Before the

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION

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Case No. 25 of 2005 and 53 of 2005

In the matter of

Annual Revenue Requirement (ARR) Petition of REL for FY 2005-06 and ARR & Tariff Petition for FY 2006-07

Dr Pramod Deo, Chairman

Shri A. Velayutham, Member

Shri S.B.Kulkarni, Member

ORDER

Dated: October 3, 2006

Reliance Energy Limited (REL) filed its ARR Petition for FY 2005-06 on March 1, 2005, based on the draft Tariff Regulations. The Commission notified the MERC (Terms and Conditions of Tariff) Regulations, 2005 on August 23, 2005. In compliance with the Commission's directions issued vide its letter dated October 10, 2005, REL submitted its revised ARR Petition for FY 2005-06 providing the break up of ARR of Generation, Transmission and Distribution Function on November 22, 2005.

Subsequently, REL submitted its ARR and Tariff Petition for FY 2006-07 on February 24, 2006. After two Technical Validations sessions, the Commission vide its letter May 3, 2006 directed REL to submit its revised ARR and Tariff Petition for FY 2006-07 including a separate section on truing up of ARR for FY 2005-06. REL submitted its revised ARR and Tariff Petition for FY 2006-07 on May 10, 2006.

The Commission admitted the ARR Petition of REL for FY 2005-06 (Case No. 25 of 2005) and and ARR and Tariff Petition of REL for FY 2006-07 (Case No. 53 of 2005) on May 18, 2006.

The Commission, in exercise of the power vested in it under Section 61 and 62 of the Electricity Act, 2003, and all other powers enabling it in this behalf, and after taking into consideration all the submissions made by REL, all the objections, responses of REL, issues raised during the Public Hearing, and all other relevant material, issues this Order on the ARR Petition of REL for FY 2005-06 and ARR and Tariff Petition of REL for FY 2006-07.

ORGANISATION OF THE ORDER

This Order is broadly divided into six Sections.

The **first Section** consists of a background and brief history of the ARR and Tariff determination process and the subsequent quasi-judicial process that it underwent. It also contains the sequence of events. The salient features of the Order issued by the Appellate Tribunal for Electricity (ATE) on the distribution license of The Tata Power Company Ltd. (TPC) and its impact on the Commission's Order on REL's distribution business are also detailed in this Section. For the sake of convenience, a list of abbreviations with their expanded forms is appended at the end of this Section.

The **second Section** of the Order details the various objections raised by the objectors in writing as well as during the Public Hearing before the Commission. The objections have been broadly categorized into 18 issues. The various objections have been summarized, followed by the response of REL and the ruling of the Commission on each of the points.

The **third Section** of the Order comprises the Commission's analysis and its decisions on the truing up of each component of REL's revenue and expenditure during FY 2004-05 and FY 2005-06.

The **fourth Section** of the Order comprises the Commission's analysis and its decisions on REL's ARR for FY 2006-07, for its Generation Business. This Section comprises the various cost estimates of REL-Generation for FY 2006-07, and the Commission's reasoning for arriving at acceptable figures with reference to the figures given by REL.

The **fifth Section** of the Order comprises the Commission's analysis and its decisions on REL's Tariff for FY 2006-07 for its Generation Business.

The **sixth Section** of the Order comprises the Commission's analysis and its decisions on REL's ARR for FY 2006-07 for its Transmission Business. This Section comprises the various cost estimates for FY 2006-07 of REL-Transmission, and the Commission's reasoning for arriving at acceptable figures with reference to the figures given by REL.

The **seventh Section** of the Order comprises the Commission's analysis and its decisions on REL's ARR for FY 2006-07 for its Distribution Business. This Section comprises the various cost estimates for FY 2006-07 of REL-Distribution, and the Commission's reasoning for arriving at acceptable figures with reference to the figures given by REL.

The **eighth Section** of the Order elaborates the tariff philosophy adopted by the Commission for determining the retail tariff, as well as the Wheeling Charges and the Cross-subsidy Surcharge.

List of Abbreviations

APDRP	Accelerated Power Development and Reform Programme
A&G	Administrative and General
AMR	Automated Meter Reading
ARR	Annual Revenue Requirement
AS	Accounting Standard
ATE	Appellate Tribunal for Electricity
Aux. Cons.	Auxiliary Consumption
BEL	Balan Electricals Limited
BEST	BrihanMumbai Electric Supply and Transport Undertaking
BHEL	Bharat Heavy Electricals limited
BMC	Brihanmumbai Municipal Corporation
BSES	BSES Limited now known as Reliance Energy Limited
BSSIA	Bombay Small Scale Industries Association
BST	Bulk Supply Tariff
CAGR	Compounded Annual Growth Rate
CB	Capital Base
CEA	Central Electricity Authority
CESC	Calcutta Electric Supply Company
CIF	Cost, Insurance and Freight
Commission/ MERC	Maharashtra Electricity Regulatory Commission
CP	Clear Profit
CPI	Consumer Price Index
CPP	Captive Power Plant
Cr	Crore
CV	Calorific Value
Capex	Capital Expenditure
DA	Dearness Allowance
DG	Diesel Generator
DISCOMs	Distribution Companies
DMS	Distribution Management System
DRR	Debenture Redemption Reserve
DPR	Detailed Project Report
DTLF	Deferred Taxation Liability Fund
DTPS	Dahanu Thermal Power Station
EA 2003	Electricity Act, 2003

ECA	Electrical Consumers Association
ECAM	Electrical Contractors Association of Maharashtra
ECCA	Electrical Contractors and Consumers Association
ECS	Electronic Clearance System
EDP	Electronic Data Processing
ERC Act	Electricity regulatory Commissions Act, 1998
ES Act/ESA	Electricity Supply Act, 1948
FAC	Fuel Adjustment Cost
FGD	Flue Gas Desulphurisation
FO	Fuel Oil
FOCA	Fuel and Other Cost Adjustment
FY	Financial Year
GIS	Geographic Information System
Gkcal	Giga kilo calories
GFA	Gross Fixed Assets
GOM	Government of Maharashtra
GPA	General Practitioners Association
HFO	Heavy Furnace Oil
HSD	High Speed Diesel
HT	High Tension
IBRD	International Bank for Reconstruction and Development
IDC	Interest Cost During Construction
I.E Act	Indian Electricity Act, 1910
IT	Income tax
JHPL	Juniper Hotels Private Limited
kg	Kilogram
kcal	Kilo calories
kl	Kilo Litres
kV	Kilo Volt
kVA	Kilo-Volt Amperes
kW	Kilo Watt
LDO	Light Diesel Oil
LNG	Liquefied Natural gas
LSHS	Low Sulphur Heavy Stock
LSWR	Low Sulphur Waste Residue
LT	Low Tension

MCM	Million Cubic Meters
MD	Maximum Demand
MEDA	Maharashtra Energy Development Agency
MGP	Mumbai Grahak Panchayat
Mkcal	Million Kilo Calories
ml	Millimetre
MOD	Merit Order Dispatch
MoEF	Ministry of Environment and Forests
MMRDA	Mumbai Metropolitan Regional Development Authority
MOP	Ministry of Power, Government of India
MPCB	Maharashtra Pollution Control Board
MPECS	Mula Pravara Electric Cooperative Society
MSEB	Maharashtra State Electricity Board
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSETCL	Maharashtra State Electricity Transmission Company Limited
MT	Metric Tonnes
MU	Million units
MVA	1000KVA
MW	Mega Watt
MYT	Multi Year Tariff
NFA	Net Fixed Assets
NG	Natural Gas
NTPC	National Thermal Power Corporation Limited
O&M	Operation and Maintenance
OMS	Outage Management System
P&L	Profit and Loss
PBT	Profit Before Tax
PC	Pulverized Coal
PF	Power Factor
PFC	Power Finance Corporation
PGCIL	Power Grid Corporation of India Ltd.
PLF	Plant Load factor
PLR	Prime Lending Rate
POA	Principles of Agreement signed between TPC and BSES on January 31, 1998
PPA	Power Purchase Agreement

R&A	Reserve and Appropriations
R&M	Repair and Maintenance
REL	Reliance Energy Limited
R-LNG	Regassified LNG
RMU	Ring Main Unit
ROCE	Return on Capital Employed
RR	Reasonable Return
Rs.	Indian Rupees
RPI	Retail Price Index
RPO	Renewable Purchase Obligation
SBI	State Bank of India
SCADA	Supervisory Control and Data Acquisition System
SKO	Superior Kerosene Oil
SOx	Sulphur Oxides
T&D	Transmission and Distribution
TDCR	Tariff and Dividend Control Reserve
TOD	Time of Day
TOSE	Tax on Sale of Electricity
TPC	Tata Power Company Limited
TPS	Thermal Power Station
Unit	One kWh of Electricity
US$	US Dollars
VRS	Voluntary Retirement Scheme

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1 BACKGROUND AND BRIEF HISTORY

Reliance Energy Limited (REL) (formerly known as BSES Limited) is a vertically integrated Utility engaged in the generation, transmission and distribution business. The Company was established in 1929. BSES was granted a license by the Government of Maharashtra for the supply of energy to the public in its Mumbai License Area, vide the "Bombay Suburban Electric License, 1926".

1.1 COMMISSION'S ORDER ON ARR AND TARIFF PETITION FOR FY 2004-05

REL (formerly BSES Limited) had submitted a "Proposal for the Approval of the Annual Revenue Requirement for FY 2003-04" (ARR and Tariff Petition for FY 2003-04) on September 8, 2003, under affidavit to the Commission. BSES submitted the ARR and Tariff Petition for FY 2004-05 on affidavit, on January 27, 2004. The Commission admitted the ARR and Tariff Petitions for FY 2003-04 and FY 2004-05 on January 28, 2004.The Commission, after taking into consideration all the objections received in writing, issues raised during the Public Hearing, and all other relevant material, issued the Operative part of the Order on June 18, 2004 and the detailed Order on July 1, 2004. Subsequently, REL filed a Review Petition on certain aspects of the Commission's Order on August 4, 2004, and submitted an additional Petition on August 24, 2004, detailing the grounds on which review had been sought. The Commission issued its Order on the Review Petition on December 14, 2004.

1.2 ARR PETITION FOR FY 2005-06

M/s Reliance Energy Ltd. (REL) submitted their 'Proposal for approval of Annual Revenue Requirement and Tariff Petition for FY 2005-06, under affidavit to the Commission, on 1st March, 2005, based on the draft Tariff Regulations of the Commission.

The Commission vide its letter dated 22nd June 2005 directed REL to resubmit the ARR by segregating the ARR of Generation, Transmission and Distribution functions. Accordingly REL submitted the revised ARR Petition for FY 2005-06 segregating the ARR in respect of Generation, Transmission and Distribution function along with the financial model, under affidavit to the Commission, on July 19, 2005.

The Commission in exercise of the powers conferred by the Electricity Act, 2003, notified the Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005, on 26th August, 2005. These Regulations superseded the previous MERC (Terms and Conditions of Tariff) Regulations, 2004.

The Commission vide its letter dated 10th October, 2005 directed REL to resubmit the ARR for FY 2005-06 based on the principles stipulated in the aforesaid Regulations, alongwith certain data gaps and information requirements, to the Commission. Further, vide letter dated

20th October, 2005, the Commission directed REL to submit the ARR and Tariff Proposal for FY 2005-06 in the Formats forwarded by the Commission to the extent possible.

Accordingly, REL resubmitted their revised 'Proposal for Approval of Annual Revenue Requirement and Tariff Petition for FY 2005-06', along with the Financial Model, under affidavit to the Commission, on November 22, 2005.

1.3 MULTI YEAR TARIFF FRAMEWORK

Regulation. 12.1 under Part C of the Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005 notified on 26th August 2005 stipulates that the Commission shall determine the tariff for following matters under a multi-year tariff framework with effect from 1st April 2006:

28. Supply of Electricity by a Generating Company to a Distribution Licensee
29. Intra-State transmission of electricity
30. Wheeling of electricity
31. Retail sale of electricity

Regulation No. 14.1 under Part C of Terms and Conditions of Tariff Regulations states that *"The applicant shall submit a forecast of his aggregate revenue requirement and expected revenue from tariff and charges for the approval of the Commission for each financial year within a control period of five (5) financial years. Provided that for the first application made to the Commission under this Part, the control period shall be three (3) financial years i.e. April 1, 2006 to March 31, 2009."*

In line with the Tariff Regulations, the Commission vide its letters dated 14th November 2005 directed the following Utilities to submit the first Application for determination of multi year tariff for the first control period of 3 financial years, i.e., FY 2006-07, FY 2007-08 and FY 2008-09, by 30th November 2005:

a) The Tata Power Company Limited (TPC)
b) Reliance Energy Limited (REL)
c) BEST Undertaking (BEST)
d) Maharashtra State Electricity Transmission Company Limited (MSETCL)
e) Maharashtra State Electricity Distribution Company Limited (MSEDCL)
f) The Mula Pravara Electric Co-operative Society Ltd. (MPECS)

Further, the Commission, vide its letter dated 21st November 2005, forwarded the "Draft MYT Data Formats" to the Utilities and advised the Utilities to provide the data in the draft formats. In response to the Commission's letters, all the Utilities requested the Commission to extend the time for submission of the first MYT application.

The Commission, considering the requests made by the Utilities, vide its Order dated December 20, 2005 in the matter of Applicability of Multi Year Tariff Framework under Regulation 12 of Part C of the Maharashtra Electricity Regulatory Commission (Terms and

Conditions of Tariff) Regulations, 2005 granted exemption to all the Utilities in Maharashtra from implementation of MYT framework for FY 2006-07. The Commission, in its Order, stated that the Commission would determine the tariff under a multi year tariff framework with effect from April 1, 2007 instead of April 1, 2006 as stipulated in MERC (Terms and Conditions of Tariff) Regulations, 2005 and accordingly, the first control period for first MYT framework shall be the three financial years from April 1, 2007 to March 31, 2010. At the same time, the Commission directed the Utilities to submit the ARR and Tariff Petition for FY 2006-07 by December 31, 2005.

1.4 ARR AND TARIFF PETITION FOR FY 2006-07

REL submitted its ARR and Tariff Petition on February 24, 2006. The Commission vide its letter dated March 22, 2006 forwarded the data gaps and information required to REL and subsequently REL submitted its replies on the queries raised and the additional information sought by the Commission.

The Commission held a Technical Validation Session on ARR and Tariff Petition for FY 2005-06 and FY 2006-07 of REL, on April 5, 2006. During the session, the consumer representatives, i.e., Prayas and Mumbai Grahak Panchayat (MGP), contended that they had received the copy of ARR Petition on 31st March, and hence, due to lack of time, they were unable to assess the data gaps in the Petition. They requested the Commission to reschedule the Technical Validation Session. The Commission held a second Technical Validation Session on the ARR and Tariff Petition for FY 2005-06 and FY 2006-07 of REL on April 17, 2006. The list of individuals, who have participated in the Technical Validations Sessions, is provided in Appendix 1.

Subsequent to the first technical validation section, the Commission issued the Order on April 13, 2006 in the matter of applicability of MERC (Terms and Conditions of Tariff) Regulations, 2005. The Commission in its Order stipulated that *"the norms for approval of ARR and principles for determination of tariff as enunciated in the latest Tariff Orders of each licensee shall form the basis for approval of the Annual Revenue Requirement of licensees/Utility for FY 2005-06 and the determination of ARR and Tariff for FY 2006-07 will be governed by the Tariff Regulations"*.

The Commission on April 25, 2006 and May 3, 2006 asked REL to provide additional information and clarifications on issues raised during the Technical Validation Session and directed REL to submit the revised Annual Revenue Requirement and Tariff petition for FY 2006-07 after incorporating the additional information required and including one separate section on truing up of ARR for FY 2005-06. REL was also directed to submit the Public Notice in English and Marathi in the format prescribed by the Commission.

1.5 Admission of Petitions And Public Process

REL submitted the ARR and Tariff Petition for FY 2006-07 with a separate section on truing up of ARR for FY 2005-06 on May 10, 2006. The Commission admitted the ARR and Tariff Petitions of REL on May 18, 2006. In accordance with Section 64 of the EA 2003, the Commission directed REL to publish its application in the prescribed abridged form and manner, to ensure public participation. The Commission also directed REL to reply expeditiously to all the suggestions and comments from stakeholders on the ARR and Tariff Petitions. REL issued the public notices in newspapers inviting comments/suggestions from stakeholders on its ARR and Tariff Petitions. The Public Notice was published in the The Times of India, Indian Express and Lok Satta newpapers.

