEA in this regard and hence the PG Test was carried out without presence of CEA's representative.

Commission's Present Comments

Noted

Directive-9.3

Ideal Man/MW ratio for thermal as well as hydro, based on norms.

APGCL's Original Compliance:

Man/MW ratio for existing Thermal & Hydro power Stations is as given below:

Power Station	Man/MW ratio (as on Dec./09)
NTPS	2.93
LTPS	2.92
KLHEP	1.47

Commission's Comments:

The manpower /MW ratio indicated is high. This should be reduced to a reasonable level.

APGCL's latest Compliance

The manpower /MW ratio as on 31st March/12 is in decreasing trend as stated below.

Power Station	Man/MW ratio (as on Mar/12)
NTPS	2.45
LTPS	2.91
KLHEP	1.45

Commission's present Comments

The manpower/ MW ratio should still be reduced to a reasonable level.

Annexure – 5.1

To Dtd: 24.02.2012.

The Chief Electrical inspector – Cum – Advisor, Assam
Guwahati – 781003

Fax: 0361-2464796

Sub: Electrical and thermal Energy saving.

Ref: CEIA/2011/30, dated: 15/2/2012

Sir,

With reference to the subject above, I would hereby like to inform you that following measures have been taken by LTPS in order to implement Electrical and Thermal Energy saving as per the directive of the Bureau of Energy Efficiency New Delhi.

S.No	Measures taken	Annual Energy Saving	
		Kwh	Rs. In Lakhs
1	Reduction in 0.5% instrument air compressor	2850	0.1425
2	Temperature inside the control room of Ph-I & PH – II increased by $1^{o}C$	15840	0.6336
3	Indication bulbs in control panel replaced by LED	10.2	0.00201
4	Colony lighting 20 FTLs replaced by F5	1927	0.07713
5	0.1% reduction in auxiliary consumption	63580	1.27
6	Processing work taken up to prevent Skin loss in Turbine Unit-3	-	-
7	**Total**	**84207.2**	**2.12524**

This is in favour of your information and necessary action.

Yours faithfully,

Sd/-

General Manager

LTPS, Maibella

No:LTPS/GM/2012/T-135/2144(A) Dtd: 24.02.2012.

Copy to:

1. The Chief General Manager (Gen), APGCL, Bijulee Bhawan, Guwahati – 1, for information
2. The DGM (O&M) LTPS, maibella
3. The AGM OPD,LTPS Maibella

General Manager
LTPS, Maibella

Annexure – 5.2

Status of On-going Thermal Projects

BHEL requested to revise the provisional time extension of open cycle commissioning of **1 X 100 MW Namrup Replacement Power Project (Ph-1)** up to December, 2013. APGCL approved formal extension up to August, 2012 and provisional extension up to June, 2013.

Further, the following **new Thermal projects** are envisaged to be implemented which are in different stages of progress.

a) 100 MW Amguri CCGT: ASEB/ APGCL already acquired 1041 Bighas of land for the project in Amguri. TOR for EIA study is obtained from MoE&F. Work order already issued to M/s. EQMS India Pvt. Ltd., New Delhi for conducting EIA study. Baseline Environmental Study Report has been completed in the mean time. Final environmental study could not be completed due ton non-availability of gas linkage. Gas linkage is awaited.

b) **42 MW Distributed IC Engine for Generation from Gas of OIL/ ONGCL at different locations of Golaghat & Silchar area**: The pre-feasibility report (PFR) for Golaghat project has been prepared & the detailed Project Report (DPR) is under preparation. Identified Govt. land has been allotted in the mean time. Allotment of Gas allocation is awaited. Meanwhile, ONGCL has floated open NIT for gas field at Golaghat. APGCL has participated in the bidding process. Tender opening date was 25/10/12. Final outcome is awaited.

APGCL engineers visited Sonabarighat and Bhubandar for proposed gas engine based projects in Cachar district. The PFR for the projects has been prepared. Land allotment application is placed. Gas allocation is looked-for. Meanwhile, ONGCL has floated open NIT for gas field at Cacher. APGCL has taken initiative for participation in the bid for allocation of gas. Tender opening date is 21/01/13.

c) **70 MW Lakwa Replacement Gas IC Engine Project**: Consultant is appointed for EIA study for obtaining environmental clearance from MoE & F, New Delhi. DPR is approved by APGCL Board. Now, DPR is placed before AERC and Govt. of Assam for approval. After getting approval from PIB and AERC, NIT for EPC consultant will be floated.

d) **500 MW Margherita Coal Based Power Project**: APGCL proposed to implement a 250 MW Coal Based Power Project at village Saliki NC under Makum Mauza of Margherita S/D with NEEPCO on JV mode to mitigate the power shortage of Assam. A joint survey was carried out by a team of APGCL officials, civil authority of Tinsukia District on Aug'2008 to identify land of appx.1600 bighas at the above location. After that the Govt. of Assam was moved for transfer of proposed land to APGCL.

Later on, at the instance of the Govt. of Assam, a team of NTPC and CEA officials visited the proposed site in September'09 and discussed the matter with SDO (Sadar) & Circle officer of Margherita. NTPC officials proposed for a coal based power project of 500 MW capacity for which they suggested to acquire approx. 1000 Acres of land. They also suggested to survey of the land for final selection of the area. Accordingly, total 3022 Bighas of land (Inclusive of earlier 1600 Bighas) was surveyed and boundary demarcation was done by APGCL. However, in view of poor response from NTPC during last two years, the process got delayed. APGCL now has come forward again to implement the project and accordingly moved to the Govt. of Assam for transfer the proposed land to APGCL.

The Ministry of Coal, GoI was approached for long term coal linkage of appx.1.686 Million ton of coal from the NE coal field of Coal India Limited for the proposed project along with requisite application fee in the month of Nov'2009. Central Electricity Authority is being provided requisite/updated information in regards to our application for coal linkage for the proposed 2x250MW Margherita Thermal Power Project in the format duly filled time to time as and when required. Again on 15.12.2011, CEA informed that for prequalification and prioritization for coal linkage for Margherita TPP various inputs mainly acquisition of land, allocation of water and terms of reference for EIA study from MoE&F are to be furnished. Accordingly to obtain statutory clearances for coal linkage, the acquisition of land for the proposed project has been initiated. The matter is in active consideration in the Revenue & D.M. Department, GoA after Deputy Commissioner, Tinsukia and MD, APGCL requested The Principal Secretary, Revenue & D.M. Department to accord necessary approval for allotment of proposed land in favour of APGCL in the month of July'2012. The water drawal permission of 2500cum/hr from river Buridehing obtained from Department of Water Resources, Govt. of Assam vide Letter No. WR (ED) Tech/5110/05/63 dated 15.06.2012. For preparation of Pre-feasibility Report & Detail Project Report of the proposed 2x250MW coal based Margherita Thermal Power Project a consultant has been engaged. For obtaining ToR from MOE& F and conducting EIA study along with preparation of EIA, EMP & DMP report as per terms of reference to be set by EAC, MoE&F, GoI for the 2x250 MW Margherita Coal Based Power Project, consultant - M/s Ramky Enviro Engineers Ltd, Hyderabad has been engaged. The PFR has been prepared and submitted by the consultant. The Form-1 of MoE&F has been filled up and forwarded to EIA consultant along with TOPO Sheet collected from the office of the Additional Surveyor General, Guwahati for applying Terms of Reference to Ministry of Environment & Forest, New Delhi.

e) **100 MW Namrup Expansion Project** : As the land and other infrastructures are available in the premises of existing NTPS, it is envisaged to start of the project after commissioning of on-going NRPP and completion in 13th plan period subject to availability of gas linkage.