The copies of REL's Petitions and its summary were made available for inspection/purchase to members of the public at REL's offices and on REL's website (www.rel.co.in) and on the web site of the Commission (www.mercindia.org.in) in downloadable format. The last date for filing written objections was fixed as 9th June, 2006. The Public Notice specified that the suggestions/objections, either in English or Marathi, may be filed in the form of affidavits along with proof of service on REL. The Public Notice also informed the consumers about the date and venue of the Public Hearing, i.e., 12th June, 2006 at 11:00 hours at Centrum Hall, World Trade Centre No.1, Cuffe Parade, Mumbai-400005.

The Commission received written objections expressing concern on high fuel cost, shipping and coal handling costs, and a host of other issues. The Commission received objections/comments from a total of 7 objectors. Those objectors who responded that they would like to be heard in person, were invited for the Public Hearing at Mumbai. The Public Hearing was conducted in Mumbai on June 12, 2006.The list of individuals, who participated in the Public Hearing is provided in the Appendix 2. The category-wise number of consumers/institutions who submitted their objections on REL's ARR and Tariff Petitions for FY 2005-06 and FY 2006-07 has been provided in the Table below:

Summary of Objections

Interest group	**Objections**
Consumer representative	2
Industry association	1
Individuals	4
Total	**7**

Based on various objections received, the Commission directed REL to submit data gaps identified by the Commission and as agreed during the Public Hearing. REL submitted the data and responses to the objections raised on the ARR and Tariff Petition, vide its letters dated 6th June, 10th June and 19th June, 2006.

The Commission has ensured that the due process, contemplated under law to ensure transparency and public participation has been followed at every stage meticulously and adequate opportunity was given to all the persons concerned to file their say in the matter. Based on the Commission's analysis, additional data was sought from REL by the Commission from time to time, which was submitted by REL.

1.6 ORDER OF ATE ON TPC'S LICENSE TO SELL TO RETAIL CONSUMERS

The Honourable Appellate Tribunal for Electricity (ATE) has issued an Order in Appeal No. 31 of 2005 and 43 of 2005, dated May 22, 2006, in the context of the Appeal filed by REL against the Commission's Order in Case No. 14 of 2002 dated July 3, 2003 and the Appeal filed by TPC against certain selected portions of the same Order.

In its Order, the ATE has ruled that,

> *"…we hold that Tata Power has not been granted license to undertake retail distribution of electricity in the area within which REL has been distributing power in retail to customers directly… The order and findings recorded by the Regulatory Commission are set aside.*
>
> *It is clear that Tata Power has licenses only to undertake bulk supply to licensees like REL as contended by REL."*

The Mumbai license area is peculiar in that it has several distribution licensees, and concepts such as the 'standby arrangement', and power purchase by one licensee for another. In the absence of TPC's distribution business, the charges payable for the standby arrangement as well as the actual functioning of the standby arrangement has to be re-allocated in some proportion to the other two licensees, viz. REL and BEST. Further, if TPC is no longer a distribution license, then it can no longer undertake the trading function, viz, buying power for selling power to other distribution licensees, for which either a trading license is required or the Licensee has to be a distribution licensee having a deemed trading license. As a consequence, two major input cost elements of REL's distribution business, i.e., share of standby charges and the power purchase cost, cannot be decided. Thus, the implication of the ATE Order is that the Commission cannot issue its Order on the ARR and tariff of the distribution and supply business of REL.

TPC approached the Honourable Supreme Court of India in appeal against the Order of the ATE. In the meantime, the Commission initiated the process of appointing an administrator to undertake the job of overseeing the supply of electricity to those consumers who were being supplied by TPC's distribution business.

The Honourable Supreme Court of India granted interim relief to TPC by staying the ATE Order, through the following judgement issued on August 28, 2006:

> *"Having regard to the fact that the issues involved may affect a large number of consumers, we consider it appropriate to dispose of the matter as early as possible. Let the application for interim relief be listed for further hearing on November 7, 2006. We have informed the parties that if possible, we may dispose of the matter finally on that day.*
>
> *In the meantime, so far as old consumers are concerned, to whom the supply is made by the appellant, they shall not be disturbed and the appellant shall continue the supply in their cases. Additionally those applicants who have applied to the appellant for electricity connection of 1000 KVA or more may be supplied electrical energy by the appellant. This however, is confined to the applicants whose names have been included in the list attached to the application for interim relief.*
>
> *The appellant however, will not be entitled to supply electrical energy to any consumer who is already getting his supply from Respondent No.1.*
>
> *The above interim order is subject to the final result of the application for interim relief/appeal.*
>
> *We further direct that the Maharashtra Electricity Regulatory Commission will not proceed with the notice dated August 16, 2006 which is annexed as Annexure A to the further affidavit filed on behalf of the appellants in support of the I.A. for interim relief."*

Accordingly, the Commission is issuing the Order for the Distribution business of REL also, as a part of this Order.

2 OBJECTIONS RECEIVED, REL'S RESPONSE AND COMMISSION'S RULING

2.1 ACTUAL PERFORMANCE V/S NORMS

Mumbai Grahak Panchayat (MGP) submitted during the public hearing that the auxiliary consumption has been projected to increase from 7.59% in FY 2005-06 to 8.5% in FY 2006-07, which results in a loss of 37 MU. Though the auxiliary consumption is still within the norms stipulated by the Commission in the Tariff Regulations, the MGP urged the Commission to take into consideration the historical performance, which shows that the Auxiliary Consumption and Heat Rate have been better than the norms.

REL 's Response

REL in its response reiterated its position that the computation of rate of energy charge with 8.5% auxiliary consumption is as per the norms specified by the MERC (Terms & Conditions of Tariff) Regulations, 2005.

Commission's Ruling

The Commission agrees with the view that historical performance should be taken into account, while determining performance norms. However, the Commission is of the opinion that if only the historical performance is considered in toto, then there will be no room to motivate the Utility to improve, as REL's historical performance has been better than the norms stipulated in the Regulations. Also, Regulation 26.2 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, stipulates *"Provided further that in case of an existing generation station, the Commission shall determine the tariffs having regard to the historical performance of such generating station and reasonable opportunities for improvement in performance, if any"*. Hence, the Commission has considered revised operational norms for REL, keeping in view the past performance, while at the same time retaining some incentive for the Utility to encourage for sustained efficient operation. The Commission has also elaborated the mechanism of sharing the benefits of improved performance for controllable factors, between the consumers and the Utility, in the Section on Analysis of ARR.

2.2 CAPITAL EXPENDITURE

Mumbai Grahak Panchayat (MGP) submitted during the public hearing that REL has projected only a 5% increase in the sales for FY 2006-07 over the actual sales in FY 2005-06, though there is 86% increase in the capital investment proposed during the same period. MGP objected to the steep increase in Capital Expenditure stating that it is disproportionate and not in accordance with the projected increase in sales. MGP also highlighted that the Capital Expenditure in Generation has been projected to increase to Rs 185 crore in FY 2006-07, from a level of Rs 14 Crore in FY 2005-06. MGP urged the Commission to allow the capital expenditure only after a careful scrutiny.

Prayas, in its submission, stated that under the 'Cost-plus' regime, the utilities tend to over invest and maximize their profits, which are linked to capital expenditure. So to maintain overall economy, minimize cost and protect public interest, proper control on investment should be adopted so as to regulate the utilities under the 'cost plus' regulation. Prayas highlighted that for FY 2006-07, REL has proposed capital expenditure of Rs. 877 crore, and REL has already invested Rs 384 crore during FY 2005-06, i.e., REL is adding assets worth Rs 1261 crore in two years.

Prayas submitted that REL has justified the expenditure required on three major grounds, i.e., improvement in system reliability, reduction in system losses and system flexibility to meet load growth. However, REL has not quantified any of the above benefits except reduction in losses and even here, REL has proposed only a marginal reduction of 0.1% in the Distribution loss of 12.1% in FY 2006-07. Prayas highlighted in their submission that the REL's Capital Expenditure shows a disproportionately sharp growth as compared to the growth in the total energy input in MU, and urged the Commission to critically evaluate the REL's projections of demand growth and required capex.

Prayas also submitted that REL has described the investment schemes individually, but has not mentioned the preliminary quantification of benefits of the schemes. Moreover, REL has not provided details of schemes that were initiated in previous years and have spilled over to FY 2006-07, and schemes that have been newly proposed in FY 2006-07. Prayas requested the Commission to perform a detailed Cost Benefit Analysis of individual schemes and approve the schemes only if they stand the tests of prudence and usefulness. Prayas requested the Commission to direct REL to submit a 3-year rolling plan along with DPRs of all schemes above Rs 10 crore.

Prayas submitted that considering the nature of capital investment plans and difficulty in assessing individual schemes, the Commission should approve only critical schemes. Prayas requested the Commission to scrutinize the capital expenditure already incurred by REL in detail and validate the said schemes to assess whether they have been completed within the scope and other parameters mentioned in the in-principle approval of the Commission and whether the stated benefits have been realized. Prayas urged the Commission that until and unless such validation is done, cost relating to capital expenditure incurred after the Tariff Order for FY 2004-05 should not be passed on to the consumers.

<u>Proposed Capital Expenditure Schemes:</u>

- *Receiving Stations*

  Prayas submitted that REL has proposed Rs 122 crore investment for building receiving stations, which is very high compared to the average investment of Rs 23 crore in the last five years. REL has claimed that maximum demand in the next 5 years is going to increase at a CAGR of 5%. But from the data provided by REL on 'Actual maximum demand on REL system' for the last 5 years, a CAGR of 2.1% is observed. Hence, Prayas requested the Commission to limit investment on receiving stations and other network related assets based on realistic growth estimates and rational system flexibility considerations.

- *Meters and Instruments*

  Prayas submitted that REL has proposed a total expenditure of Rs 169 crore in two years for procurement of meters and instruments, while the Commission had approved only Rs 74 crore, according to the in-principle clearance for the Metering and Instruments Capex dated 10th November 2005. Prayas stated that REL should be directed to submit details of the meters procured for every tariff category as under:

  i) Number and cost of meters procured for new connections

  ii) Number and cost of procured meters for replacement of old meters

- *Service lines*

  Prayas highlighted that REL intends to invest Rs 68 Cr in laying service lines for giving new connection to LT consumers while MERC Regulations allow a licensee to recover the costs of laying service lines from distribution mains to the consumer's premises. Prayas submitted that REL should confirm whether it recovers the service line charges from the new consumers and give a detailed explanation regarding the requirement for such a huge capital investment, under this head.

§ *11 KV and LT cables*

  Prayas submitted that REL has planned to invest Rs 144 crore in 11kV and LT cables in FY 2005-06 and FY 2006-07. If normative costs are considered, capital investment proposed by REL amounts to about 5000 circuit km of 11 KV line and about 2000 circuit km of LT mains in just two years. Hence, Prayas requested the Commission to direct REL to submit the asset details so as to facilitate evaluation of the proposed capital investment.

- *Distribution Transformers*

  Prayas questioned the requirement of additional 8000 nos. of new Distribution Transformers in the license area in two years, i.e., FY 2005-06 and FY 2006-07

- *Mobile DG sets and distribution transformers*

  REL has already made provisions for mobile DG sets, substations, etc. under the Disaster Management Plan for Mumbai.. Prayas submitted that the same DG sets can be used for improving supply reliability during normal operations and no further investment is required.

Hence, Prayas requested the Commission to critically evaluate and monitor the capital investments, which should be approved only if they pass the tests of prudence and usefulness.

<u>REL's Response</u>

REL responded that as stated by Prayas, the capex in earlier periods has been rather low, which requires higher level of capital investment to be made now to bring the services to an efficient mode. In an endeavour to provide efficient and reliable service to the consumer, and keeping in mind the change in technologies over a period of time, REL has proposed various schemes of capital expenditure. REL has already submitted the DPRs and justification for the need of capex, separately to the Commission.

<u>Commission's Ruling</u>

The Commission has studied the capital expenditure projected by REL, to analyse the relevance and need for the capex, the past trend in capex, the actual capitalization in the past, consistency of the capex projected under the ARR Petition with the scheme-wise details submitted to the Commission earlier for in-principle approval, the Cost Benefit Analysis, and the impact on tariff. The results of the analysis of the capex has been discussed in the Section on Analysis of ARR, under interest expenditure.

2.3 EMPLOYEE EXPENDITURE

MGP objected to the projected increase in the employee expenditure from Rs 201 crore to Rs 285 crore, which amounts to a 37.5% increase in one year, stating that it is not within prudential norms. Prayas submitted during the public hearing that the employee expenses of REL in FY 2004-05 were 50% higher than that approved by the Commission. Prayas requested the Commission to direct REL to provide a detailed explanation for the increase of 50% in the employee expenses over the Commission's approved expenditure in FY 2004-05. Prayas added that REL has proposed a 30% salary increase in FY 2006-07. Prayas urged the Commission to benchmark employee productivity in Rs/kWh, which may be increased by a suitable index like CPI/RPI. Prayas requested the Commission to adopt a rational approach for determining employee expenses and corresponding increase in FY 2006-07 and scrutinize the actual employee expenses in FY 2004-05 and FY 2005-06.

<u>REL's Response:</u>

REL responded by referring to its earlier review petition wherein the error in calculating the REL employee cost for FY 2004-05 was brought to the notice of the Commission. While determining the employee cost, the Commission had deducted Rs 62 Cr as arrears on account of wage revision for FY 2002-03 against the amount of Rs 30 Cr considered in the ARR. The Commission had clarified in the review order that the employee cost was considered after deducting Rs 30 Cr on account of wage reduction of employees opting for VRS. Since the VRS could not be implemented on account of the matter pending before the Industrial Court, the actual expenditure was much more than what was approved in the Tariff Order. However, in the review order, the Commission stated that *"in the next tariff determination exercise, actual expenditure on employees will be known for past years. These variations will be dealt with by truing up."* Hence, the actual employee cost should be considered in the truing up exercise.

Based on the Actuarial Valuation report, the extra provision on account of higher valuation of gratuity, super-annuation, pension fund and leave encashment are the reasons for further increase in the employee cost in FY 2004-05 as has been explained in the revised ARR Petition for FY 2005-06 submitted to the Commission on 22nd November 2005. Regarding the proposed increase of 30% in employee expenditure for FY 2006-07, the increase represents normal increase and salary revision, which takes place once in 4 years. The increase includes 7% normal annual increase and 23% increase on account of salary revision. The last wage revision took place with effect from FY 2002-03. The same has been explained on page 60 of the ARR Petition for FY 2006-07.

Commission's Ruling

The Commission has examined the prudence of the actual employee expenditure incurred by REL in FY 2004-05 and FY 2005-06, and has applied the norms to determine the employee expenditure. Mere incurrence of the cost cannot be a reason for allowing the same through the tariff. The Commission has considered truing up of the employee expenditure in FY 2004-05, and has not allowed the entire increase in expenditure as compared to the Tariff Order. REL's contention that there was an error in computation of employee expenses in the Tariff Order as highlighted in the Review Petition is incorrect, and this aspect has been addressed in detail in the Review Order issued by the Commission. Further, REL's contention that the Review Order has clarified that the employee expenditure has been determined after deducting Rs. 30 cr on account of VRS expenditure, is also incorrect. The relevant extract of the Commission's Order on Review Petition filed by REL issued on December 14, 2004 is reproduced below:

- *"In the Review Petition, REL has stated that the actual employee expenses in FY 2003-04 of Rs. 168 crore included Rs. 32 crore of wage arrears for FY 2002-03. Thus, the actual expense on account of wages in FY 2003-04 was Rs. 138 crore, <u>which is projected to increase to Rs. 157 crore in FY 2004-05</u>, as against the Commission's approval of Rs. 126 crore. REL has also requested that the entire VRS expenditure should be amortised in FY 2004-05 itself, rather than spreading it over 3 years.*

- *The Commission had relied on all the data and evidence placed before it by REL while determining the reasonable and justified level of employee expenses to be allowed for FY05. The Commission has also considered the actual wage expenses in FY 2003-04 as Rs. 138 crore and the arrears towards wages in FY 2002-03 as Rs. 32 crore, in line with REL's submission above. However, the difference between REL's projected employee expenditure and the Commission's permitted level of expenditure is because*

REL has not considered the impact of reduction in the number of employees due to the VRS, while estimating the employee expenditure. REL had projected that the number of unionized staff would reduce by 1000 numbers in FY 2004-05 due to the VRS. If one considers the impact of this reduction in the number of employees, and the fact that the salary revision has already been accounted for in the actual employee expenditure in FY 2003-04, the effective increase in employee expenditure sought by REL in FY 2004-05 with respect to the employee expenditure in FY 2003-04 would amount to 27%, which is very high.