Following JV project is envisaged to be implemented in the 12th Plan period.

f) **60 MW Revival of Chandrapur TPS on coal :** Regarding revival of CTPS on coal as alternative fuel through Imperial APGCL Power Ltd. (IAPL), land measuring approx. 67 acres and 6 cusec of water are to be transferred to JV Company i.e. M/s. IAPL on lease as per the joint venture agreement dtd. 02.02.2010. The extract of APGCL Board's resolution No. 4 dtd. 31/03/12 regarding transfer of the said land and water to JV Company for recommendation of environment clearance, coal linkage and financial closure by GoI was forwarded to Shri I. C. P. Keshari, IAS, Joint Secretary (Thermal), MOP, GOI and Shri M. S. Puri, Chief Engineer (TP & I), CEA, GOI for appraisal, vide letter No. APGCL/MD/CGM (G)/Revival of CTPS/Coal/175/Pt-VII/99 dtd. 11/04/12. The Lease Deed Agreement is being finalized in consultation with M/s IAPL for transfer of land to the JV Company. Further M/s IAPL already applied to State Water Commission, GOA on 08/05/12 for transfer of 3 cusecs of water in place 6 cusecs allotted to APGCL to the JV Company.

In the meeting held on 9th Oct'12 in the office chamber of Hon'ble Minister, Power, GOA, M/s IAPL informed that the Bank Guarantee can be submitted only after signing of the Power Purchase Agreement (PPA). APGCL & APDCL has no objection in signing of the PPA but the amendment of the Tariff from Rs. 3.25 to Rs. 5.06 for the first year is to be approved by the AERC.

STATUS OF ON GOING HYDRO PROJECTS

(A) Lower Kopili Hydro Projects (as on 5th December, 2012)

1. Lower Kopili H.E Project

DPR submitted to CEA for Techno Economic Clearance in April, 2010, CEA raised certain observations on project layout, Hydrology, geology, revision of power potential studies and revision of cost estimates. APGCL has engaged M/s Lahmeyer International India to recast the DPR in compliance to the observation of CEA. APGCL has furnished the data, reports, maps / drawings pertaining to Lower Kopili H.E Project recasting of DPR to M/s LII.

1.1 All the additional field geological exploration and topographic survey for compliance of observation of CES were carried out in consultation with Engineering Geology Division, GSI, Shillong . Field works are completed. The geological report on the dam site, HRT, Penstock, PH etc have been received from EGD, GSI., and the same had already been submitted to consultant M/s LII for designing of project components.

1.2 Studies on determination of site-specific seismic coefficient based on latest guidelines of CWC have been done by IIT Roorkee. Report submitted to consultant LII for finalization of dam design/stability analysis.

1.3 EIA study is being carried out by WAPCOS as consultant. Three seasons data had already been collected by WAPCOS, requisite information pertaining to obtaining of Term of Reference for the EIA studies from the MOEF have been handed over to MOEF as well as to the consultant. As sought for, information regarding affected people have also been submitted to consultant.

1.4 The total requirement of land for implementation of LKHEP is about 1576 Ha. Out of which, 1386.12 Ha of land is falling in D.H district and rest 189.68 Ha falling in in Karbi Anglong district. Till date, the DHAC has allotted 10 (ten) Bighas of land for preconstruction activities during April, 2007. Joint Zirat as well as land valuation surveys were carried out and formal reports of Zirat / land have been received from both the district councils. For allotment of the land, A MOA is to be executed between DHAC & APGCL. APGCL framed up a draft MOA which has already been submitted to DHAC for concurrence. Response awaited. APGCL requested Government of Assam to accord approval to the total value of the land amounting to Rs. 70, 74, 09, 863 /-.

1.5 Revised forest clearance applications have been submitted to the concerned DFO of Dima Hasao and Karbi Anglong district.

1.6 Testing of construction materials like Coarse aggregates and fine Aggregates were completed and report submitted to consultant M/s LII. River water is being tested on monthly basis for physical / chemical properties, petrography analysis. Report has been submitted to consultant M/s LII to time to tome.

1.7 All the field topographical surveys were completed. A general layout map is also prepared based on satellite imageries. All maps were submitted to consultant M/s LII for incorporation in the DPR and EGD, GSI, Shillong for preparation of geological reports.

1.8 The power potential studies have been revised based on the revised norms of MoEF/CWC/CEA. The installed capacity of the project is now worked out with consideration of the average head i.e MDDL+2/3rd of the difference between FRL and MDDL and normal tail water level. Although APGCL is agreeable to consideration of average head which resulted in revision of install capacity to 110MW, M/s LII is requested to consult with the concerned Directorate of CEA for final acceptance.

As per the revision of power potential study , the installed capacity now will be 2x55MW=110MW for main power house and 10 MW for auxiliary power house with design energy (90% DY without overloading) will be 437.68 MU and 39.03MU for main and auxiliary power house respectively.

1.9 APGCL requested Ministry of Defence for concurrence to implement the project. Response is awaited.

(B) Status of Ongoing SHPS of APGCL

1. Myntriang SHP (Stage I: 2X3.00 MW & 2X1.50MW = 9.00MW)

S.No	Description of Item	Stage	Percentage of progress
1	Infrastructure	I	88%
		II	98%
2	Concrete Weir	I	60% (Excavation only)
		II	98%
3	Power Channel	I	68%(Excavation only)
		II	99%
4	Forebay	I	10%(Excavation only)
		II	99%
5	Cross drainage work	I	45%
		II	100%
6	Saddles & anchor	I	Not started
		II	88%
7	Power House and tail race	I	7% (P.H. Area leveling)
		II	80%
8	Supply of hydro mechanical equipment	I	NIL
		II	50%
9	Supply of Electro mechanical equipment	I	100%
		II	100%

10	Penstock fabrication	I	2%
		II	90%
11	Additional Civil and Hydro Mechanical works as per supplementary agreement for enhancement of power from 9MW (Stage – I: 2X3.0MW & Stage – II : 2X1.5MW) to 13.50 MW (Stage – I: 3X3.0MW & Stage – II :3X1.5MW)	I	NIL
		II	55%

Targets for Commissioning of Stage – I and Stage - II are December, 12 and December, 13 respectively.

2. Lungnit SHP (Stage I: 2X1.50MW + Stage-II:2x150MW=6MW)

S.No	Description of Item	Stage	Percentage of progress
1	Infrastructure	I	90%
		II	100%
2	Bridge & Culvert	I	10%
		II	65%
3	Weir	I	NIL
		II	Excavation: 100% Concreting: 42% (PCC Only)
4	Forebay	I	NIL
		II	Excavation: 95% (upto formation only)
5	Power duct	I	NIL
		II	Excavation: 98% (formation only) 70% (Foundation only) Concreting: 10% (PCC only) 5.5% (RCC only)
6	Power Channel	I	NIL
		II	Excavation: 70% Concreting: NIL
7	Desilting Tank	I	NIL
		II	Excavation: 95% Concreting: NIL

The EPC contractor a consortium of M/s P..Das & Co. (Lead Partner) and M/s Jyoti Ltd, Boroda entrusted with the implementation of Lungnit Small Hydro Electric Project failed miserably to achieve their target. In fact, during the period of about three years from the date of order to commence i.e 17.8.2009, the EPC contractors have achieved an overall progress of approximately 15% of the total work. Because of this poor performance of the contractor, the APGCL Board decided to terminate the EPC contractor.

Accordingly, the order of termination of the contract was issued to the EPC contractor, a consortium of M/s P.Das & Co. and M/s. Jyoti Ltd on 10.8.2012.

After receipt of the termination order, M/s. P. Das and Co. has submitted a 'Petition for review' to the Chairman ASEB on 22.8.2012 with an appeal to rescind the Termination Notice as well as to modify the EPC contract so as to permit price and quantity revision. Further, the EPC contractor had verbally sought permission from the MD APGCL for presenting their case before the Board of Directors of APGCL in person in the 44^{th} Board meeting held on 14.9.2012. After hearing the appeals of EPC contractor on 14.9.2012, the APGCL Board took a decision to obtain legal opinion with regard to the appeals made by the EPC Contractor. In this regard, a preliminary discussion was held with Sri Upamanyu Hazarika, Sr. advocate (Delhi based) for obtaining legal advice on the appeals made by the EPC contractor on 29.09.2012, Mr. Hazarika recommended M/s Trilegal as their firm through whom APGCL were to proceed in this regard . Accordingly, the financial offer of M/s Trilegal was obtained. But the Law officer, ASEB after reviewing the offer has opined that 'Associated Law Chamber' who is the standing Council of ASEB and its successor companies, should be engaged for seeking legal opinion, ALC was requested for providing legal opinion on 29.11.2012.

(C) Status of Small hydro Projects on Pipeline

1. Amring SHP (21 MW)

APGCL engaged M/s Consulting Engg Services (CES) for detailed survey and investigation and preparation of DPR of the project. NEC had extended financial assistance to tune of Rs. 211.00 lakhs for detailed survey and investigation of the project. The draft DPR has been submitted by M/s CES. After examination of the DPR, APGCL has raised certain observations. M/s CES has submitted the revised draft DPR to APGCL . As per revised report the installed capacity of the project will be 3X7MW. The cost estimate will be 217.58 Cr. The DPR is now under examination at APGCL.

2. **Development of small hydro power project in the Borpani valley**

There is enormous scope for development of hydro projects in the entire Borpani basin at the upstream of existing Karbi Langpi H.E project. APGCL had prepared a DPR of Karbi Langpi H.E Project (Upper stage) 60MW and submitted the DPR to CEA during 2008. After examination of the same, CEA returned the DPR to APGCL for recasting the hydrology chapter and incorporation of additional geological information.

Subsequently APGCL has engaged the Assam Power Project Development Company limited APPDCL (a JV of Government of Assam and ILFS) for rendering advisory services for development of entire Birpani basin from upstream of existing Karbi Langpi H.E project. A MoA was signed between APGCL and APDCL on 24.09.2010. After the valley optimization studies following projects have been identified:-

i) Karbi Langpi Upper Stage (60 MW)
ii) Karbi Langpi Intermediate Stage – I (21 MW)
iii) Karbi Langpi Intermediate Stage – II (25 MW)
iv) Karbi Langpi Dam Toe H.E Project (19 MW)

APPDCL had invited bid for preparation of DPR of these projects. APPDCL selected M/s Lahmeyer international India for preparation of DPR for Karbi Langpi Intermediate stage – I (21 MW) , Karbi Langi Intermediate Stage -II (25 MW), Karbi Langpi Dam Toe H.E project (19 MW) and work order was issued by APPDCL after getting due approval from APGCL. APPDCL has selected M/s Tata Consulting services Ltd (M/s TCS) for Preparation of the DPR for Karbi Langpi Upper stage. The proposal is under examination by APGCL. Necessary order will be issued by APPDCL after approval of APGCL.

3. **Dhansiri SHP (20 MW) and Bordikharu SHP (2 MW)**

Execution of Dhansiri H.E project was taken up by ASEB/APGCL from 1988. The work remained suspended from 1996 due to law & order, paucity of fund, reduction of discharge in the canal etc.

The Bordikharu SHP was commissioned in 1987. The project remained inoperative from 1991.

The Government of Assam has decided that these projects be handed over to APPDCL for rolling them out to IPPS through tariff based competitive biding factoring in the project development cost already incurred by APGCL/ASEB.

4. Dronpara SHP (1.6 MMW)

The project was earlier envisaged as DDG project. APGCL had engaged APPDCL for preparation of DPR of the project. After necessary hydrological study the earlier concept to implement the project as DDG was dropped and now planned as SHP project for generation of 1.60 MW of power. APPDCL has reportedly bid out the project for implementation.

5. Other DDG Projects

APGCL has engaged APPDCL for development of DDG projects. Till now, APGCL, as forwarded 2 Nos. of DPRS namely Haru (2X20KW) and Langsomipi (2X40 KW), (both located in the Karbi Anglong district) to REC for concurrence and extending necessary financial assistance for implementation of these projects.

6. Under Investigation

APGCL is doing survey and investigation at the following locations

i) Sunani (Karbi Anglong)

ii) Maine (Karbi Anglong)

iii) Silbheta (Karbi Anglong)

iv) Bonda (Kamrup)

7. Development of other small H.E projects in Assam under renewable energy

The development of Small hydro below 25 MW can play a key role in meeting up the need of electrification in the far-flung area of Assam, where needy villagers are deprived of electricity. The Government of Assam has decided to encourage generation of power through SHP sources of energy and has framed a policy so that the development of this sector serves as an engine to achieve the objective of promoting the all round development of the region by including private sector participation. A policy to this effect has accordingly been framed up, which was notified in the gazette in March 2007. On publication of the policy, an investment avenue for approximately Rs. 900.00 Cr has been opened up for Independent Power Producers (IPP)/user societies.

On the SHP policy of Government of Assam, 90 locations have been identified for development of SHP with power potential in the order of 148.90 MW. Lungnit and Myntriang SHP being implemented by APGCL are also within the aforesaid identified list.

Annexure-1.1

Minutes of the 16th Meeting of the State Advisory Committee of the Assam Electricity Regulatory Commission held on 19th December, 2012 at NEDFi House, Ganeshguri, Guwahati

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Members present are as per list at Annexure-A

At the beginning Shri M.J. Baruah, Secretary, AERC, welcomed the members present and expressed hope that the deliberations during the course of the meeting would be interactive and effective. The Chairperson, AERC, Shri J. Barkakati was then requested to preside over the meeting.

Chairperson, AERC once again welcomed the members and stated the objectives /responsibilities of the State Advisory Committee as mandated by Section 87 and 88 of the Electricity Act, 2003 which are mainly to advise the Commission on major questions of policy, matters relating to quality, continuity and extent of service provided by the licensees, protection of consumer interest, electricity supply and overall standards of performance by utilities. The members were updated on the developments that took place after notification of the AERC [Fuel and Power Purchase Price Adjustment (FPPPA) Formula] Regulations 2010 which permits APDCL to recover FPPPA charges from all categories of consumers so as to mitigate any hardship on account of sudden increase in fuel and power purchase prices. It was stated that APDCL imposed FPPPA charge of 69 paise per unit w.e.f. 01.08.2011 to 30.04.2012 followed by 76 paise w.e.f. 01.05.2012 to 31.10.2012 and 103 paise w.e.f 01.11.2012 to 31.01.2013. It was informed by the Chairperson that AERC after scrutiny of the claims filed by APDCL, approved FPPPA charges of 69 paise on energy consumption for the quarter April, May and June 2011 w.e.f. 01.08.2011 to 31.10.2011, 65 paise for quarter July to September 2011 w.e.f. 01.11.2011 to 31.01.2012 and 103 paise for the quarter October to December w.e.f. 01.02.2012 to 30.04.2012 subject to final adjustment on audit of Annual Accounts of the APGCL and APDCL for FY 2011-12 for a total recovery of Rs 263.98 Cr in 9 months. It was informed that the factors leading to levy of this FPPPA charge were due to the following reasons:

i) State and Central Sector less power availability during lean hydro period – It was stated that as on 16th November, 2011 against Assam's share of 611 MW, the Central Sector Generators could provide only 425 MW leading to a shortfall of approximately190 MW.

ii) To make up for the peak shortages prevailing in the system, APDCL had to procure power from NTPC which shot to as high as Rs 5.36 per unit during October 2011.

iii) Differential cost on account of fuel on generation by the State Generator, APGCL

iv) PGCIL past arrear bills.