- *In the Tariff Order, the Commission had given a detailed explanation of the method used to determine the allowable employee expenditure, which states, "The Commission has calculated the cost per employee for the past years based on data submitted by BSES, and the 4-year CAGR which is equivalent to the period of one wage settlement. For FY 2004-05, the Commission has estimated the employee expenditure based on the expected number of employees (after VRS) and the projected per employee cost, which have been projected based on the 4-year CAGR." As regards the VRS expenditure, the Tariff Order states, "The normal accounting practice in case of VRS is to amortize the expense over three years. The Commission has accordingly allowed the VRS expenditure and has amortized the expense over three years, starting from FY 2004-05 and will provide for holding cost in future years."*

- *The Commission had thus taken into account the impact of the wage revision, the cost of the VRS, expected reduction in number of employees due to the VRS, and the projected per employee cost, while determining the employee expenses allowable for FY05."(emphasis added)*

As seen from the above extract, there was no error in the Tariff Order and the Commission has explained its methodology of projection of employee expenditure in detail. Further, even in the Review Petition, REL had projected the employee expenditure in FY 2004-05 as Rs. 157 crore, including Rs. 10 crore on account of amortization of VRS expenditure. However, the actual expenditure being claimed now is Rs. 207 crore, which is around 30% higher than that projected even by REL in its Review Petition. As the VRS was not implemented due to various reasons, the amortization of the VRS expenses should also not be considered. However, the employee expenses would increase to the extent that the number of employees has not reduced. Accordingly, the Commission has allowed Rs. 162 crore of employee expenditure in FY 2004-05, under the truing-up exercise.

The Commission feels that in a regulated and cost-plus environment, employee expenses due to the salary revision need not be considered as pass through to the consumer and the Utility should achieve efficiency gains in return for wage revision. The Commission will consider approval of employee expenses on a normative basis, in future.

The detailed analysis of the employee expenditure has been discussed in the Section on Analysis of ARR, under O&M expenses.

2.4 FIXED CHARGES

Mumbai Grahak Panchayat (MGP), Bombay Small Scale Industries Association (BSSIA) and Vel Induction Hardenings objected to the proposed 1.6 to 2.5 times increase in the fixed charges for residential category, on the ground that it is unjustified and that there must be a gradual increase in the fixed charges. Vel Hardenings also objected to the steep increase in the proposed tariff for HT Housing category, from Rs 1.15/unit to Rs 3.55/kWh.

REL's Response

REL submitted that the increase in fixed charges has been proposed to recover 46% of fixed costs in FY 2006-07 as compared to 37% of fixed costs in FY 2004-05, in line with the Commission's philosophy to increase the recovery of fixed costs through fixed charges. It also submitted that HT Housing category comprises residential consumers, who are above poverty line and are therefore not eligible for subsidy.

Commission's Ruling

The Commission has marginally increased the recovery of fixed costs through fixed charges in the revised tariffs, in line with the philosophy outlined in the Commission's earlier Orders.

2.5 LICENSE FOR GENERATION AND DISTRIBUTION OF ELECTRICITY

Bombay Small Scale Industries Association (BSSIA) submitted that the actual license stands in the name of Bombay Suburban Electric Supply Ltd and subsequent REL does not have the License to undertake generation or distribution of Electricity. BSSIA requested the Commission to take up the issue before approving the ARR and take appropriate action against REL for misguiding the Commission and distributing electricity without a valid License as per section 14 of the EA 2002-03, for the same.

REL's Response

REL has responded by submitting the Commission's Order dated 1st July, 2004 which reads as follows, "The Commission notes that the mere change in name in terms of the provisions of the Companies Act, 1956 has no other legal implication and that, the entity remaining otherwise the same, no fresh issue of the licensee by the Commission is required under the provisions of the Electricity Act, 2003".

Commission's Ruling

This issue has been raised earlier during 2004 tariff proceedings (Case 18 of 2003) by BSSIA and has been addressed appropriately in the Tariff Order referred above.

2.6 PAYMENT OF RENT/ COMPENSATION FOR USING PRIVATE LAND

NESCO Limited objected during the hearing to the use of their land by REL without paying any compensation/rent to them. NESCO submitted that such compensation is required to be shown in the ARR as revenue expenditure. NESCO also submitted that in many cases REL uses private infrastructure for supplying energy to other consumers. However, the compensation for such use is not shown in the revenue expenditure of REL.

REL's Response

REL has submitted that Section 26 of the Development Control (DC) rules for Greater Bombay, 1991, requires the land owner to give space for substation and as per section 32(2)(J)(vi) the overall FSI available to the land owner is not reduced. As such no separate provision for rent is required to be included in the ARR Petition. Also in respect of transmission lines, there is no provision for payment of compensation under the Electricity Act 2003. Regarding compensation for using private infrastructure, REL clarified that in case any existing consumer gets additional occupiers under the same premises, in such exceptional cases, the company may use the network of such consumers and reasonable reimbursement for such use would be accounted under the ARR.

Commission's Ruling

The issue is not a matter to be addressed through the ARR and Tariff approval process.

2.7 UNIFORM TARIFF AND CONSUMER CATEGORIES IN MUMBAI

Vel Induction Hardenings submitted that there is a need to have a uniform Tariff in Mumbai and the classification of consumer categories must be same for all licensees. They also requested for a ceiling tariff to be specified.

Prayas submitted during the hearing that REL's proposal for uniform retail tariff across licensees in Mumbai should not be accepted. Prayas supported its argument by stating that uniform tariff across licensees reduces accountability of licensees for incurring high costs. Moreover, Prayas has pointed out that it goes against the basic tenets of the Electricity Act, 2003, which emphasizes a fundamentally different industry structure involving competition and unbundling. Hence, Prayas requested the Commission not to prescribe uniform tariff in Mumbai as it takes away accountability of the licensee for its performance.

REL's Response

REL responded by submitting that the performance of Licensee is guided through MERC (Standards of Performance) Regulation 2005. The performance of the distribution licensees in Mumbai is amongst the best in the country. In addition, all the performance parameters are reviewed by MERC during the tariff approval process. REL therefore does not feel that implementation of uniform tariff would in anyway impact the performance of the utilities.

The fact is that the performance of BEST and REL are comparable, yet the retail tariffs vary widely merely because of the differential sales mix. This ought to be a persuasive reason for introduction of uniform tariff rates.

Commission's Ruling

The Commission had outlined its approach to move towards uniform tariffs in the city of Mumbai, in its previous Order, and had determined tariffs for consumers of REL and TPC such that the tariffs for similar categories were not too different, if not same. The same approach has been continued in this Order also, though it is not possible to ensure absolutely uniform tariffs, given the different cost structure, efficiency levels and consumer mix of REL and TPC.

2.8 HIKE IN REVENUE REQUIREMENT IN FY 07

Shri Jay Kothari objected to the steep increase in the estimated revenue gap from Rs 5 crore in FY 2005-06 to Rs 294 crore in FY07 as unjustified.

REL's Response

REL has explained in the ARR Petition, the various reasons that have resulted in change in various costs compared to previous years', and increase in fuel cost and power purchase cost are the biggest reasons for the projected increase. There is an increase of Rs 78 crore in fuel related expenditure and Rs 290 crore in the cost of power purchase from TPC.

Commission's Ruling

The Commission has undertaken a detailed element-wise analysis of the truing up requirement for FY 2004-05 and FY 2005-06, as well as the projected revenue requirement for FY 2006-07, which has been discussed in the Section on ARR.

2.9 TARIFF SLABS

Shri Jay Kothari stated that the consumption slabs for LF1 category are being wrongly applied by REL and even in the existing slabs, users with higher consumption (above 300 units per month) are given a relaxation. He highlighted that in the proposed tariff structure, the increase in the unit rate for consumers in the consumption block of 101-300 units per month is Rs 2.20 while that for consumers having consumption above 300 units per month, is Rs 0.90. This indicates that relaxation is given to consumers with luxurious lifestyles at the expense of average domestic consumers. Shri Kothari suggested that more consumption slabs should be introduced, and the unit rate applicable for consumers with consumption of 101-300 units per month should be reduced. Shri Kothari objected to the application of fixed charges on every consumer, stating that the energy charges should include everything except duties and taxes. He suggested that either there should be no fixed charges or the benefits of such charges should be indicated to the public.

REL's Response

REL submitted that the consumption slabs in the Tariff Order dated 1st July 2004 have been retained in the filing for FY 2006-07. Regarding fixed charges, REL responded that this is in accordance with the tariff philosophy of recovering the fixed cost through fixed charges and variable cost through variable charges in a gradual manner.

Commission's Ruling

The Commission's philosophy regarding levy of fixed charges to recover a part of the fixed costs of the Utility has been well established and detailed in previous Tariff Orders issued by the Commission for the erstwhile MSEB and REL. The existing consumption slabs have been retained, and the Commission has attempted to ensure that the tariff increase for lower consumption slabs is lower, as compared to the tariff increase for the higher consumption slabs, in line with the philosophy that the consumers in the higher consumption bracket should pay a higher tariff. .

2.10 GENERATION RELATED ISSUES

- *Coal blending and Calorific value*

  Prayas submitted that presently REL is using Indian washed coal and imported coal blended in the ratio of 80:20 with a calorific value of 4160 kcal/kg. Previously REL was using Indian raw coal and imported coal blended in the ratio of 65:35 and used to get the same calorific value of 4160 kcal/kg. Prayas has submitted that using 65:35 blending ratio would result in net saving of Rs 41 crore per year in the fuel charges. Hence, Prayas requested the Commission to disallow the excess fuel costs on account of imprudent fuel choice and reduce the ARR accordingly.

- *Transit loss*

  Prayas stated that REL has considered a transit loss of 2.5% against the Commission's Tariff Regulations, 2005, which allows a transit loss of only 0.8%, which results in an additional burden of Rs 10 Cr every year for REL consumers. Hence, Prayas requested the Commission to disallow the cost of excess transit loss.

- *Generation plant (DTPS) performance*

  Prayas submitted that the performance of DTPS has been deteriorating over the years, which is observed from the increasing trend in parameters like heat rate and auxiliary fuel consumption. This is despite a significant increase in R&M expenses and Capital Investment, apart from the use of improved quality of coal. Prayas highlighted that REL in its Petition has submitted that degradation has occurred mainly on account of plant being more than 10 years old. Prayas requested the Commission to look into the degradation of DTPS performance carefully since DTPS plant has a useful life of at least 25 years.

REL's Response

Coal blending and calorific value: REL submitted that the same query was raised by Prayas on REL's ARR Petition for FY 2003-04 and FY 2004-05 (refer page 21 of REL Tariff Order dated 1st July 2004) to which REL had responded and the Commission had taken appropriate view in deciding the same. The current proposal is also in-line with the philosophy of blend of coal used as was stated therein.

Transit loss: The transit loss of 0.8% is based on the CERC (Terms and Conditions of Tariff) Regulations, which is applicable to Central Generating Stations (CGS) which are primarily located at or close to pit-heads. In case of REL, the washed coal is subjected to multi-modal transportation over a distance of 1400 km to Dahanu resulting in multiple handlings. In addition, washed coal is a heterogeneous material with size varying from < 2mm to 50 mm. The fines, i.e., coal with size less than 2 mm constitutes about 20% of the coal. The fines are prone to losses during handling and transport due to their smaller size. The fines may be lost even during storage due to winds and rains.

Additionally, Indian Railways has increased the mandatory loading in each wagon to carrying capacity + 4 MT, i.e., 4 MT above the normal carrying capacity from 2005. This means that washed coal being a lighter commodity as compared to raw (unwashed) coal has to be loaded to much greater height in the wagon. This increases the chances of both spillage and theft. If the coal is not loaded to the required height, it results in under-loading of wagon, which means that minimum freight (@ Rs. 1117.8 / MT + 3% surcharge) has to be paid by the utility for coal not carried in the wagon. REL also added that GERC in its Tariff Order dated 6th May 2006 for GSECL in Case 861 of 2006 has allowed transit loss of more than 0.8% in view of the distance of coal availability and its handling.

Generation Plant (DTPS) performance: The heat rate and auxiliary power consumption have been considered according to the norms fixed by the Commission in the MERC (Terms and Conditions of Tariff) Regulations, 2005.

Commission's Ruling

The Commission has assessed the variable cost of generation considering the REL submissions towards blending of washed and imported coal and has computed the cost of generation after considering possibilities of reducing the cost of generation, with due consideration to practical constraints.

The Commission has considered revised norms for transit loss and the details have been elaborated in Section on Analysis of ARR.

2.11 DETERMINATION OF REGULATORY EQUITY AND REASONABLE RETURN

Prayas submitted that it is extremely critical to estimate the capital base or equity of the Firm accurately as all profits are linked with the capital base of the Firm. REL has estimated its regulatory equity capital as on 1st April, 2004 as Rs. 1334 crore. Prayas requested the Commission to validate the opening equity estimation of REL, submitting that the proposed equity structure is not in conformity with MERC Tariff Order principles. Prayas also stated that REL has claimed a reasonable return of Rs 188 crore but has not furnished its detailed working in the ARR Petition. Prayas requested REL to submit the detailed working of reasonable return and requested the Commission to validate the same.

REL's Response

REL submitted that the computation of regulatory equity capital is based on the provision stated in the MERC (Terms and Conditions of Tariff) Regulations, 2005. Detailed working of Reasonable Return and Capital Base has been enclosed in the ARR Petition as also in the soft copy provided with the printed ARR Petition. The computation of Reasonable Return has been done in accordance with the Commission's methodology as detailed in the Tariff Order of 1st July, 2004.

Commission's Ruling

The reasonable return computations have been allowed as per the principles stipulated in the previous Tariff Order and Tariff Regulations. The details are given in the Section on ARR.

2.12 TRUING UP FOR FY 2004-05

Prayas submitted that REL, while working out the revenue to be recovered from retail tariffs, has considered the under recovery in FY 2005-06, but has not mentioned truing up of any over/under recovery in FY 2004-05. Prayas also submitted that there are vide variations in REL's performance during FY 2004-05 as compared to the Commission's approval in the Tariff Order concerning the A&G expenses, employee expenses, bad debts, non-tariff income, etc. Prayas submitted that some components like reasonable return, interest on working capital, and depreciation are required to be reworked according to the principles stipulated in the Tariff Order for FY 2004-05. Prayas stated that there is a discrepancy in the power purchase cost of REL in FY 2004-05 and the revenue indicated by TPC on the same account. Prayas requested the Commission to evaluate the performance of REL for FY 2004-05 and consider it for true up in this tariff process.

REL's Response

REL submitted that the actual data for FY 2004-05 was submitted to the Commission on 31st August 2005.

Commission's Ruling

The Commission has considered the actual revenue earned by REL and the actual expenditure, subject to prudence, in FY 2004-05, while determining the truing-up requirement. For FY 2005-06, the expenses and return have been computed in accordance with the principles stipulated in the Tariff Order for FY 2004-05. The power purchase cost indicated by REL has been reconciled with the revenue indicated by TPC from sale of power to REL. The details have been given in the Section on Truing Up.

2.13 TRUING UP FOR PAST OVER RECOVERY OF FAC

Prayas submitted that the Commission has not considered the earlier over recovery of FAC charges by REL in its past Orders dated 19th January 2005 and 13th April 2006, and had opined that such true up is possible only after the FAC for previous months is vetted. Prayas submitted that as per the additional information given by REL, there is an over recovery of FAC to the extent of Rs 94 crore at the end of FY 2004-05, and with the new Tariff Order for FY 2006-07, the FAC would be equated to zero. Prayas requested the Commission to consider the previous over recovery of FAC for truing up in the present Tariff Order.

REL's Response

REL responded that the Commission has carried out detailed vetting of REL's FAC up to March 2006.

Commission's Ruling

The Commission has considered the over-recovery of FAC charges by REL in FY 2004-05, while determining the truing-up requirement, by considering the actual revenue earned by REL and the actual fuel cost allowable, so that the benefit is passed on to the consumers. The details have been given in the Section 3, on Truing Up.

2.14 ACCUMULATED DEPRECIATION FOR FY 2006-07

Prayas submitted that while calculating the ARR for FY 2005-06, REL has correctly included the depreciation figures according to the MERC Tariff Order principles, but while estimating the accumulated depreciation at the beginning of FY 2006-07, REL has used the depreciation figure for FY 2005-06 estimated according to the new Tariff Regulations. Prayas contended that as the depreciation estimated according to the new Tariff Regulations is lower then the figure estimated according to MERC Tariff Order principles, it results in under-reporting of accumulated depreciation for FY 2006-07, giving the Licensee an advantage for charging more depreciation than the worth of the asset.