The Chairperson stated that the increase in distribution loss to 26.33% during FY 2011-12 against approved loss of 20.60% is a matter of concern for the Commission. It was stated that actual distribution loss during FY 2010-11 was 25.44%, which was also higher than the approved loss of 21.60%.

The Chairperson informed that one of the main objectives of the Commission is to ensure supply of reliable, quality power at reasonable rates and the key to this lies in making the distribution segment of the industry efficient and financially secure. It was stated that the Regulatory Commission needs to strike the right kind of balance between ensuring commercial viability of distribution licensees and protecting consumers' interests. The Chairperson stated that the FPPPA charges were approved so as to prevent tariff shock to the consumers at the time of tariff determination. The Chairperson suggested that in order to overcome power shortages and offset high power purchase cost, the Distribution Company should relentlessly try to procure a share of the unallocated power available with the Government of India. It was further suggested that the Company should follow the Ministry of Power Guidelines dated 15.05.2012 while making short term power purchases.

The members present were urged to take active part in the deliberations and to offer valuable suggestions and advice to the Commission. The Chairperson then took up the Agenda for the meeting item-wise.

(1) Agenda Item No. 1: To confirm the Minutes of the 15th Meeting of the State Advisory Committee held on 17.02.2012.

The minutes of the last meeting of the Advisory Committee held on 17.02.2012, was placed before the Committee for confirmation. The minutes of the 15th meeting were accepted and confirmed.

(2) Agenda Item No. 2: Action taken on the Minutes of the 15th Meeting of the State Advisory Committee held on 17.02.2012.

The detailed action taken reports on the minutes of the last meeting were submitted by the APGCL, AEGCL and APDCL to the Commission for information. Copies of the same were also distributed among the members in the meeting. The deliberations that took place on these minutes regarding action taken by the licensee (APDCL) are briefly recorded below:

Going through the last minutes of the meeting where Shri Khosla, the Additional Chief Secretary, Power, Government of Assam suggested that Time of Day (TOD) categories may be introduced for various consumer categories, Chairperson AERC informed that presently three tier TOD Tariff was applicable to four category of consumers namely HT-I Industries, HT-II Industries, Tea Coffee & Rubber and Oil & Coal categories. It was informed that the Commission was contemplating on extending the number of TOD categories in the coming years.

On the issue of operationalisation of Open Access, it was informed by the Chairperson that APDCL had submitted the forms for application, scheduling of Open Access to the Commission on 13.12.2012. It was informed that a Public Notice was issued by the Commission on 30.05.2012 inviting comments from stakeholders and so far four stakeholders have submitted their comments and these are:

i) Tripura Electricity Regulatory Commission

ii) Indian Energy Exchange Limited

iii) Federation of Industries and Commerce, NER

iv) Tata Power Trading Company

It was informed by the Chairperson that Public hearing on this issue will be held soon.

Regarding application of e-governance for addressing consumer grievances in a faster and more efficient manner, the Chairperson informed that APDCL has engaged a Consultant, M/s Price Waterhouse Coopers Private Limited, in implementing revenue protection measures through IT based tools and introduction of High Value Consumer Management System (HVCMS). On the status of DTR metering, Chairperson informed that as per report submitted by APDCL on 14.12.2012, of the total 15,888 DTRs in Lower Assam Zone, 8420 were defective DTR meters/ unmetered DTRs. Similarly, in Upper Assam Zone, of the total 14,053 DTRs, 7009 are unmetered. In Central Assam Zone, of the total 18,875 DTRs, 8578 general DTRs were either unmetered or the meters were defective/ stopped. whereas 296 DTRs under SPSS /IBDF (Franchisee) Scheme were either unmetered or the meters were defective/ stopped. **The Commission as well as the members expressed grave concern in this matter and the Commission directed that immediate steps be taken to replace the stopped/ defective meters and all unmetered DTRs be metered without further delay. The Commission also asked APDCL to comply with the directives specified in Tariff Order 2010-13.**

The Chairperson informed that the AERC (Demand Side Management) Regulations, 2012 were notified in the Assam gazette on 31.03.2012. It was also informed that some DSM measures were being implemented by the distribution licensee like distribution of more than 10 lakhs CFLs to rural consumers with upto 1 KW load and constitution of a DSM cell as per the Regulations to chalk out targets, plans and programmes to carry out DSM activities. It was also informed by APDCL that smart grid pilot project is being proposed in Guwahati City under R-APDRP which includes DSM initiative by segregating consumer load under essential/ non-essential basis. It was informed that Rs 44 Cr was already sanctioned for the purpose. The Chairperson also informed that all the other new Regulations and amendments discussed in the last meeting of the State Advisory Committee were finally notified in the Assam Gazette.

The Chairman of AIMO (Assam State Chapter) from Tinsukia, a State Advisory Committee (SAC) member requested that a few points may be clarified regarding interest on security deposit and adjustment of FPPPA charges. It was stated that the SAC members shared the concern of the Commission regarding the high rate of power purchase and requested that steps be taken to increase the state generation capacity. It was also requested that the consumers may be educated by the licensee on issues such as conservation of energy and tackling commercial losses. The licensees were called upon by the member to reduce their Transmission and distribution losses to the maximum extent possible. It was stated by the member that the payment of interest on security deposit by the distribution licensee may be done in a transparent manner and properly reflected in the electricity bills. It was informed that many consumers were yet to get their interest refund. It was further informed that officers in some subdivisions insisted for the original security deposit receipt in order to avail interests. The member also enquired if the licensee has issued any clarification regarding applicability of Small Industries category to certain factories and industrial manufacturing units certified by DIC as discussed in the 15^{th} State Advisory Committee.

Responding to the enquiries by the aforesaid member, the Chairman ASEB and CMD APDCL, Shri S.C. Das, clarified that the distribution licensee had issued circular regarding applicability of Small Industries category for manufacturing units on 20.02.2012 i.e within 7 days from the date of the last Advisory Committee Meeting as was agreed to. Shri Das stated that the peak demand for power was usually in the range of 1200-1250 MW and there is usually a gap of 350-400 MW. Therefore, it becomes necessary to procure power from power traders like NTPC through a transparent process of tendering and also from power exchanges. It was informed that at present, APDCL was procuring 150MW power from the power exchanges and around 112 MW from NTPC Station at Farakka. It was informed that NTPC power was priced high as their stations were based on coal which had to be imported from outside the country.

It was informed that there were constraints in the transmission corridor of PGCIL and therefore, required quantity of power could not be procured. However, it was informed that there was no constraint in transmission network for power from Tripura Based Palatana project which is to be commissioned shortly. Shri Das informed that the draft Detailed Project Report for the Lower Kopili project was ready and construction should start in the year 2013. It was further informed that a few thermal projects are in the pipeline namely 100 MW Amguri Thermal Power Project, 100 MW Namrup Extension Power Project, 500 MW coal fired Margherita Thermal Power Project and Revival of the 60 MW Chandrapur Thermal Power Project on coal. It was stated that coal and gas linkage for the projects were awaited.

Shri Das further informed the members that a number of steps were being taken through R-APDRP for improvement of infrastructure and the quality of power. It was stated that Rs 1000 Cr was sanctioned for 2011-14 for development/ upgradation of power facilities in 67 towns across Assam and reduction of losses to 15% within a period of 5 years. It was informed that in order to monitor the consumption of high value consumers, CMRI download of all HT consumers were taken up and likely to be completed within January 2013. It was informed that a HVCMS (High Value Consumer Management System) was also taken up with a data center set up at Sixmile, ASEB Campus at a cost of approximately Rs 200 Cr.

Shri Das stated that the number of consumers has more than doubled within the last five years to the tune of approximately 25 lakhs and most of these were rural consumers who were added to the distribution licensees' network through the Rajiv Gandhi Gramin Vidyutikaran Yojana. It was stated that APDCL was trying to improve service facilities to the rural consumers by establishing care centres/ revenue collection centres within short, accessible distances. It was stated that the challenge for the licensee was to reduce losses as targeted and improve collection. It was informed that online electricity bill payment facility has been introduced in Guwahati and e-bills can also be viewed in all districts of Assam, except Kokrajhar.

Regarding the payment of interest on security deposit, it was informed by Shri Das that the concerned APDCL executives have been asked through internal notification to consider the amount of security deposit per KW applicable in 1998 as the basis for refund of interest and production of original security deposit receipt by consumers was not necessary. It was stated that if specific cases of non-payment could be brought to his notice then necessary action could be taken in this regard.

The Chairperson AERC stated that prudent checking of all documents/ bills vouchers were made by the Commission before issuing the FPPPA orders. The members were informed that detailed calculations approving the FPPPA charges for different quarters are available at the official website of the Commission.

The Chairperson informed that Monitoring Committees which were constituted in the last meeting to monitor the improvement of quality of power supply and standard of performance of APDCL; review the performance of APGCL and AEGCL, held their first meetings in the month of June, 2012 and a number of important decisions were taken. The minutes of the meetings are available in the website of the Commission.

The member from AIMO further stated that Industrial Policy of Assam under Chapter II – 'Procedural Simplification' provided guidelines (Annexure II) fixing time frames for sanction of power to industrial units. He enquired whether such guidelines have been formulated and implemented by the Distribution Company. In reply, Chairman ASEB stated that load sanction is usually granted to any industrial unit only when there is redundant capacity available at the nearest existing substation. Otherwise, alternate arrangements need to be made which may be time consuming. Besides, it was informed that the Chief Engineers of the licensee could grant load sanction to a maximum of 1 MW only. Any load sanction above 1 MW requires the permission of the State Government which is a time consuming exercise.

The members suggested that the Commission may put up a proposal to the Government of Assam for increasing the permissive load sanction by Chief Engineers from 1 MW to 5 MW. The Commission noted the suggestion of the members and assured that action in this regard would be taken.

(3) Agenda Item No 3: Appraisal of members on Tariff Proposal by the respective utilities.

The Commission informed the members that as per Section 64(2) of the Electricity Act 2003, the tariff proposal in abridged form and manner is required to be published in the daily newspapers inviting comments and observations of the stakeholders. Accordingly, as per the Electricity Act 2003, and in line with the procedure followed by AERC for the previous years, notices on the petitions received and suo-motu proceedings for Truing up, Annual Performance Review, revision of ARR and determination of the Tariff for FY 2012-13 were published in widely circulated dailies. The last date for receipt of objection petitions was initially fixed as 15.12.2012; however, the date was further extended up to 31.12.2012.

The Commission informed that it has received two response petitions so far and hearing on the petitions shall be held at a later date which shall be duly notified. Discussions on these petitions for generation, transmission and distribution are briefly dealt with in the paragraphs below:

I. Generation (APGCL):

A petition was filed by APGCL on 06.06.2012 for Annual Performance Review (APR) of FY 2011-12 and truing –up for 2009-10 & 2010-11.

As per section 6.1 of the AERC (Terms and Conditions for Determination of Tariff) Regulations 2006, the generating company is required to file the petition for determination of Annual Revenue Requirement (ARR) and tariff for FY 2012-13 by 01.12.2012. APGCL neither filed such petition nor approached the Commission to grant extension of time for filing the ARR petition.

The Commission served notice to APGCL on 24.07.2012 to file ARR and tariff petition for FY 2012-13 i.e. the final year of control period FY 2010-11 to FY 2012-13 within 45 days of receipt of the notice failing which, the Commission would initiate a suo-motu proceeding for revision of ARR and determination of tariff for the year 2012-13 as per Regulation 10 (1) of AERC (Conduct of Business) Regulations 2004.

APGCL on 28.09.2012 submitted petition for revision of ARR and determination of generation tariff for the year 2012-13.

The salient features of the petitions were briefly discussed through a power-point presentation made by the APGCL representatives. It was informed that the generation target was achieved for FY 2010-11, however, for FY 2011-12, generation was less than that approved by the Commission due to non-availability of adequate fuel (gas) and shutdown of some generating units for breakdown maintenance. The members observed that the actual auxiliary consumption for the generating stations of NTPS and LTPS was higher than that approved by the Commission for FY 2010-11. The actual auxiliary consumption was 5.44% against the approved figure of 4.02%. The members also expressed concern that the actual Gross Station Heat Rate (SHR) was higher than the normative rates for these generating stations.

The representatives from the petitioner stated that the NTPS and LTPS of APGCL were old power stations and therefore the auxiliary consumption for the stations was on a high side. Regarding Gross SHR, the petitioner informed the members that CERC has relaxed SHR of Agartala GPS in its Terms-and-Conditions-of-Tariff -Regulations-2009-14 stating the reasons for higher actual station heat rate (SHR) than the normative as due to part load / low load operation due to non-availability of adequate gas and deteriorating quality of gas. It was informed that CERC relaxed the SHR norm for the Assam GPS (CCGT) to 2400 kcal/kWh for the tariff period 2009-14 from the earlier SHR norms of 2250 Kcal/Kwh (for the Tariff period 2004-09). APGCL stated that since, LTPS and NTPS are also facing similar constraints of part load /low load operation due to non-availability of adequate gas and deteriorating quality of gas etc, leading to higher actual heat rate than the SHR norms, therefore, the Commission may consider CERC's above Heat Rate norms while truing-up for FY 2009-10 & 2010-11. APGCL appealed to the Commission to grant higher SHR than normative so that the actual fuel cost incurred in these years may be recovered.

On the matter of depreciation for Karbi Langpi Hydro Electric Project (KLHEP), APGCL stated that although the project was commissioned in March' 2007, most of the assets (Plant Machinery, Buildings etc.) were procured during the period 1992. APGCL requested the Commission that as the assets were kept idle for about fifteen (15) years, so for deriving depreciation rate of assets of KLHEP, life span of assets may be considered as 20 years instead of normal life span of 35 years for Hydro station.

The member from FINER informed that it would not be a prudent practice to consider depreciation for 20 years only as requested by APGCL. The Commission noted the contention of the member and stated that the matter shall be examined in light of the relevant Regulations.

On the matter of higher Station Heat Rate, the Commission suggested that an institution like IIT, Guwahati or Assam Engineering College may be approached for studying the actual position of the generating stations witnessed by CEA/ NTPC and a report may be submitted to the Commission. The Commission further suggested that open cycle and combined cycle generating stations may be considered separately as the norms of operation are different for these stations. The Commission assured that action shall be taken, if necessary, based on the findings of the study. The Commission also asked APGCL to make all out efforts for completion of its ongoing projects.

Action to be taken by: APGCL /AERC

II. Transmission (AEGCL):

As per AERC (Terms and Conditions for Determination of Tariff) Regulation 2006, AEGCL filed Petition for Truing up for FY 2009-10 and FY 2010-11 vide their letter dated 09/10/2012. But AEGCL had not submitted Petition for Annual Performance Review of FY 2011-12 and Annual Revenue Requirement & Determination of Tariff for FY 2012-13.

As per AERC Regulation 78 of AERC (Terms and Conditions for Determination of Tariff) Regulation 2006, the Transmission Licensee, AEGCL is required to submit Petition for determination of Tariff by 1st December every year for each control period in case of MYT. Despite repeated verbal requests in addition to written notices, the Transmission Licensee, AEGCL did not file their Petitions as required. The Hon'ble APTEL in its order on OP No. 1 of 2011 mandated that in the event of delay in filing of the ARR, truing-up and Annual Performance Review, one month beyond the scheduled date of submission of the petition, the State Commission must initiate suo-moto proceedings for tariff determination in accordance with Section 64 of the Act read with clause 8.1 (7) of the Tariff Policy. It has, therefore, become incumbent on the part of AERC to go ahead with the suo-motu proceedings for conducting the Annual Performance Review of FY 2011-12 and revision of ARR & tariff determination for FY 2012-13.