Commission's Ruling

The depreciation during the year in FY 2005-06, and the accumulated depreciation at the beginning of FY 2006-07 have been determined consistently, in accordance with the principles stipulated in the Commission's Tariff Order for FY 2004-05.

2.15 INCOME TAX

Prayas submitted that the actual income tax incurred by REL is lower than the income tax considered in the Regulatory Accounts for FY 2004-05 and FY 2005-06. Prayas observed that as per MERC Tariff Regulations, the benefits of any income tax holiday, and credit for unabsorbed depreciation should be considered while calculating the income tax liability for the licensee and therefore requested the Commission that the actual income tax paid by the licensee in FY 2004-05 and FY 2005-06 should be considered for truing up.

Commission's Ruling

The Commission's analysis and decision on this issue have been elaborated in Section 3.

2.16 CALCULATIONS AND ANALYSIS TO BE MADE AVAILABLE

Prayas requested the Commission in the interest of transparency to provide them with the detailed calculations and analysis carried out during the tariff revision process and also to make soft copies of the same (spreadsheet version) available on the website of the Commission.

Commission's Ruling

The Commission's records, including the analysis carried out while approving the ARR alongwith the calculations are in the public domain and can be obtained by interested parties, on payment of the requisite fees and charges.

2.17 AGREEMENT WITH JUNIPER HOTELS PVT. LTD.

Juniper Hotels Pvt. Ltd. (JHPL) submitted that REL and Juniper Hotels had entered into an agreement on 29th June, 2001 wherein REL had agreed to supply power to JHPL at rates, which are slightly lower then the prevailing rates applied by TPC to their direct consumers (Rs 0.10 per unit consumed). REL had accordingly given the discount of Rs 0.10 per unit to JEPL up to June 2004. However after the revised tariff became applicable from 1st July, 2004 REL did not give the discount proportionate to the agreement. JEPL submitted that a Petition to this effect has also been filed before the Commission on 2nd December, 2005. JEPL objected to the increase in the energy charges as it has caused a huge financial burden to them. However, if the energy charges are revised, then JEPL has requested the Commission to direct REL to honour the terms and conditions of their previous agreement and give them the necessary discount.

REL's response

REL responded by submitting that under the Electricity Act-2003, the Commission is the sole authority for the determination of tariff and it is stated in the Commission's Tariff Order dated 1st July 2004, that these tariffs shall supercede all the tariffs so far in force, and hence REL has charged JEPL as per the Tariff Order.

<u>Commission's Ruling</u>

The objection is rejected, as REL has to levy the tariffs determined by the Commission from time to time.

2.18 SEPARATE TARIFF CATEGORY FOR INDUSTRIAL AND COMMERCIAL COMPLEX OWNED BY PRIVATE PARTIES AND PROVISION OF SEASONAL TARIFF

NESCO has submitted that there is a need to provide a separate tariff category for industrial and commercial complexes owned by private parties, like the categories existing in BEST area. Also there is a need for seasonal tariff as in the case of other licensees in the State of Maharashtra.

<u>REL's Response</u>

REL responded by submitting that the Commission has undertaken significant rationalization of categories/slabs in the previous Tariff Order dated 1st July 2004. This rationalization has been undertaken in such a way that the categories and slabs are similar to those of erstwhile MSEB and TPC to the extent possible. Regarding the introduction of seasonal tariff, REL has responded by stating that there are no predominantly seasonal industries in their area of supply.

<u>Commission's Ruling</u>

The Commission does not see reason to create new categories and sub-categories at this point, as it has undertaken rationalisation of categories and sub-categories in the previous Tariff Order. The Commission hence, rejects the suggestion that a seasonal category should be created, as seasonal category consumers of the kind seen in MSEDCL area, are not present in REL area.

3 TRUING UP OF ANNUAL REVENUE REQUIREMENT FOR FY 2004-05 AND FY 2005-06

REL, in its ARR and Tariff Petition for FY 2005-06, submitted that based on the existing tariff and actual expenditure in accordance with the guidelines determined by the Commission vide its Order dated July 1, 2004 and 23rd December 2004 against the Annual Revenue Requirement for the year FY 2004-05, REL is expected to have a shortfall of Rs 85 Crore in FY 2004-05. REL also provided the comparison of actual revenue and expenditure against each head with the revenue and expenditure approved by the Commission alongwith the reasons for deviations. The Commission in this section has analysed all the elements of actual revenue and expenses for FY 2004-05, in order to 'true up' the same.

As elaborated in Section 1 of the Order, REL submitted its consolidated ARR and Tariff Petition for FY 2005-06 on March 1, 2005 and in compliance to the Commission's directions, REL submitted its revised ARR and Tariff Petition separately for Generation, Transmission and Distribution for FY 2005-06 on November 22, 2005.

Subsequently, REL submitted its ARR and Tariff Petition for FY 2006-07 on February 24, 2006. REL, in its Petition for FY 2006-07, submitted the revised data for FY 2005-06 based on actual data for first six months (April to September 2005) and estimated data for next six months (October 2005 to March 2006). While processing the ARR and Tariff Petitions of REL, the Commission directed REL to include a separate section on truing up of ARR for FY 2005-06 based on the actual performance during the year. REL, in its revised Petition for FY 2006-07 dated May 10, 2006, submitted a separate section on truing up of ARR for FY 2005-06 based on actual performance.

The Commission, in its Order dated April 13, 2006 in the matter of applicability of MERC (Terms and Conditions of Tariff) Regulations, 2005, stipulated that *"the norms for approval of ARR and principles for determination of tariff as enunciated in the latest Tariff Orders of each licensee shall form the basis for approval of the Annual Revenue Requirement of licensees/Utility for FY 2005-06 and the determination of ARR and Tariff FY 2006-07 will be governed by the Tariff Regulations"*. In case of REL, the last Tariff Order was issued by the Commission on July 1, 2004 in the matter of Approval of Annual Revenue Requirement for FY 2003-04 and FY 2004-05 and determination of tariffs for FY 2004-05. Therefore, the Commission has analysed the actual expenditure and revenue of REL for FY 2005-06 in accordance with the principles enunciated in the Order dated July 1, 2004. The Commission has also analysed all the elements of actual revenue and expenses for FY 2005-06 in this section.

Further, as the Commission in its Order dated April 13, 2006 has stipulated that the principles of ARR determination as enunciated in the last Tariff Order shall form the basis for approval of ARR for FY 2005-06, the Commission has analysed the truing up of ARR for FY 2004-05 and FY 2005-06 on consolidated basis for REL as a whole, i.e., all the three businesses of REL, viz. Generation, Transmission and Distribution have been considered on consolidated basis.

3.1 TOTAL SALES

REL, in its Petition for FY 2005-06, submitted that the Commission has effected a re-categorisation of consumer categories during FY 2004-05 in accordance with the Tariff Order for REL for FY 2004-05, Review Order dated December 23, 2004 and other Orders of the Commission. REL submitted the actual sales for FY 2004-05 and projected the sales for FY 2005-06 based on re-categorised consumer categories. Subsequently, REL also submitted the details of category-wise actual sales for FY 2005-06. The category-wise actual sales for FY 2004-05, sales projected by REL for FY 2005-06 and actual sales for FY 2005-06 is given in Table below:

Table : Category-wise Sales for FY 05 and FY 06 (MU)

Category	**FY 2004-05**			**FY 2005-06**		
	Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
Residential		3517	3517	3813	3760	3760
Commercial		1221	1221	1145	1179	1179
LTP-1		218	218	245	254	254
LTP-2		658	658	827	827	827
HT Supply		774	774	782	767	767
HT Housing Colonies		37	37	37	35	35
Street Lighting		56	56	52	50	50
Temp. Lighting		21	21	3	9	9
Total	**6380**	**6502**	**6502**	**6904**	**6881**	**6881**

The total sales approved by the Commission for FY 2004-05 in its Order on ARR and Tariff Petition for FY 2004-05 was 6380 MU, which has increased by around 122 MU to 6502 MU. The total sale during FY 2005-06 has increased by around 5.83% with respect to total sales in FY 2004-05. The Commission has accepted the actual category-wise sales for FY 2004-05 and FY 2005-06.

3.2 DISTRIBUTION LOSSES

The Distribution loss approved by the Commission for FY 2004-05 was 12.5%. REL submitted that as REL changed the cycle of billing from bi-monthly to monthly billing with effect from April 2004, the cycle billing for the month of April 2004 was for an average period of 32 days. Further, the projected sales for March 2005 was over estimated by 36 MU and therefore the distribution losses during FY 2004-05 was less than the normalized losses resulting in REL showing distribution losses for FY 2004-05 as 12.1% as compared to 12.6% of normalized losses after adjusting for these extra days of billing. The Commission has considered the actual distribution loss of 12.1% for FY 2004-05.

REL, in its Petition for FY 2005-06, projected the distribution loss of 12.1% equivalent to actual distribution loss of 12.1% during the first half of FY 2005-06 (April to September 2005). However, the actual distribution loss for FY 2005-06 as submitted by REL is 12%. The Commission has considered the actual distribution loss of 12% for FY 2005-06.

3.3 TRANSMISSION & TRANSFORMATION LOSSES AND ENERGY INPUT

Apart from the Distribution Losses, the other losses in the REL system are Transmission losses due to transmission of power from DTPS to receiving stations at 220 kV and step down losses at the receiving stations from 220 kV to 22/33 kV. For FY 2004-05, the Commission had approved transmission and transformation losses of 118 MU in the Tariff Order, i.e., 1.59% of total energy input. However, the actual transmission and transformation losses for FY 2004-05 and FY 2005-06 are 1.35% and 1.28%, respectively. As the actual transmission and transformation losses are lower than the loss level approved by the Commission, the Commission accepts the actual transmission and transformation losses for FY 2004-05 and FY 2005-06. The summary of losses and total Energy Input to REL system for FY 2004-05 and FY 2005-06 is given in Table below:

Table : Energy Input to REL System

		FY 05			FY 06		
		Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
Total Sales	MU	6380	6502	6502	6904	6895	6895
Sales Adjustments			36	36		14	14
Net Sales			6466	6466		6881	6881
Distribution Losses	MU	911	890	890	949	940	940
Distribution Losses	%	12.5%	12.1%	12.1%	12.1%	12.0%	12.0%
Energy Input to Distribution System	MU	7291	7356	7356	7853	7821	7821
Transmission and Transformation Losses	MU	118	101	101	101	102	102
Transmission and Transformation Losses	%	1.59%	1.35%	1.35%	1.27%	1.28%	1.28%

		FY 05			FY 06		
		Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
Transformation Losses							
Total Losses	MU	1029	991	991	1050	1042	1042
Total Losses	%	13.9%	13.2%	13.2%	13.2%	13.1%	13.1%
Total Energy Input to REL	MU	**7410**	**7493**	**7493**	**7954**	**7937**	**7937**

3.4 GENERATION FROM DAHANU THERMAL POWER STATION

3.4.1 Gross Generation and PLF

The Commission in its Order on ARR and Tariff Petition for FY 2004-05 approved the gross generation of 4326 MU with Plant Load Factor (PLF) of 98.77%. However, the actual gross generation achieved during FY 2004-05 is 4439 MU and the actual PLF works out to 101.35%. The Commission accepts the actual gross generation of 4439 MU achieved for FY 2004-05.

REL, in its Petition for FY 2005-06, projected DTPS operation at a PLF of 95.08% (at same level as approved by Commission for FY 2004-05). REL submitted that though DTPS achieved a PLF of 101.35% during FY 2004-05, the forced outage of Unit 2 due to generation break down resulting in non availability for almost a month would bring down the overall PLF during FY 2005-06. REL submitted that for FY 2005-06, the plant availability has been assumed at 93.31% and the loading factor has been assumed as 101.8%, which REL has been able to achieve without comprising on plant efficiency and safety. Subsequently, REL submitted the actual performance details of DTPS for FY 2005-06. The actual gross generation achieved during FY 2005-06 is 4323 MU and the actual PLF works out to 98.7%. The Commission accepts the actual gross generation of 4323 MU achieved during FY 2005-06.

3.4.2 Auxiliary Consumption

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, approved the auxiliary consumption of 7.34% based on actual auxiliary consumption achieved during FY 2003-04. However, the actual auxiliary consumption achieved during FY 2004-05 is 7.53%, which is slightly higher than the auxiliary consumption of 7.34% approved by the Commission.

REL in its Petition for FY 2005-06 submitted that the Commission's Tariff Regulations stipulate an auxiliary energy consumption limit of 8.5% for a generation station of 200 MW series without cooling tower. REL further submitted that the auxiliary consumption for second half of the year has been projected at 8.2%, which is slightly higher than the actual auxiliary consumption of 7.72% during first half of FY 2005-06 due to full scale operation of Dry Ash Utilisation unit, which requires additional auxiliary consumption. REL projected the auxiliary consumption for FY 2005-06 as 7.95%. Subsequently, REL submitted the actual performance details of DTPS for FY 2005-06 and the actual auxiliary consumption during FY 2005-06 is 7.59%.

The Commission has analysed the auxiliary consumption of DTPS for the previous five years, i.e., from FY 1999-2000 to FY 2003-04 and observed that the actual auxiliary consumption achieved during previous five years is in the range of 7.03%-7.82%, as shown in the Table below:

Table: Auxiliary Consumption during previous five years

Particulars	Units	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04
Aux Consumption	%	7.03%	7.21%	7.82%	7.42%	7.34%

As the actual auxiliary consumption achieved during FY 2004-05 and FY 2005-06 is in the range of auxiliary consumption achieved during the previous five years, the Commission accepts actual auxiliary consumption of 7.53% and 7.59% achieved during FY 2004-05 and FY 2006-06, respectively.

The summary of actual and approved Gross Generation, PLF, Auxiliary Consumption and Net Generation is given in the Table below:

Table: Summary of Gross and Net Generation

Particulars	Units	FY 04-05			FY 05-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
Gross Generation	MU	4326	4439	4439	4165	4323	4323
PLF	%	98.77%	101.35%	101.35%	95.09%	98.70%	98.70%
Aux Cons(%)	%	7.34%	7.53%	7.53%	7.95%	7.59%	7.59%
Net Generation	MU	4008	4105	4105	3834	3995	3995

3.5 VARIABLE (FUEL) COSTS OF DTPS

The variable cost of generation depends upon following parameters:

- Heat Rate
- Secondary Oil Consumption

- Fuel Blending
- Fuel Parameters (Cost of Fuel and Calorific Value)

3.5.1 Heat Rate

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, approved the heat rate of 2319 kCal/kWh based on actual heat rate during FY 2003-04. However, the actual heat rate achieved during FY 2004-05 is 2272 kCal/kWh which is lower than the heat rate approved by the Commission. For FY 2004-05, the Commission accepts the actual heat rate of 2272 kCal/kWh, as this is lower than the heat rate specified by the Commission in the Tariff Order.

REL in its Petition for FY 2005-06 submitted that the Commission's Tariff Regulations stipulate a normative Gross Station Heat Rate of 2500 kCal/kWh for a 250 MW coal based thermal generating station. REL further submitted that it has historically maintained a heat rate of around 2300 kCal/kWh. REL projected a heat rate of 2305 kCal/kWh for FY 2005-06 in its Petition. Subsequently, REL submitted the actual performance details of DTPS for FY 2005-06 and the actual heat rate for FY 2005-06 is 2286 kCal/kWh. For FY 2005-06, the Commission accepts the actual heat rate of 2286 kCal/kWh as this is lower than the heat rate specified by the Commission in the Tariff Order.

3.5.2 Secondary Oil Consumption

The Commission in its Order on ARR and Tariff Petition for FY 2004-05 approved the secondary oil consumption of 0.20 ml/kWh. However, the actual secondary fuel consumption utilized during FY 2004-05 is 0.14 ml/kWh, which is lower than the secondary oil consumption approved by the Commission. For FY 2004-05, the Commission accepts the secondary oil consumption of 0.14 ml/kWh as this is lower than the secondary oil consumption specified by the Commission in the Tariff Order.

REL in its Petition for FY 2005-06 submitted that the Commission's Tariff Regulations stipulate secondary fuel oil consumption at 2.0 ml/kWh for a coal-based thermal generating station. REL further submitted that it has historically maintained secondary fuel oil consumption below 0.5/kWh. REL projected secondary fuel oil consumption of 0.5 ml/kWh for FY 2005-06 in its Petition. Subsequently, REL submitted the actual performance details of DTPS for FY 2005-06 and the actual secondary fuel oil consumption for FY 2005-06 is 0.18 ml/kWh. For FY 2005-06, the Commission accepts the actual secondary fuel oil consumption of 0.18 ml/kWh as this is lower than the secondary oil consumption specified by the Commission in the Tariff Order.