During the course of the power-point presentation made by AEGCL, it was informed that the PGCIL charges for FY 2010-11 and FY 2011-12 increased by Rs 44.10 Cr and Rs 75.34 Cr respectively due to arrear bills raised by the Corporation after tariff revision by CERC.

The members expressed their desire to know the trend of actual transmission losses and it was reported by AEGCL that actual losses for FY 2009-10 was 6.04%, FY 2010-11 was 4.81% and FY 2011-12 was 5.13%. The members noted that the transmission losses have increased in FY 2011-12 and asked AEGCL to take measures for reducing these losses in future. The Chairperson, AERC drew the attention of the Members to the proposed commissioning of the first unit of 726 MW Palatana project by OTPC (ONGC Tripura Power Company) by 2013 and it was informed that Assam has been allotted 120 MW in the first phase from this power station.

The members of the Committee wanted to know if the grid infrastructure for evacuating this 120 MW power into our system is in place. AEGCL informed that the power would be transmitted through 132 KV double circuit lines via Hailakandi and Srikona sub-stations and a load flow study was already conducted for the purpose. They informed that although there were some constraints in the Hailakandi sub-station, the power would be transmitted through PGCIL network. It was informed by AEGCL sources that the power from Palatana project would be available to the consumers for over Rs 4:00 per unit.

Action to be taken by: AEGCL/ AERC

III. Distribution (APDCL)

As per provisions 126 and 148 of AERC (Terms and conditions for determination of Tariff) Regulations 2006, the Distribution Licensee is required to file for True up, Annual Performance Review, Annual Revenue Requirement and Tariff Determination Petitions for each financial year of the MYT regime by 1st December of that particular year.

Although, petition for truing up of FY 2009-10 was received, petitions for Truing up of FY 2010-11, Annual Performance Review for FY 2011-12, revision of Annual Revenue Requirement (ARR) and Determination of Tariff for FY 2012-13 were not submitted by APDCL. The Commission had categorically directed the licensee to file the petitions, however, the petitions for truing up of 2010-11, Annual Performance Review for FY 2011-12, revision of ARR and Determination of Tariff for FY 2012-13 were not forthcoming for some reason or the other.

In this connection, Hon'ble APTEL Order No. 01 of 2011 is very specific and it has become necessary to determine the Tariff in consonance and compliance with the APTEL order. The Commission, therefore, decided to go ahead with the suo-motu proceedings with a view to conducting true-up of FY 2010-11, Annual Performance Review of FY 2011-12 and revision of ARR & determination of tariff for FY 2012-13.

During the power-point presentation made by APDCL, the members were informed that power purchase costs in FY 2009-10 increased by over Rs 91 Cr and the amount has been claimed in the true-up petitions. Similarly, the power purchase cost for FY 2010-11 increased by a huge amount of Rs 508 Cr. It was stated that although, sale to consumers belonging to Jeevan Dhara category was anticipated to be 283 MU in Tariff Order for FY 2009-10, but actual sale was only 40 MU while in Tariff Order for FY 2010-11, sale was anticipated as 75 MU but actual sale was 215 MU. It was informed that this was due to the fact that BPL connections through Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY) which were expected to be completed in the year 2009-10 were actually completed in the year 2010-11.

While noting that initiatives were being taken by APDCL to control distribution and commercial losses at different voltage levels, the members expressed the desire that these schemes should be effectively implemented.

The Commission informed the members that true-up of the tariff order with annual accounts of a company could be done only when the financial statements duly audited by the office of Principal Accountant General were made available and enquired on the status of Annual Account Statements of APDCL for FY 2010-11. APDCL informed the members that audit of Annual Accounts of the Company for FY 2010-11 were completed and the same can be made available to the Commission after approval of the Board of directors.

Representatives from NESSIA and AASSIA enquired if permission from the Commission was necessary while making power purchases and if there was any kind of restrictions on the price for power purchase. The CMD, APDCL clarified that usually power is purchased from the power exchanges at market driven prices and also through the process of tendering/ bidding in addition to the power allocated to Assam from the Central Sector Generating Stations located in the North East. The Commission while issuing the tariff and FPPPA orders, makes an assessment of these purchases through prudent checking as per the AERC Regulations and Government of India Guidelines in this matter.

Representative from AIMO requested the utilities that the officers in the consumer care centres/ sub-division level may be trained to explain the tariff documents whenever a consumer needs help to understand such documents. It was stated that usually when a consumer approached an officer with a problem on the tariff petitions, there was negative/ subdued response from the officer concerned.

The CMD, APDCL noted the suggestion of the member and explained that the officers in the sub-divisions were often preoccupied settling the issues which arise on a day-to-day basis. The Chairperson, AERC suggested that Deputy General Managers (DGMs) may be approached in this regard and APDCL may issue an order assigning the DGMs for public interactions of any kind and a day may be fixed in a month for such purpose according to the convenience of the officer concerned. The CMD, APDCL agreed to issue necessary direction to the concerned officers accordingly.

Action to be taken by: APDCL /AERC

(4) Agenda Item No. 4 : Standards of Performance achieved (both Overall and Guaranteed) for FY 2010-11 & 2011-12 including Reliability indices, billing/collection efficiency, etc.

The licensee prepared a presentation on the above subject but the presentation could not be made due to paucity of time. The licensee however, submitted a soft copy of the presentation to the Commission.

The Commission notes from the presentation that APDCL is making efforts to improve its billing and collection efficiency to that of national average in order to make the organisation economically viable. APDCL stated that it has achieved 75.33% & 75.87% billing efficiency and 96.38 % & 97.35 % collection efficiency during FY 2010-11 & FY 2011-12 respectively. It also stated that 27 Customer Care Centres have been established at the division level and 29 Consumer’s Service Centres have been functioning at the Sub-division level to take care of consumer complaints, revenue billing & collection etc. APDCL stated that Reliability Indices - CAIFI & CAIDI calculated for Fancy Bazar sub-division, Guwahati Electrical Circle -I (GEC-I) for the year 2011-12 are 166 & 136 respectively and for Kokrajhar Sub-division for FY 2010-11 are 323 & 638 respectively and efforts were being made to motivate the personnel at the field level through training etc. to improve system reliability. It was also stated that APDCL has taken initiative for payment of compensation on receipt of claim by the consumers after scrutiny and by adjustment of demand charges; however, no such claims are pending with the department as of now.

While appreciating the initiatives taken by the distribution licensee for improvement of service to its consumers, the Commission also notes that APDCL has not submitted the information on SOP as per the proforma prepared by the Commission for FY 2010-11 and FY 2011-12 till date despite several reminders for compliance. These information on SOP are required to be notified by the Commission as per section 59 (2) of the Electricity Act, 2003. The Commission had notified the information for FY 2009-10. APDCL is required to submit all required details to AERC for FY 2010-11 and FY 2011-12 latest by the end of March, 2013.

Action to be taken by: APDCL

(5) Agenda Item No. 5 : Discussion on Principles and Protocols of Load Shedding hours (PPLS) in the State of Assam

The EA, 2003 casts certain obligations on Distribution Licensees with regard to supply of electricity to their consumers, except in certain circumstances outside their control. However, it is inevitable that, when there is a shortage of available power vis-à-vis the requirement of consumers, load shedding would have to be undertaken in order to maintain the system frequency and to ensure its security.