3.5.3 Blending of Coal, Fuel Price and Fuel Calorific Value

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, considered the blending ratio of 80%:20% (washed coal : imported coal). However, during FY 2004-05, REL has used a blend of raw coal, washed coal and imported coal as primary fuel with the blending ratio of 16%:66%:18% (raw coal : washed coal : imported coal).

Further, the Commission in its Order on ARR and Tariff Petition for FY 2004-05, considered the fuel prices and calorific value based on the past trends. The variation in the fuel prices and calorific value of fuel during FY 2004-05 has been considered as part of Fuel Adjustment Charge (FAC).

REL, in its Petition for FY 2005-06, submitted that REL intends to use only washed coal and imported coal with a blending ratio of 80%:20%. Subsequently, REL submitted the actual details for FY 2005-06 and the actual blending ratio for FY 2005-06 works out to 80%:20% (washed coal : imported coal). REL, in its Petition for FY 2005-06, also submitted that the landed price of fuel has been considered at actual for first half of the year and for the second half of the year, an escalation rate of 5% for coal prices and 10% for secondary fuel has been considered based on trends in increase in coal and fuel prices. The variation in actual coal and secondary fuel prices and the calorific value has been considered as part of Fuel Adjustment Charge (FAC) for FY 2005-06.

For the purpose of truing up of fuel costs (variable cost of generation) for FY 2004-05 and FY 2005-06, the Commission has considered the actual fuel costs and actual calorific value, as given in the Table below:

Table : Fuel Price and Calorific Value of Primary Fuel

Particulars	FY 2004-05			FY 2005-06		
	Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
A. Fuel Price (Rs/MT)						
Raw Coal		1704	1704			
Washed Coal	1915	2010	2010	2167	2127	2127
Imported Coal	1691	1984	1984	2598	2360	2360
B. Calorific Value (kCal/kg)						
Raw Coal		3797	3797			
Washed Coal	4300	4188	4188	3933	3982	3982
Imported Coal	5300	4949	4949	5134	5137	5137
C Fuel Price (Rs/Mkcal)						
Raw Coal		449	449			
Washed Coal	445	480	480	551	534	534
Imported Coal	319	401	401	506	459	459

3.5.4 Total Fuel Costs and Variable Cost of Generation

Based on heat rate, secondary fuel oil consumption, fuel prices and fuel calorific value as discussed in above sections, the total fuel costs and variable cost of generation for FY 2004-05 and FY 2005-06 is summarized in the following Table:

Table: Total Fuel Costs and Variable Cost of Generation

Particulars	Units	FY 04-05			FY 05-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
Coal Cost	Rs Crore	433.97	463.04	463.04	517.10	507.53	507.53
Secondary Fuel Costs	Rs Crore	1.43	1.08	1.08	4.72	1.83	1.83
Total Fuel Costs	Rs Crore	435.40	464.13	464.13	521.82	509.36	509.36
Other Charges	Rs Crore	0.00	3.24	3.24	2.87	1.78	1.78
Total Variable Costs	**Rs Crore**	**435.40**	**467.37**	**467.37**	**524.69**	**511.14**	**511.14**
Cost of Generation (at Generation Terminal)	Rs/kWh	1.01	1.05	1.05	1.26	1.18	1.18
Variable Charge per unit (ex-bus)	**Rs/kWh**	**1.09**	**1.14**	**1.14**	**1.37**	**1.28**	**1.28**

The total fuel costs for FY 2004-05 have increased from Rs 435.40 Crore as approved in the Tariff Order, to Rs 467.37 Crore. This increase in total fuel costs is attributable to increase in quantum of generation and increase in fuel prices during FY 2004-05. The Commission approves the total fuel costs of Rs 467.37 Crore and Rs 511.14 Crore for FY 2004-05 and FY 2005-06, respectively.

3.6 POWER PURCHASE QUANTUM AND COSTS

3.6.1 Power Purchase Quantum

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, considered power purchase of 3401 MU from Tata Power Company (TPC). However, the actual quantum of power purchase by REL from TPC during FY 2004-05 is slightly lower at 3352 MU. The reduction in power purchase quantum despite increase in total sales and total energy input requirement is mainly due to increase in generation from DTPS as compared to generation approved by the Commission. For FY 2004-05, the Commission has considered the actual quantum of power purchase by REL from TPC, for truing up purposes.

REL, in its Petition for FY 2005-06, has estimated the total quantum of power purchase from TPC at 3942 MU. REL further submitted that the projected Renewable Purchase Obligation

(RPO) for REL during FY 2005-06 in accordance with the MERC Order dated September 3, 2004, is 78 MU and this RPO obligation of REL would be set off against power purchase from TPC as per the operational framework finalized by Maharashtra Energy Development Agency (MEDA).

Subsequently, REL submitted the details of actual power purchase from TPC during FY 2005-06 as 3928 MU. The Commission has considered the quantum of actual power purchase by REL from TPC in FY 2005-06, for truing up purposes.

3.6.2 Power Purchase Costs

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, had allowed total power purchase costs of Rs 932 Crore, excluding standby charge. The Commission in its Order estimated the power purchase costs by applying the old tariffs of TPC for the months of April and May 2004 and by applying the revised tariffs of TPC for the period June 2004 to March 2005, as the revised tariffs were applicable from June 1, 2004. However, the actual power purchase cost for FY 2004-05 excluding standby charge of REL is Rs 913 Crore. The Commission has also validated the actual power purchase cost of REL for FY 2004-05 with the details of revenue break-up submitted by TPC in its ARR and Tariff Petitions for FY 2005-06 and FY 2006-07 and found that TPC has also shown revenue from REL during FY 2004-05 as Rs 913 Crore. Therefore, the Commission has considered the actual power purchase costs for FY 2004-05 at Rs 913 Crore excluding standby charges, for truing up purposes.

The Commission, in its Order on ARR and Tariff Petition for FY 2004-05, considered the standby charge of Rs 90.6 Crore payable by REL to TPC. The actual standby charge included by REL as part of total purchase costs for FY 2004-05 is Rs 90.6 Crore and the Commission has accepted the same. The total power purchase costs approved by the Commission for FY 2004-05 is Rs 1004 Crore including standby charges as against the total power purchase cost of Rs 1023 Crore approved by the Commission in its Order on ARR and Tariff Petition for FY 2004-05.

Maharashtra Energy Development Agency (MEDA), has finalised the RPO settlement for FY 2004-05 and as per the final settlement, the RPO obligation works out to 0.78% of Energy Input and the weighted average cost of power from renewable sources of energy works out to Rs 2.12/kWh. Based on the total energy input of REL for FY 2004-05, REL’s share towards RPO obligation works out to 58 MU. Considering the weighted average variable cost of power purchase by REL during FY 2004-05, the additional cost obligation of REL towards RPO works out to Rs 0.063 Crore, which has been considered as part of power purchase cost for FY 2004-05.

REL in its Petition for FY 2005-06, estimated the total power purchase costs of Rs 1130 Crore including standby charges of Rs 90.6 Crore and RPO settlement cost of Rs 25.32 Crore. Subsequently, REL submitted the details of actual power purchase from TPC during FY 2005-06 as Rs 1087 Crore, including standby charges of Rs. 90.6 crore. The Commission has also validated the actual power purchase cost of REL for FY 2005-06 with the details of revenue break up submitted by TPC in its ARR and Tariff Petitions for FY 2006-07 and found that TPC has also shown total revenue from REL during FY 2004-05 as Rs 1087 Crore. Therefore, the Commission has considered the actual power purchase costs for FY 2005-06 at Rs 1087 Crore, for truing up purposes.

While submitting the details of actual power purchase of REL for purchase of power from TPC, REL has not included the additional costs towards RPO obligation. As regards RPO obligation, REL submitted that it had estimated RPO for FY 2005-06 as 1% which amounts to 78.4 MU. REL further submitted that considering the average tariff for wind and bagasse based cogeneration projects as Rs 3.32/unit, the cost incurred by REL for RPO will be Rs 26.04 Crore for FY 2005-06.

Further, MEDA is in the process of finalising the RPO settlement for FY 2005-06, and as per preliminary estimates it is envisaged that the RPO obligation for FY 2005-06 will be around 2 % of Energy Input and the weighted average cost of power from renewable sources of energy will be Rs 3.23/kWh. Based on the total energy input of REL for FY 2005-06, REL's share towards RPO obligation works out to 159.63 MU. Considering the weighted average variable cost of power purchase by REL during FY 2005-06, the additional cost obligation of REL towards RPO works out to Rs 20.18 Crore. The additional cost obligation of REL towards RPO obligation has been considered as part of power purchase cost for FY 2005-06.

The summary of power purchase quantum and costs for FY 2004-05 and FY 2005-06 is given in following Table:

Table: Power Purchase Quantum and Costs for FY 2004-05 and FY 2005-06

Particulars	**Units**	**FY 2004-05**			**FY 2005-06**		
		Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
Power Purchase from TPC							
Purchase at 22/33 kV	MU	3067	2825	2825	3070	2973	2973
Purchase at 200 kV	MU	334	527	527	872	950	950
Total	**MU**	**3401**	**3352**	3352	**3942**	**3923**	**3923**
Power Purchase Costs							
Demand Charges	Rs Crore	252	206	206	231	225	225
Energy Charges-22/33 kV	Rs Crore	625	600	600	572	554	554

Particulars	Units	FY 2004-05			FY 2005-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
Energy Charges - 220 kV	Rs Crore		107	107	154	168	168
FAC	Rs Crore	56		0	83	49	49
Standby Charge	Rs Crore	91	91	91	91	91	91
Total Power Purchase Cost	**Rs Crore**	**1023**	**1004**	**1004**	**1130**	**1087**	**1087**
Average Cost of Power Purchase	**Rs/kWh**	**3.01**	**3.00**	**3.00**	**2.87**	**2.77**	**2.77**
Additional Cost towards RPO Obligations	**Rs Crore**			**0.06**			**20.18**
Total Power Purchase Cost including RPO obligation	**Rs Crore**			**1004.06**			**1107.18**

3.7 FUEL ADJUSTMENT CHARGE (FAC)

The Commission has also separately vetted the Fuel Adjustment Charge (FAC) levied by REL on month to month basis, to recover the increase in fuel and power purchase costs for FY 2004-05 and FY 2005-06. The approval of overall vetting of FAC levied for FY 2004-05 and FY 2005-06 was communicated to REL vide the Commission's letter Ref. MERC/REL-FAC/1243 dated June 8, 2006. The Commission would like to clarify that while vetting FAC and for assessment of the under recovery and over recovery of FAC levied with respect to change in costs, the Commission has considered the normative parameters including heat rate, T&D loss and auxiliary consumption as approved in the Tariff Order for FY 2004-05. The principle of FAC is to allow the recovery of variation in fuel costs with respect to base fuel costs considered in the Order and hence for the purpose of FAC computations, the baseline figures of norms considered in the Order needs to be applied. Therefore, the FAC pertaining to excess T&D loss and excess auxiliary consumption has been disallowed while approving the FAC levied on month to month basis.

However, while undertaking the truing up of costs and revenue for FY 2004-05 and FY 2005-06, the Commission has considered the actual values for the operational parameters, i.e., T&D loss, auxiliary consumption and heat rate subject to norms specified in previous tariff orders. Further, the Commission has also considered the actual fuel costs and power purchase costs incurred by REL during FY 2004-05 and FY 2005-06. As the actual fuel cost and power purchase costs have been considered for truing up, there is no need to reverse the amounts disallowed towards excess T&D loss and excess auxiliary consumption during vetting of FAC on month to month basis. Further, as the actual revenue reported by REL during FY 2004-05 and FY 2005-06 including revenue from FAC has been considered as part of truing up, there is no need to separately consider the amount of over/under recovery of FAC for FY 2004-05 and FY 2005-06. However, the interest on over/under recovery of FAC needs to be considered as a part of truing up of ARR.

The Commission, while vetting the FAC for FY 2004-05 has estimated the interest on over recovery as Rs 6.41 Crore and hence, this interest on over-recovery has been deducted while truing up the ARR for FY 2004-05.

3.8 OPERATION & MAINTENANCE EXPENSES

3.8.1 Employee Expenses

The Commission had approved employee expenses of Rs. 136.2 crore, in its Order on ARR and Tariff Petition for FY 2004-05. However, REL submitted that the actual employee expenditure in FY 2004-05 is much higher, at Rs. 207.3 crore. In explanation, REL referred to the Review Petition filed by REL on this aspect on the Tariff Order issued by the Commission and the Commission's Order on the same, and has sought truing up of the actual employee expenses.

The Commission has examined the prudence of the actual employee expenditure incurred by REL in FY 2004-05 and FY 2005-06, and has applied the efficiency norms to determine the employee expenditure. Mere incurrence of the cost cannot be a reason for allowing the same through the tariff. The Commission has considered truing up of the employee expenditure in FY 2004-05, and has not allowed the entire increase in expenditure as compared to the Tariff Order. REL's contention that there was an error in computation of employee expenses in the Tariff Order as highlighted in the Review Petition is incorrect, and this aspect has been addressed in detail in the Review Order issued by the Commission. Further, REL's contention that the Review Order has clarified that the employee expenditure has been determined after deducting Rs. 30 cr on account of VRS expenditure, is also incorrect, as detailed in Section 2. As seen in the Table below, the total actual employee expenses in FY 2005-06 has remained at the same levels as in FY 2004-05, though there is a difference in the head-wise expenditure. This shows that the employee expenses in FY 2004-05 are on the higher side, and far higher than the employee expenditure projected in REL's Tariff Petition and in REL's Review Petition as explained earlier.

The Commission had hence, allowed employee expenses in the Tariff Order after a detailed analysis of the employee expenses and comparison on a per-employee basis. The Commission has however, considered the actual expenditure incurred by REL on salaries and dearness allowance, though the amounts are higher than the amount allowed by the Commission in the Tariff Order. In case of other allowances and terminal benefits, however, REL has considered significantly higher expenses as compared to the levels allowed by the Commission. The Commission has applied prudent norms, and allowed only a portion of the increased level of other allowances of terminal benefits. Accordingly, the Commission has allowed Rs. 161.85 crore of employee expenditure in FY 2004-05, under the truing-up exercise.

REL has projected the employee expenses for FY 2005-06, based on six month actuals and balance projection, in its Petition for FY 2005-06, wherein it has considered an increase in the employee expenditure in FY 2005-06 over the actual employee expenditure in FY 2004-05. In its Petition for FY 2006-07, REL has given the actual employee expenses in FY 2005-06. Hence, the Commission has allowed employee expenses for FY 2005-06, by considering an increase of around 9.8% over the allowed level of expenses in FY 2004-05 (after truing-up), based on the increase in basic salary over the last five years. The employee expenses allowed by the Commission for FY 2004-05 and FY 2005-06 are given in the Table below:

Employee Expenses (Rs. Crore)

Particulars	FY 2004-05			FY 2005-06		
	Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
Salaries (Basic)	50.78	56.70	56.70	59.72	63.18	62.26
Dearness allowance	16.53	21.21	21.21	23.86	26.23	23.30
Other allowances/bonus/benefits, etc.	48.62	99.19	73.66	113.50	101.01	80.89
Gross Employee Cost	**115.93**	**177.10**	**151.58**	**197.09**	**190.42**	**166.45**
Provision for VRS	10.00	0.00	0.00	0.00	0.00	0.00
Contribution to PF, Pension and Gratuity	10.27	30.24	10.27	26.73	16.84	16.31
Total Employee Cost	**136.20**	**207.34**	**161.85**	**223.82**	**207.26**	**182.76**

3.8.2 Administration & General Expenses

The Commission had approved A&G expenses of Rs. 70.4 crore, in its Order on ARR and Tariff Petition for FY 2004-05, based on REL's projection of the same. However, REL submitted that the actual A&G expenditure in FY 2004-05 is much higher, at Rs. 102 crore, and has sought truing up of the actual A&G expenses. Subsequently, for FY 2005-06, no significant increase in expenditure has been sought by REL.

The Commission has examined the prudence of the A&G expenditure incurred by REL in FY 2004-05 and FY 2005-06. The A&G expenses have been ranging at around the same level of around Rs. 70 crore over the last three years (upto FY 2003-04). However, REL has claimed significantly higher expenses in FY 2004-05 under this head, which is abnormal, and no reasons have been given for the abnormal increase in A&G expenses. The Commission is of the opinion that A&G expenses should be controlled, and has hence allowed A&G expenses for FY 2004-05 and FY 2005-06, based on the normative increase of 3.3% over the period FY 1998-99 to FY 2003-04, as given in the Table below. This is consistent with the approach followed by the Commission for all Utilities in the State.