The thrust of the EA, 2003 is on efficiency and economy of operations. Moreover, the immediate issue of concern is the equitable management and regulation of the load in a situation of shortage. In order to do so in a fair and equitable manner, the Commission believes that it is necessary to distinguish between areas with better performance, and undertake lesser load shedding in areas with lower Distribution losses and higher collection efficiency, all else being equal. This would be in keeping with the principle that, at a time of scarcity, areas where energy is not being efficiently utilized or paid for should rank lower in the rationing order.

During the course of the discussions, APDCL informed that area-wise Load shedding schedules are prepared based on 20% shortfall in power supply and notifications are given accordingly in newspapers for timely information to the consumers. It was informed that APDCL takes care to avoid load shedding in some of the priority sectors like Hospitals, Judiciary etc. as far as possible. Also, it was informed that load shedding is avoided by the licensee to the extent possible in high revenue yielding areas and in case of shortage; Guwahati city often gets preference over other areas.

The Commission suggested that the T&D losses and collection efficiency in different areas need to be taken into account while deciding the load shedding protocol. The Commission also noted that the supply-demand gap is not a short-term phenomenon, and will persist to a greater or lesser extent for a considerable further period of time. Moreover, the load shedding requirement is dynamic, and would vary from time to time depending on the system demand-supply gap, system frequency, season, time of day, etc. The Commission suggested that a Load Shedding Committee be constituted with the following representatives / members:

Sl. No.	Representatives from	Members
1	Commission	Secretary/ Joint Director (Tariff), AERC
2	SLDC	CGM, SLDC
3	APDCL	CGM, LAR, APDCL Convener for the meeting
4	Consumer Representative	1. President, Grahak Suraksha Sanstha 2. President, All Assam Small Scale Industries Association (AASSIA)

The Commission suggested that the Committee may prepare a report within the next one month on the principles and protocol proposed to be adopted for load shedding, the other alternatives that might also meet the tests of equity, fairness and reasonableness, and the likely impacts. This was agreed to by the esteemed members of the State Advisory Committee.

Thereafter, the report needs to be submitted to the Commission and it would be separately considered and addressed by the Commission. The Commission shall accord approval after examining the same in proper perspective.

Action to be taken by: APDCL /AERC

(6) Agenda Item No. 6 : Discussion on the issue of arrear dues to APDCL from Government Departments and installation of pre-paid meters in greater Guwahati both in Government buildings as well as residential flats and commercial buildings.

As per submission made by APDCL, outstanding dues from different consumers as on 31.03.2012 are as follows:

i) Outstanding against total Government consumers : **Rs 42.90 Cr.**

ii) Arrears on account of Power Subsidy to the Industry Department : **Rs 27.93 Cr.**

iii) Outstanding against different Municipal boards/ Town Committees : **Rs 2.57 Cr.**

iv) Outstanding dues of ATC Garden : **Rs 15.37 Crs.**

Hence, Total Outstanding as on 31.03.2012 : Rs 88.77 Cr

APDCL informed that they were planning to install prepaid meters in all Government buildings and 2624 meters have already been installed at the residential flats in greater Guwahati Area mainly under GEC-I of APDCL.
CMD, APDCL requested the Commission that it may consider giving discount of 2%-3% in tariff orders for consumers installing prepaid meters in order to encourage their use. The Commission noted the proposal of the member and requested the representatives from State Government to take appropriate initiatives with regard to installation of prepaid meters in the Government Departments as well as autonomous bodies.

The Chairperson, AERC drew a reference to a similar situation as was experienced by the state of Delhi which had predominantly more defaulting State Government consumers affecting the revenue realization of the utilities. To contain the situation, the Government of Delhi issued directives under their letter No. 11(168)/2005/Power/PF/1410 dated 11.06.2007 enumerating the following main points:

1. The Cabinet vide its decision No. 116 dated 21.09.2006 emphasized the timely settlement of power dues of Government departments to distribution companies.
2. All Government departments and autonomous bodies under the Govt. having single phase and three phase electricity load below 45 KW would need to switch over to the Pre-Paid Metering System.
3. For all Government department/autonomous bodies having load above 45 KW including high tension loads, Discoms would switch over to Automatic Meter Reading System.
4. Rebate of 2% shall be allowed as the payment is given in advance as approved by Delhi Electricity Regulatory Commission in line with CERC.

The Chairperson informed that after implementation of the above , things have changed remarkably in Delhi. It was informed that the current position was recently discussed with CEO of BSES; Rajdhani, the Reliance Distribution Utility and it was apprised that Pre-paid Metering recharging and related scheme of things have been very successfully implemented resulting in remarkable impact in performance of the distribution company.

The overall achievements as gathered are as under:

1. Utilities in Delhi are receiving 100% payment on a month to month basis from Government owned establishments in advance without the need for any follow-up or running around.
2. There are no arrears on Government connections, except some disputed/ challenged invoices etc.
3. There is a lot of awareness amongst the users in terms of the tariff, usage pattern etc. which is also leading to energy conservation.

The Chairperson, AERC submitted a copy of the letter of the Government of Delhi to the Commissioner & Secretary, Power Department, Government of Assam and requested that similar initiatives may be taken up by the State Government for overall improvement of the power sector in Assam. The Commissioner & Secretary expressed his gratitude for the document and assured that efforts would be made in this direction.

Action to be taken by: APDCL/ State Government/ AERC.

(7) <u>**Agenda Item No. 7:**</u> **Demand Side Management.**

Representatives from the distribution licensee in their power point presentation regarding DSM activities by the company highlighted the fact that a DSM cell has been constituted as per the directions of AERC in its Tariff Order for 2010-13. The DSM Cell would carry out load research, formulation of DSM Plans, design, development and implementation of DSM activities etc.

The members were informed that AERC also notified AERC (Demand Side Management) Regulations, 2012 on 31.03.2012.

APDCL in their presentation observed that by distributing 2 CFLs of 11 Watt for replacing 60 watt incandescent lamps to the existing domestic consumers, the Company would save upto 59% of peak lighting load energy. The licensee informed the members that keeping in mind the importance of DSM in the present scenario of widening demand-supply gap, it has embarked on a number of activities like distribution of CFL to BPL consumers, installation of 3 star rated transformers, Smart grid pilot project in Guwahati under RAPDRP, monitoring of High Value consumers through High Value Consumer Management System (HVCMS), use of pre-paid energy meters, consumer awareness campaign through advertisements etc.

It was also informed that APDCL, at the request of Rajiv Bhawan, Guwahati has allowed installation of a 2 KW LT Roof Top Solar PV at a net-metering arrangement which was commissioned on 02.10.2012. It was further informed that the plant is running successfully and contributing approximately 180 units per month to the grid and the consumer in return is getting a benefit of approximately Rs 900 /month. APDCL opined that the scheme may be popularized for mass acceptance by the consumers by offering capital subsidy and other benefits extended under NEIPP. Besides, it was informed that APDCL would implement the Bachat Lamp Yojana and the Malaysian firm M/s C .Quest Capital Malaysia Limited was selected for the project. It was also informed that the Electricity inspectorate prepared a draft report on DSM, which includes APDCL area with an estimated investment of Rs 300 Cr (approx).

The members expressed satisfaction at the initiatives taken by the Company. The Chairperson, AERC emphasized that although the DSM plans are to be organized by the utilities within enabling regulatory framework created by the State Commissions, a proactive support from the State Government concerned would be necessary for success of the DSM programmes. The following could be the key areas for intervention by the State Governments:

- The State Governments may consider financially supporting the DSM programmes aimed at such category of consumers which are receiving tariff subsidy from the State Governments. This would obviously be in the long-term interests of the state finances.
- The State Designated Agency (SDA) has a key role in implementation of the Energy Conservation Act and also in implementing various other schemes. The State Governments need to take steps to enhance effectiveness of the SDAs.
- The State Governments may also consider reduction in taxes on energy efficient appliances.

The Chairperson, AERC, further advised following DSM action plan for implementation by the utilities with the support of the Government of Assam.