A&G Expenses (Rs. Crore)

S.no.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
1	**A&G Expenses**	70.35	102.02	74.05	95.60	101.64	76.48

3.8.3 Repair & Maintenance Expenses

The Commission had approved R&M expenses of Rs. 63.8 crore, in its Order on ARR and Tariff Petition for FY 2004-05, based on REL's projection of the same. However, REL submitted that the actual R&M expenditure in FY 2004-05 is much higher, i.e., of Rs. 84.9 crore, and has sought truing up of the actual R&M expenses. For FY 2005-06, REL has submitted that the actual R&M expenditure is of an amount of Rs. 155.8 crore. REL has explained the reasons for such higher figure towards R&M expenses due to additional expenditure on account of two reasons, that being (i) increase in road reinstatement charges, and (ii) necessary repairs on account of cable damage due to road widening by Mumbai Metropolitan Region Development Authority (MMRDA).

The Commission has examined the prudence of the R&M expenditure incurred by REL in FY 2004-05 and FY 2005-06. The Commission has considered the actual expenditure incurred by REL on R&M in FY 2004-05, though the amounts are higher than the amount allowed by the Commission in the Tariff Order. For FY 2005-06, the Commission has considered a 3.5% increase in R&M expenditure over FY 2004-05 levels, based on past trends (5-year CAGR).

As regards the additional cost incurred on repairs, on account of cable damage due to road widening, having regard to the duties and obligations of the licensee under the EA 2003, while the Commission has allowed the expenses estimated by REL on account of the aforesaid cable damage by MMRDA as necessary expenses on account of repairs, at the same time, the Commission observes that REL is entitled, under Section 185(2)(b) of the EA 2003 read with the rules made under Section 67(2) by the Central Government and notified vide G.S.R. 217(E) dated 18th April, 2006, to secure compensation from MMRDA towards the damage to their cables. In view of the above, REL is directed to submit to the Commission monthly progress/status reports alongwith copies of communication exchanged with MMRDA, in relation to the compensation that REL has already claimed or is entitled to claim from MMRDA, under law, as aforesaid. The amounts which have been allowed hereunder, as stated by REL under affidavit to be incurred towards necessary repairs for the damaged cables, would be adjusted in the ARR and proposed Tariff filings for the next financial year, having regard to the compensation which REL would secure from MMRDA in exercise of its legal rights as aforesaid. The R&M expenses allowed by the Commission for FY 2004-05 and FY 2005-06 are given in the Table below:

R&M Expenses (Rs. Crore)

S.no.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
1	Net R&M Expenses	63.81	84.89	84.89	129.73	155.78	155.78
2	Gross Fixed Assets at beginning of year	3,089.76	3,141.17	3,141.17	3,284.40	3,306.15	3,287.37
3	R&M Expenses as % of GFA at beginning of year	2.1%	2.7%	2.7%	3.9%	4.7%	4.7%

3.9 DEPRECIATION

The Commission, in its earlier Order dated July 1, 2004 had permitted depreciation to the extent of Rs 232.42 Crore for FY 2004-05, which amounts to 7.52% of Opening level of Gross Fixed Assets (GFA) of REL for FY 2004-05. The Depreciation rates were considered as prescribed in the notification issued by the Ministry of Power, Government of India, in March 1994.

REL, in its ARR Petition, submitted actual depreciation costs incurred for FY 2004-05 as Rs 228.74 Crore and the overall depreciation rate amounts to 7.28% corresponding to opening GFA of Rs 3141.17 Crore. For FY 2005-06, REL proposed depreciation in accordance with the depreciation rates provided under the MERC (Terms and Conditions of Tariff) Regulations, 2005. Accordingly, REL proposed total depreciation expenditure cost for FY 2005-06 as Rs 105.88 Crore, amounting to overall depreciation rate of 3.22% corresponding to opening GFA of Rs 3284.40 Crore.

The Commission has examined the depreciation and actual capitalisation claimed by REL in detail as against the various capex schemes approved by the Commission. The Commission has noted that the actual Opening level of GFA for FY 2004-05 amounts to Rs 3141.17 Crore as against Rs 3090 Crore considered by the Commission in its Tariff Order. Further, the

Commission notes that as against permitted capitalisation of Rs 100.12 Crore under its earlier Tariff Order, actual capitalisation by REL during FY 2004-05 amounted to Rs 176.32 Crore. The Commission has verified the actual capitalisation claimed by REL as against the capex schemes already approved by the Commission. In this context, as against the proposed scheme for Metering and Instruments for Rs 111.52 Crore, the Commission had given in-principle clearance for Rs 74.25 Crore, disallowing replacement of electro-mechanical meters with static meters with service age of less than 15 years. REL has claimed expenditure and capitalisation of Rs 88.72 Crore under metering and instruments for FY 2004-05. No details of physical assets created after execution of the scheme has been furnished.

Further, the Commission notes that as submitted under Form F5.4, REL has not claimed any cost towards interest capitalisation and only cost of works capitalisation has been considered for capitalisation. The Commission opines that interest cost during construction (IDC) should not be considered as part of revenue expense and the same should be capitalised along with assets, as and when put to use. Accordingly, the Commission had considered capitalised cost including IDC derived based on normative debt (70% of capitalised cost) at the interest rate of 10% for the schemes initiated during FY2004-05 and FY2005-06. The capitalisation details during FY2004-05 and FY2005-06 are summarised in the following Table.

Table: Capitalisation **(Rs Crore)**

Sl.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	Actuals	Commission	Petition	Actuals	Commission
1	Works capitalized		176.32	167.55	303.89	294.08	279.82
2	Interest capitalised		0.00	11.73	0.00	0.00	19.59
3	**Total Capitalisation**	**100.12**	**176.32**	**179.28**	**303.89**	**294.08**	**299.41**

As regards applicability of depreciation rates for FY 2005-06, the Commission, in its Order dated April 13, 2006, stipulated that "*the norms for approval of ARR and principles for determination of tariff as enunciated in the latest Tariff Orders of each licensee shall form the basis for approval of the Annual Revenue Requirement of licensees/Utility for FY 2005-06 and the determination of ARR and Tariff FY 2006-07 will be governed by the Tariff Regulations*".

REL has submitted the actual depreciation expenditure in FY 2004-05 and FY 2005-06, which have been computed in accordance with the depreciation rates considered in its Tariff Order, which is in line with notified depreciation rates by Ministry of Power, Government of

India under its Notification of March 1994. REL is directed to submit the Auditor's certificate certifying that the accumulated depreciation for each asset in the asset register has not exceeded 90% of the asset value, as depreciation cannot be claimed beyond 90% of the asset value. The Depreciation expenditure approved by the Commission for FY 2004-05 and FY 2005-06 are summarised in the following Table:

Table: Depreciation Expense (Rs Crore)

Sl.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	**Actuals**	**Commission**	**Petition**	**Actuals**	**Commission**
1	**Depreciation**	**232.42**	**228.74**	**228.74**	**105.88**	**243.61**	**243.36**
2	**Opening GFA**	**3090.00**	**3141.17**	**3141.17**	**3284.40**	**3306.15**	**3287.37**
3	**Depreciation Rate (%)**	**7.52%**	**7.28%**	**7.28%**	**3.22%**	**7.37%**	**7.40%**

3.10 INTEREST ON LONG TERM LOAN

As regards interest costs, the Commission in its earlier Order dated July 1, 2004 under Clause 15.7 had observed as under –

> *"BSES has proposed funding of the entire additional Capital Expenditure through internal accruals and APDRP funds on the basis of past practices in this regard. The Commission is of the view that it is unfair to the consumers to consider the entire funding of the capital investment through own funds, as the Utility will earn a return on this investment, which is much higher than the corresponding interest expenditure in case of debt funding. During the Public Hearing also, many Objectors requested the Commission to consider a normative Debt: Equity ratio to fund the Capital Expenditure in the past years as well as FY 2003-04 and FY 2004-05. The Commission is of the opinion that since there was no clear cut directive to TPC to fund the Capital Expenditure on a normative Debt: Equity ratio, it would be unfair to BSES if the funding pattern is modified retrospectively on a normative basis for capital expenditure incurred in the past years. However, for FY 2003-04 and FY 2004-05, the Commission has considered a normative Debt: Equity ratio of 70:30 to fund the fresh capital investments and has accordingly computed interest expenditure on the normative loan amount.*
>
> *As discussed in the earlier Section on Capital Expenditure, the Commission has allowed an investment of Rs. 92 Cr in FY 2003-04 and Rs. 102 Cr in FY 2004-05. The Commission has applied a normative Debt: Equity Ratio of 70:30 on the new investments and allowed interest on the normative Debt component at 10% per annum, with repayment over 10 years."*

Accordingly, the Commission had permitted interest cost of Rs 8.72 Crore for FY 2004-05 due to additional loan based on normative debt: equity of 70:30 for new investments at the rate of 10%. As against approved interest cost of Rs 8.72 Crore, REL submitted that actual interest cost for FY 2004-05 has been Rs 19.62 Crore and projected the interest cost for FY 2005-06 as Rs 42.92 Crore.

The Commission observes that REL had computed interest costs for the normative debt corresponding to entire capital expenditure incurred during that year. As observed earlier, the Commission opines that interest cost towards capital expenditure needs to be capitalised as and when the asset is put to use and should not be charged to revenue expense. Pursuant to such capitalisation, interest costs can be charged to revenue expense over the repayment tenure of such outstanding debt. Accordingly, the Commission has considered interest cost of normative debt corresponding to capitalised assets only. The details of interest cost are summarised in the following Table.

Table: Interest Expenditure (Rs Crore)

Sl.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
1	Opening Balance of Loan		96.60	82.87	295.90	295.90	200.04
2	Additions		208.96	125.50	286.69	268.76	209.59
3	Repayment		(9.66)	(8.33)	(20.08)	(20.40)	(14.89)
4	Closing Balance of loan		295.90	200.04	562.50	544.26	394.73
5	Interest cost	**8.72**	**19.62**	**14.15**	**42.92**	**42.01**	**29.74**
6	**% Interest Rate**		10.0%	10.0%	10.0%	10.0%	10.0%

3.11 WRITE-OFF OF BAD DEBTS

The Commission had approved provision for doubtful debts at Rs. 5.33 crore, which was equal to 5% of the bad and doubtful debts of around Rs. 107 crore considered by the Commission. However, REL submitted that the actual write-off of bad debts in FY 2004-05 is higher, at Rs. 22.33 crore, and has sought truing up of the actual write-off of bad debts. REL submitted that the receivables are higher than the levels considered by the Commission which was also stated in the Review Petition filed by REL on the same. For FY 2005-06, REL requested for approval of bad debts written off to the extent of Rs. 5 crore, which amounts to 1.5% of total receivables. The actual bad debt written off in FY 2005-06 has been indicated as Rs. 8.15 crore, which amounts to 2.3% of total receivables.

The Commission has examined the prudence of the amount of receivables and bad debts write-off claimed by REL. The Commission is of the view that REL has included the normal receivables, which occur due to the nature of the billing cycle, and which are not essentially bad and doubtful debts. Moreover, in the Review Petition, REL had claimed provision for bad debts write-off to the extent of Rs. 12 crore against receivables of Rs. 240 crore. Now REL is claiming receivables of Rs. 320 crore. As REL claims a collection efficiency of over 99%, the receivables cannot and should not increase at such a rate. Further, the bad and doubtful debts cannot be at such high levels. The write-off of bad debts is related to the quantum of bad and doubtful debts, and not to the entire receivables. Effectively, the quantum of bad debts write-off as a percentage of the total receivables has to be much lower. The Commission has accordingly considered a level of 1.5% of the entire receivables, as indicated by REL, as given in the Table below:

Provision for Doubtful debts (Rs. Crore)

S.no.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	Actuals	Allowed after truing up	Petition	Actuals	Allowed after truing up
1	Receivables	107	320.89	320.89	337.39	347.72	318.73
2	Income Billed		2,705.36	2,705.36	2736.57	2585.25	2585.25
3	Number of days of receivables		43.29	43.29	45.00	49.09	45.00
4	Bad Debts Written Off	5.33	22.29	4.81	5.00	8.15	4.72
5	Bad Debts Written Off as % of Receivables	5%	6.9%	1.5%	1.5%	2.3%	1.5%

3.12 INCOME TAX

REL has considered income tax liability of Rs. 101 crore and Rs. 74 crore in FY 2004-05 and FY 2005-06, respectively. In the Tariff Order for FY 2004-05, the Commission had projected income tax liability of Rs. 95 crore, on the following rationale:

> *"The Commission has projected Income Tax applicable to profit before tax computed for the License Area operations. The Commission has adopted the methodology in line with its earlier Order for TPC for computation of Corporate Income Tax and has accordingly computed the Income Tax for FY 2003-04 and FY 2004-05 based on the Commission's estimate of revenue and expenditure. The Commission has also considered the Tax benefit available to DTPS under Section 80 IA of the Income Tax Act based on the submissions of BSES in this regard."*

Analysis of REL's audited Annual Reports for FY 2004-05 and FY 2005-06, reveals that the actual income tax paid by REL in FY 2004-05 and FY 2005-06 for the current year is Rs. 25.48 crore and Rs. 89.88 crore, respectively. Further, the income tax includes the revenue earned by REL on its other businesses, viz., primarily its energy businesses in Goa and

Andhra Pradesh, and its EPC business. In FY 2004-05, the actual income tax paid by REL as a whole, is far lesser than the income tax being considered for truing up purposes. This is irrational, as truing up is undertaken based on actual revenue and expenses, subject to prudence check.

Also, REL is leveraging the balance sheet of its electricity business, of which the Mumbai license area comprises around 50%, in terms of revenue, for investment in other businesses like the Metro Rail project under MMRDA. The consumers of the Mumbai license area should therefore get the benefit of the tax shelter, if any, being derived by the other business ventures. Moreover, the consumers of the Mumbai license area should not subsidise the other businesses of REL by way of payment of notional income tax. Hence, in larger public interest, the Commission rules that the income tax allowable for REL's licence business in Mumbai, will be a proportion of the actual income tax paid by REL.

In the absence of any statement for allocation of income tax liability across the businesses of REL, the actual income tax paid by REL in FY 2004-05 and FY 2005-06 has been apportioned between the Mumbai license area business and other business of REL. Based on the allocation of expenses and revenue between REL's licensed business and other business, it is found that the other businesses of REL contribute around 70% of the gross profit, while the Mumbai licensed area contributes only 30% of the gross profit. Accordingly, only 30% of the actual income tax paid by REL has been apportioned to REL's licensed business in Mumbai. Thus, the income tax expenditure allowed for FY 2004-05 and FY 2005-06 is Rs. 7.64 crore and Rs. 26.96 crore, respectively. If REL is able to provide documentary evidence that the actual income tax paid by REL for its Mumbai license area business is higher than the income tax considered by the Commission, then the corresponding amount will be considered for trueing up in the next year.

3.13 REVENUE FROM SALE OF ELECTRICITY

REL has submitted the details of actual revenue from sale of electricity for FY 2004-05 and FY 2005-06, as Rs. 2347 Crore and Rs. 2585 Crore, respectively. The Commission has considered the actual revenue as submitted by REL for truing up purposes in FY 2004-05 and FY 2005-06.

3.14 NON-TARIFF INCOME

The Commission had projected non-tariff income in FY 2004-05 at Rs. 107.5 crore, which included Rs. 68.5 crore of income from investments other than those considered in the Capital Base. However, REL submitted that the actual non-tariff income in FY 2004-05 is much lower, at Rs. 39.24 crore, and has sought truing up of the actual non-tariff income. For FY 2005-06, REL projected non-tariff income of Rs. 35.4 crore, while the actual non-tariff income has been equivalent to Rs. 51.2 crore.

The actual non-tariff income reported by REL is lower than the amount considered by the Commission, primarily because of non-inclusion of the income from investments other than those considered in the Capital Base. As the same has also not been included in the Reasonable Return computations, the effect has been off-set. Hence, the Commission has considered the non-tariff income equal to the actual non-tariff income reported by REL, as shown in the Table below:

Non-Tariff Income (Rs. Crore)

Sl.	Particulars	FY 2004-05			FY 2005-06		
		Tariff Order	**Actuals**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
1	Delayed Payment Charges		6.09	6.09	8.10	13.88	13.88
2	Miscellaneous receipts		15.33	15.33	14.44	25.22	25.22
3	Interest on Contingency Reserve Investments		3.56	3.56	3.44	2.40	2.40
4	Others		14.25	14.25	9.43	9.71	9.71
5	**Total**	**107.50**	**39.24**	**39.24**	**35.40**	**51.21**	**51.21**

3.15 CAPITAL BASE

In the Order for determination of ARR for FY 2003-04 and FY 2004-05, and determination of tariff for FY 2004-05, the Commission had restated the Capital Base for REL for the period from FY 1997-98 to FY 2003-04, and had allowed the Capital Base for FY 2004-05, after adjusting the reserves and allowing for the impact of the standby charges with retrospective effect.

For FY 2004-05 and FY 2005-06, the Capital Base computations have to be undertaken, as the Commission in its Order dated April 13, 2006, stipulated that the principles specified in the Commission's previous Tariff Order would be applied for determination of the ARR for FY 2005-06, and the Commission's Tariff Regulations would be applied from FY 2006-07 onwards. REL submitted the Capital Base computations for FY 2004-05 and FY 2005-06 based on the actual addition to assets, depreciation and borrowings. The Commission has allowed the Capital Base with modifications for the allowed level of asset addition, depreciation and borrowings, as shown in the Table below:

Capital Base (Rs. Crore)

Sl	Particulars	FY 2004-05			FY 2005-06	
		Tariff Order	Actual	Allowed after truing up	Actuals	Allowed after truing up
a)	The original cost of fixed assets	3,189.88	3,283.66	3,287.37	3,599.77	3,527.85
	Less:(i) Service Line Contribution made by consumers	(99.94)	(107.28)	(107.28)	(118.96)	(118.96)
	(ii) Rural Electrification Scheme	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
	(iii) Grant under APDRP		0.00	0.00	0.00	0.00
	Sub-Total	**3,089.84**	**3,176.27**	**3,179.98**	**3,480.70**	**3,408.78**
b)	The cost of intangible assets including expenses on account of new capital issue	13.10	13.10	13.10	12.17	12.17
c)	The original cost of Work-in-Progress	25.57	190.28	228.03	212.61	273.36
d)	(i) Investments from contributions to Contigencies Reserve (Limited to Reserve)	55.46	56.73	56.73	75.45	75.45
	(ii) Debenture Redemption fund investment					
	(iii) Deferred Taxation liability fund investment	0.00		0.00	0.00	0.00
e)	An amount on account of working capital equal to the sum of					
	(i) One twelfth of the sum of the book cost of stores,materials and supplies including fuel on hand at the end of each month of the year of account	82.20	111.31	111.31	139.96	139.96
	(ii) One twelfth of the sum of Cash and Bank balances (whether credit or debit)and call and short term deposits at the end of each month of the year of account	48.02	9.29	9.29	15.78	15.78
	Total (A)	**3,314.19**	**3,556.98**	**3,598.44**	**3,936.67**	**3,925.50**
	Less					
(I)	Accumulated Depreciation					
	(i) Depreciation on Fixed Assets	1,858.50	1,850.60	1,827.55	2,072.08	2,069.42
	(ii) Intangible Assets written-off:		0.00	0.00	0.00	0.00
	Global Depository Share Issue Expenses -	8.22	8.22	8.22	8.22	8.22
(II)	The amount of any loans advanced by the Board	116.14	255.50	200.04	544.26	394.73

Sl	Particulars	FY 2004-05			FY 2005-06	
		Tariff Order	Actual	Allowed after truing up	Actuals	Allowed after truing up
	(ii-a) The amount of any loans borrowed from organisations or institutions approved by the State Government -	0.00	0.00	0.00	0.00	0.00
	(a) Loan from International Bank for Reconstruction and Development	0.00	0.00	0.00	0.00	0.00
	(b) Power Finance Corporation Ltd.(PFC)	0.00	0.00	0.00	0.00	0.00
	(ii-b) The amount of any debentures issued by the Licensees	0.00	0.00	0.00	0.00	0.00
(III)	The amount deposited in cash with the Licensee by consumers by way of security	192.43	182.87	182.87	187.06	187.06
(IV)	The amount standing to the credit of the Tariffs and Dividends Control Reserve (at the beginning of the year of account)	17.38	17.38	17.38	17.38	17.38
(V)	Amount standing to the credit of the Development Reserve		0.00	0.00	0.00	0.00
(VI)	The amount carried forward (at the beginning of the year of account) in the accounts of the Licensee for distribution to the consumers under Paragraph II	17.38	17.38	17.38	17.38	17.38
(VII)	Special Appropriation permitted by State Government -					0.00
	(a) Debenture Redemption Reserve	(0.00)	0.00	0.00	0.00	0.00
	(b) Development Reserve A/c no. II	18.97	18.97	18.97	18.97	18.97
	(c) Development Reserve A/c no. III	140.88	140.88	140.88	140.88	140.88
	(d) Reserve for Power Project	100.00	100.00	100.00	100.00	100.00
	(e) Deferred Taxation Liability Fund Reserve	0.00	0.00	0.00	0.00	0.00
	Total (B)	**2,469.89**	**2,591.80**	**2,513.29**	**3,106.23**	**2,954.04**
	CAPITAL BASE (A-B)	**844.29**	**965.18**	**1,085.15**	**830.44**	**971.46**

3.16 REASONABLE RETURN

The methodology for computation of Reasonable Return has been stipulated in the Schedule VI of the erstwhile Electricity (Supply) Act, 1948. For FY 2004-05 and FY 2005-06, the computation of Reasonable Return on the Capital Base has to be undertaken, in accordance with the same principles outlined for computation of Capital Base. REL submitted the Reasonable Return computations for FY 2004-05 and FY 2005-06 based on the Capital Base computations and the applicable rate of Return. The Commission has allowed the Reasonable

Return for FY 2004-05 and FY 2005-06, on the Capital Base as computed by the Commission, as shown in the Table below:

Reasonable Return (RR) (Rs. Crore)

Sl	Particulars	FY 2004-05			FY 2005-06	
		Tariff Order	Actual	Allowed after truing up	Actuals	Allowed after truing up
(A)	Capital Base as at 31st March,1965	0.4	0.4	0.4	0.4	0.4
	Capital Base from 1st April,1965 to 31st March, 1982	2.0	2.0	2.0	2.0	2.0
	Capital Base from 1st April,1982 to 31st March,1991	4.3	4.3	4.3	4.3	4.3
	Capital Base from 1st April,1991 to 15th October,1991	2.2	2.2	2.2	2.2	2.2
	Capital Base from 16th October,1991 to 31st March,1992	2.3	2.3	2.3	2.3	2.3
	Capital Base from 1st April,1992 to 31st March,1998	133.2	133.2	133.2	133.2	133.2
	Capital Base from 1st April,1998 to 31st March,1999	21.0	21.0	21.0	21.0	21.0
	Capital Base from 1st April,1999 [on balance]	21.6	41.0	60.1	19.4	41.9
	Total	**187.01**	**206.36**	**225.52**	**184.80**	**207.33**
(B)	Income derived from investments other than those included in the Capital Base under the provisions of Clause (d) of Sub-paragraph XVII of the Sixth Schedule	68.50	0.0	0.0	0.0	0.0
(C)	1/2% on any loans advanced by the Board					
	1) An amount equal to one half of one per centum on the amount borrowed from organisations, or institutions approved by the State Government. [IBRD & PFC]	0.36	1.3	1.0	0.0	2.0
(F)	1/2% on Development Reserve A/c.No.II - 1/2% on Rs.	0.09	0.09	0.09	0.09	0.09
(G)	1/2% on Development Reserve A/c.No.III - 1/2% on Rs.	0.70	0.7	0.70	0.70	0.70
	REASONABLE RETURN	**256.66**	**208.43**	**227.32**	**185.59**	**210.10**

3.17 CLEAR PROFIT

The methodology for computation of Clear Profit has been stipulated in the Schedule VI of the erstwhile Electricity (Supply) Act, 1948. REL submitted the Clear Profit computations for FY 2004-05 and FY 2005-06 based on its actual expenses and revenue in these years. REL projected a gap of Rs. 94 crore and Rs. 28 crore in FY 2004-05 and FY 2005-06, respectively.

The Commission has computed the Clear Profit for FY 2004-05 and FY 2005-06, on the basis of the revenue estimated by the Commission and the expenditure allowed by the Commission after truing up, as shown in the Table below:

Clear Profit (Rs. Crore)

Particulars	**FY 2004-05**			**FY 2005-06**		
	Tariff Order	**Actual**	**Allowed after truing up**	**Petition**	**Actuals**	**Allowed after truing up**
Income						
Sale of Electricity	2,255	2,347	2,347	2,737	2,585	2,585
Non Tariff Income	108	39	39	35	51	51
Total Income	**2,363**	**2,386**	**2,386**	**2,772**	**2,636**	**2,636**
Expenditure						
Fuel Costs	435	467	467	525	511	511
Power purchase- variable costs	1,023	1,004	1,004	1,130	1,107	1,107
Addnl power purchase due to RPO Obligations			0.1			5
FAC Adjustment			(6.4)			
Employee Costs	136	207	162	224	207	183
R&M Expenditure	64	85	85	130	156	156
Admin & Others*	70	102	74	96	102	76
Bad Debts	5	22	5	5	8	5
Interest & Finance Charges	28	38	33	43	52	40
Depreciation for the year	232	229	229	106	244	243
Total Expenses	**1,994**	**2,155**	**2,052**	**2,258**	**2,387**	**2,326**
Profit Before Tax	**368**	**232**	**334**	**514**	**250**	**311**
Income Tax	95	101	8	90	74	27
Profit After Tax	**274**	**131**	**327**	**424**	**176**	**284**
Statutory appropriation						
Contingency @.5% of Gross Block	16	16	16	0	18	18
Clear Profit	**258**	**114**	**310**	**424**	**158**	**266**
Reasonable Return	**257**	**208**	**227**	**186**	**186**	**210**
Gap (CP-RR)	**1**	**(94)**	**83**	**238**	**(28)**	**56**

Note: 1.The Petition numbers for FY 2005-06 have been compiled by the Commission based on REL's submission on individual elements. REL has not submitted the Clear Profit computations in its Petition.

There is a surplus between the Clear Profit and Reasonable Return of Rs. 83 crore and Rs. 56 crore in FY 2004-05 and FY 2005-06, respectively as computed by the Commission. Hence, the surplus and the interest thereon has been adjusted against the revenue requirement of the Distribution function of REL in FY 2006-07, as REL earns revenue only through sale to retail consumers and does not earn revenue directly through its generation business or transmission business.

Further, in line with the approach adopted by the Commission in the earlier Tariff Order, the Commission has appropriated the reserves available with REL, which are to be utilised for reducing the tariff applicable for the consumers. The detailed treatment of the reserves has been elaborated in Section 7, while dealing with the revenue requirement of the Distribution function of REL in FY 2006-07.

4 ANNUAL REVENUE REQUIREMENT OF GENERATION FUNCTION FOR FY 2006-07

Reliance Energy Limited (REL) has a generating station at Dahanu, Maharashtra (Dahanu Thermal Power Station – DTPS) with a total installed capacity of 500 MW (2 x 250 MW). The power from DTPS is supplied to REL's distribution system.

REL, in its ARR Petition for FY 2006-07, submitted that the Commission has specified the norms of operation for various parameters for generating stations in the MERC (Terms and Conditions of Tariff) Regulations, 2005. The Commission, in its Order dated April 13, 2006 in the matter of applicability of MERC (Terms and Conditions of Tariff) Regulations, 2005, stipulated that "the determination of ARR and Tariff for FY 2006-07 will be governed by the Tariff Regulations".

As regards applicability of operational norms specified in Tariff Regulations, Regulation 26.2 of Tariff Regulations stipulates "*Provided further that in case of an existing generation station, the Commission shall determine the tariffs having regard to the historical performance of such generating station and reasonable opportunities for improvement in performance, if any*". As discussed in Section 2 of the Order, some of the stakeholders during public hearing represented that in case the actual performance is better than the operational norms stipulated in the Regulations, the operational parameters should be allowed at actual levels achieved during the previous years. In accordance with the provision in the Regulations, there is a need to specify the operational norms for existing DTPS based on historical performance of the generating station. The Commission is of the opinion that if historical performance is considered in toto, then there will be no room to motivate the Utility to improve further, as REL's historical performance has been better than the norms stipulated in the Regulations. At the same time, the historical performance needs to be considered, while stipulating the norms. Therefore, the Commission has considered revised operational norms for REL, keeping in view the past performance, while at the same time retaining some incentive for the Utility to encourage for sustained efficient operation. The revised operational norms approved by the Commission for DTPS Generating Station are discussed in subsequent sections.

4.1 GENERATION FROM DAHANU THERMAL POWER STATION

4.1.1 Gross Generation and PLF

REL, in its Petition, submitted that the Commission's Tariff Regulations stipulate availability of 80% for full recovery of annual fixed charges. REL has projected the total availability of DTPS for FY 2006-07, considering the planned outages for overhauls and boiler license renewal and a small provision for forced outages of the units, at 94.25%. REL has also projected the Plant Load Factor of DTPS for FY 2006-07 at 94.25%. The gross generation projected by REL during FY 2006-07 is 4128 MU.

The Commission has analysed the days of planned outages and forced outages as estimated by REL. REL has considered the planned outage of 25 days for minor overhaul of Unit I and planned outage of 10 days for boiler license renewal of Unit II. Based on the analysis of actual planned outages for the same activities, it is observed that the REL has completed the minor overhaul of Unit II in FY 2004-05 in around 16 days and boiler license renewal of Unit I in 7 days. Accordingly, the Commission has considered planned outage of 16 days for Unit I and 10 days for Unit II. The Commission has considered the forced outages of 3.5 days as proposed by REL. With these changes in number of days of planned outages, the availability and PLF of DTPS for FY 2006-07 as considered by the Commission works out to 95.48%, with gross generation of 4182 MU.

4.1.2 Auxiliary Consumption

REL, in its Petition, submitted that the Tariff Regulations stipulate an Auxiliary Energy Consumption limit of 8.5% for a generating station of 200 MW without cooling tower and accordingly, REL has estimated energy availability from DTPS after accounting for 8.5% auxiliary consumption. REL further submitted that with commissioning of Dry Fly Ash Utilisation Unit, the auxiliary consumption of DTPS has increased, in comparison to the low levels observed during the past many years.

The Commission has anlaysed the auxiliary consumption of DTPS for the last seven years including FY 2005-06 and observed that the actual auxiliary consumption achieved during the last seven years is in the range of 7.03%-7.82%, as given in the Table below:

Table: Auxiliary Consumption during last seven years

		FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06
Aux Cons(%)	%	7.03%	7.21%	7.82%	7.42%	7.34%	7.53%	7.59%

In accordance with the provisions of Regulations and considering the actual auxiliary consumption achieved during the past seven years including auxiliary consumption for FY 2005-06 after installation of dry fly ash utilisation unit, the Commission approves the revised norm of auxiliary consumption for DTPS as 7.80%, with the objective of retaining some incentive for the Utility for improved performance. The summary of Availability, PLF, Gross Generation, Auxiliary Consumption and Net Generation as estimated by REL in the Petition and as approved by the Commission is given in the Table below:

Table: Summary of Gross and Net Generation

Particulars	Units	FY 06-07	
		Petition	Commission
Availability	%	94.25%	95.48%
Gross Generation	MU	4128	4182
PLF	%	94.25%	95.48%
Aux Consumption	%	8.50%	7.80%
Net Generation	MU	3777	3856

4.2 VARIABLE (FUEL) COSTS OF DTPS

The variable cost of generation depends upon following parameters:

- Heat Rate
- Secondary Oil Consumption
- Fuel Blending
- Fuel Parameters (Cost of Fuel and Calorific Value)

4.2.1 <u>Heat Rate</u>

REL, in its Petition, submitted that the Tariff Regulations stipulate a normative Gross Station Heat Rate of 2500 kCal/kWh for a 250 MW coal based thermal generating station. REL further submitted that it has historically maintained a heat rate of around 2300 kCal/kWh, which has been possible due to REL's continuous endeavour to achieve the highest level of efficiency in operation and by excellent maintenance of the plant. REL, in its Petition, projected the heat rate of 2315 kCal/kWh for FY 2006-07, though for the purpose of estimating the rate of energy charge, REL has considered the heat rate of 2500 kCal/kWh in accordance with the norm stipulated in the Tariff Regulations.