1. Promotion of energy efficient appliances – (BEE star rated ACs, fridge and fans, CFL, T5 and LEDs in commercial sector, solar heater in commercial and residential sector).
2. Promotion of energy efficiency in new commercial buildings – (Energy Conservation Building Code - ECBC, Green Rating for Integrated Habitat Assessment - GRIHA under MNRE).

3. State-wide education and awareness campaign for energy conservation – (Kerala model - energy clinic programme, volunteer for energy programme, panchayat libraries).
4. Improvement in process and operational efficiency in the industrial sector – (Kerala mandated compulsory energy audit for all HT/EHT industries and commercial establishments. Further states like Maharashtra, Madhya Pradesh and Haryana have launched promotional schemes offering financial assistance for carrying out energy audits).
5. Public procurement of energy efficient appliances – (Haryana made the purchase of minimum 4-star rated fridge, ACs and FTLs and transformer mandatory for all Govt. departments/Corporations).
6. Feeder segregation – erection of separate HT and LT lines and rearrangements of power supply schedule of agricultural feeders.
7. Regulatory measures for promoting DSM – Maharashtra and West Bengal have introduced TOD tariff for LT industrial category. Delhi, Himachal and Uttarakhand have introduced KVAH billing for some of its consumer categories.

Action to be taken: APDCL/ State Government/AERC

(8) <u>Agenda Item No. 8: Compliance of Renewable Purchase Obligations (RPO) in Assam</u>

APDCL informed the members that RPO energy gap were to the tune of 19.06 MU, 154.69 MU and 243.50 MU for FY 2010-11, FY 2011-12 and FY 2012-13 respectively as the procurement of power from the NCE sources is not sufficient to meet the renewable obligation. This has resulted in requirement of Rs. 6.67 Cr., Rs. 54.14 Cr. and Rs. 85.23 Cr. for the FY 2010-11, FY 2011-12 and FY 2012-13 respectively by the licensee considering equilibrium price of Rs. 3500 /MWh to meet up the RPO by purchasing Renewable Energy Certificates.

APDCL informed that it has already approached the Commission for approval of recovery of this amount of Rs. 146.00 Cr through tariff. Chairperson AERC informed that the matter is being carefully examined by the Commission.

The Commission informed the members that none of the obligated entities has purchased Renewable Energy Certificates (REC) in compliance with RPO obligations so far. Some of these organizations are having co-generation in their captive power plants and are have claimed exemption from RPO as per Order of Hon'ble APTEL in Appeal No. 57 of 2009. The Uttar Pradesh Electricity regulatory Commission has given an order on 04.11.2011 in the matter of inclusion of co-generating plant using fossil fuels in Renewable Energy Sources. Consequent to the above, the Ministry of Power (M.O.P.), GOI has recently constituted a high level committee to accelerate development of Renewable Energy through legislative and policy changes. The terms of reference of the Committee inter-alia includes the legislative changes i.e. to clarify the intent of section 86(1)(e) of the Electricity Act, 2003 regarding the definition of the word Co-generation in section 2(12) which does not distinguish between co-generation based on fossil and non-fossil fuels. The Commission is waiting for the guidelines of MOP (GOI) based on the Committee report.

The Commission informed that a meeting on compliance of Renewable Purchase

Obligation (RPO) by the obligated entities in the state of Assam was held with the Assam Energy Development Agency (AEDA) at the office premises of the Commission on 13.09.2012. AEDA is functioning as the State Agency for undertaking the functions under the above AERC (Renewable Purchase Obligations and its Compliance) Regulations 2010. As per RPO report submitted by AEDA, the State Nodal Agency vide letter dated 24.09.2012, the total installed capacity of CPPs (15 nos.) in Assam is 350 MW (approx.) and so far there is no compliance of RPO by these CPPs.

Action to be taken by: APDCL/ AERC

Agenda Item No. 9: Any Other matter

On perusal of the metering status submitted by the Distribution Licensee, the Commission noted that defective meters in different zones of the licensee were not replaced by static meters and as such, the revenue leakage would continue to remain unabated, thus, impeding the licensee from attaining the roadmap of 15% distribution loss as recommended by the Abraham Committee. The Commission brought the following measures to the notice of the distribution licensee for immediate implementation:

i) Installation of Intelligent Tri Vector Meter, TVM (fully static) for high value consumers.

ii) MRI downloading parameters are to be analysed on monthly basis followed by raids/ inspections, whenever wide deviations are noted.

iii) All consumer meters are to be read through MRI with a view to avoiding human element in meter reading of consumers. MRI readings are required to be injected to the computer for generation of electricity bills of the consumers.

iv) As directed in the AERC Tariff Order for FY 2010-13, palm held computers are required to be used for all consumers in the state for spot billing for arresting the commercial losses to a reasonable extent. The power utilities in Andhra Pradesh have been resorting to this practice and have been able to contain their distribution losses within the range of 10%-12%.

Further, the Commission opined that if the directives 8, 10, 11, 12, 13 and 14 of the tariff Order 2010-13 are complied with along with the above mentioned measures, the distribution losses could definitely be controlled to the desired level.

Action to be taken by: APDCL

No other matter was discussed and the meeting ended with a vote of thanks offered from the Secretary, AERC to everyone present in the meeting.

(J. Barkakati)
Chairperson,
Assam Electricity Regulatory Commission

Annexure -A
List of Persons attending the 16th Meeting of the State Advisory Committee held on 19th December, 2012

(1) **Shri J. Barkakati,** Chairperson, AERC

(2) **Dr. R. K. Gogoi**, Member, AERC

(3) **Shri T. Chatterjee,** Member, AERC

(4) **Shri S. C. Das, IAS,** Chairman, ASEB & CMD, APDCL.

(5) **Shri Vijayendra, IAS,** MD, APGCL

(6) **Shri G. Das,** MD, AEGCL

(7) **Shri A. Goel, IAS,** Commissioner & Secretary, Power Deptt., Govt. of Assam

(8) **Ms. U. Saikia, ACS**, Deputy Secretary, Power Deptt, Government of Assam.

(9) **Ms. K. V. Padmanabhan, IAS,** Commissioner, GMC**.**

(10) **Shri S. Thakuria,** Secretary, P&RD Deptt., Government of Assam.

(11) **Shri S. Rahman,** Jt. Secretary, Food & Civil Supplies Deptt., Government of Assam.

(12) **Shri D. K. Baruah,** Secretary, Deptt. of Agriculture, Government of Assam.

(13) **Shri B. P. Bakshi,** Chairman, AIMO (Assam State Board), Tinsukia, Assam.

(14) **Dr. P. K. Bordoloi,** Professor & HoD, Deptt. of AEI, GIMT, Guwahati-17.

(15) **Shri S. K. Agarwal,** Director, FINER, Guwahati.

(16) **Shri P. K. Baruah,** APPL, C/o ABITA, Guwahati.

(17) **Shri A. K. Baruah,** President, All Assam Small Scale Industries Association.

(18) **Shri G. C. Baishya,** President, Grahak Suraksha Sanstha

(19) **Shri K. C. Medhi,** State Secretary, North Eastern Small Scale Industries Association.

Officers of AERC present :

(1) **Shri M. J. Baruah,** ACS, Secretary, AERC.

(2) **Shri D. K. Sharma,** Joint Director (Tariff), AERC

(3) **Shri T. Mahanta,** Deputy Director (Engg.), AERC

(4) **Shri A. Purkayastha,** Deputy Director (Finance), AERC

Consultants of AERC present :

(1) **Shri A. K. Borthakur,** Senior Consultant, AERC

(2) **Shri P. C. Sarma,** Consultant (Regulations), AERC

(3) **Ms. P. Sharma,** Consultant (Finance, Database and Consumer Advocacy), AERC

(4) **Shri N. K. Deka,** Consultant (Technical), AERC