The Commission has anlaysed the heat rate of DTPS for the last seven years including FY 2005-06 and observed that the actual heat rate achieved during the last seven years is in the range of 2272-2320 kCal/kWh. The actual heat rate during the last seven years is given in Table below:

Table: Heat Rate during last seven years

	FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06
Heat Rate (kCal/kWh)	2313	2313	2320	2312	2319	2272	2286

In accordance with the provisions of Regulations and considering the actual heat rate achieved during the past seven years, the Commission approves the revised norm of heat rate for DTPS as 2350 kCal/kWh, with the objective of retaining some incentive for the Utility for improved performance.

4.2.2 Secondary Oil Consumption

REL, in its Petition, submitted that the Tariff Regulations stipulate a normative secondary fuel oil consumption of 2.0 ml/kWh for a coal based thermal generating station. REL further submitted that it has historically maintained a secondary fuel oil consumption of around 0.5 ml/kWh. REL submitted that consumption of secondary fuel oil is directly linked to number of start up and low-load support requirement of a coal fired unit. REL, in its Petition, projected secondary fuel oil consumption of 0.5 ml/kWh for FY 2006-07, though, for the purpose of estimating the rate of energy charge, REL has considered the secondary fuel oil consumption of 2 ml/kWh in accordance with the norm stipulated in the Tariff Regulations.

The Commission has anlaysed the secondary fuel oil consumption of DTPS for the last seven years including FY 2005-06 and observed that the actual secondary fuel oil consumption during the last seven years is in the range of 0.12-0.50 ml/kWh.

In accordance with the provisions of Regulations and considering the actual heat rate achieved during the past seven years, the Commission approves the revised norm of secondary fuel oil consumption for DTPS as 0.80 ml/kWh, with the objective of retaining some incentive for the Utility for improved performance.

4.2.3 Blending of Coal, Fuel Price and Fuel Calorific Value

REL, in its Petition, submitted that REL intends to use only washed coal and imported coal with a blending ratio of 80%:20% during FY 2006-07. Considering the actual blending ratio of washed coal and imported coal for FY 2005-06, the Commission has considered the blending ratio of 80%:20% (washed coal:imported coal) as proposed by REL.

REL in its Petition submitted that the landed price of coal has been considered with 10% escalation over the corresponding cost of previous year keeping in view the general market trend of increase in transportation cost, diesel price, base coal price and associated taxes and duties.

As regards secondary fuel, REL submitted that it uses HFO (Heavy Furnace Oil) or LDO (Light Diesel Oil) as its secondary fuel for power generation. REL has projected the landed price of secondary fuel for FY 2006-07 by considering 10% escalation over the corresponding cost in previous year based on recent and expected hike in crude oil prices and related hikes on LDO and HFO prices.

The Commission has analysed the detailed break up of the actual coal price for FY 2004-05 and FY 2005-06 submitted by REL and the projected coal price for FY 2006-07. REL has not provided the detailed break up of coal price against all the components of fuel price in the format specified by the Commission. Further, the Commission would like to stipulate that for the purpose of Fuel Price to be considered for computing the energy charge and for variation in fuel price to be allowed through FAC mechanism in future, the definition of 'Fuel Price' shall be as follows:

Fuel Price shall mean the landed cost of fuel at power station battery limits and will consist of only following components:

a) Basic Fuel Price including statutory taxes, duties, royalty as applicable

b) Transportation (freight) cost by rail/road/pipeline or any other means including transportation service charges for bringing fuel up to the Power Station boundary.

c) Fuel Treatment Charges such as washing / cleaning charges, Sizing Crushing Charges, Fuel Analysis Charges etc. for making fuel up to the required grade / quality

d) Fuel Handling Charges, including that towards loading and unloading charges for bringing fuel to the power station boundary.

Besides above, the Commission specifies a ceiling on 'transportation service charge', at 2% of the freight charge.

The Commission directs REL to submit hereafter the break up of total fuel price per unit in the above components for arriving at the total landed cost of fuel at power station battery limits alongwith all FAC submissions as well as ARR and Tariff filings.

Based on the analysis of various components of washed coal price, the Commission observed that REL has considered a transit loss component of 2.5% for FY 2006-07, though the actual transit loss during FY 2005-06 was 2.04%. The Tariff Regulations stipulates a transit loss of 0.8% for non pit head generating stations. The Commission is of the opinion that the actual transit losses for FY 2005-06 are on the higher side and REL should take steps to reduce the transit losses. REL should reduce the transit losses by 0.25% every year, till the transit losses reach the normative level of 0.8% for non pit head generating stations. Accordingly, the Commission has considered a transit loss of 1.79% for arriving at the cost of washed coal.

For FY 2006-07, the Commission has considered the price and calorific value of primary fuel (washed coal and imported coal) equivalent to average actual fuel price and calorific value for

FY 2005-06, subject to adjustments of transit loss component in the price of washed coal. For secondary fuel, the Commission has considered the actual fuel price and calorific value as applicable during the last quarter of FY 2005-06. The Commission has not considered any escalation in fuel prices as the adjustments for variation in fuel prices is allowed as part of FAC mechanism. The summary of coal prices and calorific value as projected by REL and as considered by the Commission is given in the Table below:

Table: Fuel Price and Calorific Value of Primary Fuel

	FY 2006-07	
	Petition	**Commission**
A. Fuel Price (Rs/MT)		
Washed Coal	2383	2122
Imported Coal	2858	2360
B. Calorific Value (kCal/kg)		
Washed Coal	3900	3982
Imported Coal	5200	5137
C Fuel Price (Rs/Mkcal)		
Washed Coal	611	533
Imported Coal	550	459

Table: Fuel Price and Calorific Value of Secondary Fuel

	FY 2006-07	
	Petition	**Commission**
A. Fuel Price (Rs/kL)		
LDO	26917	26404
HFO	22245	23150
B. Calorific Value (kCal/kg)		
LDO	9540	9509
HFO	10017	10100
C Fuel Price (Rs/Mkcal)		
LDO	2821	2777
HFO	2221	2292

4.2.4 <u>Total Fuel Costs and Variable Cost of Generation</u>

REL has made a computational error in the total fuel costs and Energy Charge per unit in its Petition. The total fuel costs based on the normative parameters considered by REL works out to Rs 630.7 Crore as against Rs 589.90 Crore estimated by REL, and Rate of Energy Charge per unit works out to Rs 1.67/kWh as against Rs 1.56/kWh estimated by REL.

Based on heat rate, secondary fuel oil consumption, fuel prices and fuel calorific value as discussed in above paragraphs, the total fuel costs and variable cost of generation for FY 2006-07 as estimated by REL and as approved by the Commission is summarized in the following Table:

Table: Total Fuel Costs and Variable Cost of Generation

Particulars	Units	FY 2006-07	
		Petition	**Commission**
Total Fuel Costs	Rs Crore	589.9	512.5
Cost of Generation (Generator Terminal)	Rs/kWh	1.43	1.22
Energy Charge per unit (At bus bas)	Rs/kWh	1.56	1.33

The total fuel costs for FY 2006-07 as approved by the Commission is Rs 512.5 Core and the rate of Energy Charge per unit as approved by the Commission is Rs 1.33/kWh.

4.3 OPERATION & MAINTENANCE EXPENSES

The MERC (Terms and Conditions of Tariff) Regulations, 2005 for Generation Business requires the O&M expenses to be considered on a normative basis based on past trends, rather than undertaking a detailed analysis of each head of expenditure under O&M, viz., employee expenditure, A&G expenditure, and R&M expenditure. However, REL has projected each head of expenditure separately, and the Commission has also adopted the same approach, considering that the past trends have to be kept in mind, while determining the expenditure for future years.

4.3.1 Employee Expenses

REL projected employee expenses of Rs. 33.7 Cr in FY 2006-07, including terminal benefits. REL provided details of the employee expenses under various heads in accordance with the Formats stipulated by the Commission. The main heads of employee expenses are salaries and wages, dearness allowance, other allowances/bonus/benefits and terminal benefits.

REL projected a 30% increase in employee cost in FY 2006-07 over FY 2005-06 levels, comprising normal salary increase of around 7.5% and a further increase of about 23 % towards the expected salary revision in FY 2006-07. REL submitted that the existing Wage Agreement with the Union is for a period of four years from 1.7.02 to 30.6.06, while the officers' salary revision is for four years from 1.4.02 to 31.3.06. REL stated that during the last salary revision effective since FY 2002-03, there was an increase of around 20% for unionized staff/workers and about 30% for the officers, resulting in an overall increase of around 23%, over and above the normal annual increase. Hence, an overall increase of 23%

has been provided towards Salary Revision in the FY 07 over and above the normal increase of 7.5%.

The Commission opines that in a regulated and cost-plus environment, employee expenses due to the salary revision need not be considered as pass through to the consumer and the Utility should get efficiency gains in return for wage revision. The Commission will consider approval of employee expenses on a normative basis, in future. Hence, the Commission has not considered the impact of the proposed wage revision, while allowing the employee expenses for FY 2006-07. The Commission has considered an increase of around 7.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the increase projected by REL, and allocated the share of REL's generation business proportionately. The employee expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Employee Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Basic Salary	7.43	6.33
2	Dearness Allowance (DA)	2.83	2.09
3	Earned Leave Encashment	3.67	2.83
4	Other Allowances	15.86	8.41
	Terminal Benefits		
5	Provident Fund Contribution	1.56	0.76
6	Super Annuation	0.61	0.60
7	Gratuity Payment including prov.	1.76	0.64
8	**Gross Employee Expenses**	**33.72**	**21.66**
9	Less: Expenses Capitalised	0.00	0.00
10	**Net Employee Expenses**	**33.72**	**21.66**

4.3.2 Administration & General Expenses

REL projected A&G expenses of Rs. 18.3 Cr in FY 2006-07. REL provided details of the A&G expenses under various heads in accordance with the Formats stipulated by the Commission. The main heads of A&G expenses are insurance, water charges, miscellaneous and others.

The Commission has considered an increase of around 3.3% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in A&G expenses, and allocated the share of REL's generation business proportionately. The A&G expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

A&G Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	A&G Expenses	18.29	13.73

4.3.3 <u>Repair & Maintenance Expenses</u>

REL projected R&M expenses of Rs. 33.6 Cr for FY 2006-07, which is about 2.6% of the Gross Fixed Assets (GFA) at the beginning of the year. REL submitted that DTPS is operating at PLF much above the normative PLF provided in the Tariff Regulations, and the high PLF on an ageing plant (more than 10 years old) has its implications on the overall R&M cost. REL has added that DTPS units will be carrying out mandatory overhaul and boiler license renewal related works in FY 2006-07 to support sustained reliability and high PLF.

The Commission has considered an increase of around 3.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in R&M expenses, and allocated the share of REL's generation business proportionately. The R&M expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

R&M Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Net R&M Expenses	33.58	25.69
2	Gross Fixed Assets at beginning of year	1,316.25	1302.58
3	R&M Expenses as % of GFA at beginning of year	2.6%	2.0%

4.4 DEPRECIATION

REL, in its ARR Petition, proposed depreciation expenditure for FY 2006-07 for Generation business as Rs 51.42 Crore. The overall depreciation rate amounts to 3.91% corresponding to opening GFA of Rs 1316.47 Crore. REL submitted that depreciation costs projected for FY 2006-07 are in accordance with depreciation rates provided under MERC (Terms and Conditions of Tariff) Regulations, 2005. Further, REL has proposed to undertake capital expenditure of Rs 184.74 Crore during FY 2006-07 corresponding to its generation function and has proposed to capitalise Rs 15.25 Crore during FY 2006-07.

The Commission has examined the depreciation and capitalisation proposed by REL in detail as against the various generation related capex schemes approved by the Commission. The Commission had issued in-principle clearance for FGD Plant, Coal Handling System, Dry ash collection system, construction of ash dyke and strengthening of Jetty system. Out of above schemes, the scheme for strengthening of Jetty system and dry ash collection system have been completed during FY 2005-06, however, as per submissions of REL other schemes such as FGD Plant and coal handling systems will not be completed during FY 2006-07 and hence the same has not been considered under assets capitalised. Further, REL submitted capex scheme comprising Spare Generator (Rs 20 Crore), spare generator transformer (Rs 12 Crore) and spare turbine module (Rs 37 Crore) for DTPS during FY 2006-07, amounting to outlay of Rs 69 Crore. REL has indicated a timeframe of 12 to 18 months for implementation of these schemes. These schemes are currently being scrutinised and evaluated by the Commission. Hence, the same have not been considered for capitalisation during FY 2006-07. Further, the Commission observes that REL has proposed to capitalise cost towards ‘scaffolding’ to the extent of Rs 2 Crore. While the capital cost proposed is lower than Rs 10 Crore, no specific explanation has been provided in the petition for the nature of works and extent of requirement of ‘scaffolding’ which the Commission believes is essentially required as ‘temporary works facilities’. Accordingly, the Commission has not considered capitalised cost of Rs 2 Crore towards ‘scaffolding’ as proposed by REL.

The actual Opening level of GFA for FY 2006-07 amounts to Rs 1302.58 Crore as against Rs 1316.47 Crore claimed by REL. Further, REL has not proposed any interest capitalisation and only works capitalisation has been proposed. The Commission holds the view that interest cost during construction (IDC) should not be considered as part of revenue expense, however, the same should be capitalised along with assets, as and when put to use. Accordingly, the Commission has considered capitalised cost including IDC derived based on normative debt (70% of works capitalised) at the interest rate of 10% for the schemes initiated during FY 2004-05 and FY 2005-06 and at the rate of 8% for the schemes initiated during FY 2006-07. The capitalisation details during FY 2006-07 are summarised in the following Table:

Table: Capitalisation (Generation) **(Rs Crore)**

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Works capitalized (G)	15.25	10.42
2	Interest capitalized (G)	0.00	0.58
3	**Total Capitalisation (G)**	**15.25**	**11.00**

Further, as elaborated under Section 3, the Depreciation Rates as stipulated under MERC (Terms and Conditions of Tariff) Regulations, 2005 shall be applicable for FY 2006-07. Accordingly, the Commission has determined depreciation costs in accordance with the Tariff Regulations. The Depreciation expenditure approved by the Commission for FY 2006-07 are summarised in the following Table.

Table: Depreciation Expense (Generation) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Depreciation (G)	51.42	45.90
2	Opening GFA (G)	1316.26	1302.58
3	**% Depreciation (G)**	**3.91%**	**3.52%**

4.5 INTEREST ON LONG TERM LOAN

REL proposed interest expenditure of Rs 10.97 Crore for FY 2006-07 corresponding to its generation function. Further, REL considered the interest cost based on normative debt: equity of 70:30 for financing of capital expenditure at the normative interest rate of 10% p.a., and normative loan repayment of 20 years.

The Commission observes that REL has computed interest costs for the normative debt corresponding to entire capital expenditure proposed to be incurred during that year. In this context, the Commission observes that as per MERC (Terms and Conditions of Tariff) Regulations, the permissible interest cost in this case will have to be determined based on 'normative loan capital', as per Regulation 34.3.2 of the Tariff Regulations, as under:

> *34.3.2 Interest on normative loan capital, calculated under Regulation 31.2, Regulation 31.3 and Regulation 31.4 above shall be allowed, based on the approved interest rate and the normative repayment schedule in accordance with Regulation 32 above:*

The 'normative loan capital' should be linked to approved capital expenditure for the assets put to use. Accordingly, the Commission is of the opinion that interest expense towards capital expenditure needs to be capitalised as and when the asset is put to use and should not be charged to revenue expense. However, pursuant to such capitalisation, interest costs can be charged to revenue expense over the repayment tenure of such outstanding debt. Accordingly, the Commission has considered interest cost of normative debt corresponding to capitalised assets only. Further, the Commission has considered interest cost at the interest rate of 10% p.a. for the assets put to use during FY 2004-05 and FY 2005-06 and at the interest rate of 8% p.a. for assets put to use during FY 2006-07. Interest rate of 8% is reasonable, considering REL's credit rating and the fact that the successor entities of erstwhile MSEB, viz., MSPGCL and MSEDCL have been able to raise loans at the interest rate of 8%. Accordingly, weighted average rate of interest cost works out to 9.5%.

Further, as per proviso under Regulation 32.2 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, normative loan repayment schedule for each year shall be equal to amount of depreciation for fixed assets to which such loan relates. Accordingly, the Commission has considered loan repayment schedule of 20 years for the loans drawn during FY 2006-07, however, the loan repayment for loans drawn during FY 2004-05 continue to be 10 years as provided earlier. The details of interest cost are summarised in the following Table.

Table: Interest cost (Generation) **(Rs Crore)**

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Opening Bal. of Loan	46.25	7.54
2	Additions	129.32	7.70
3	Repayment	(2.33)	(0.81)
4	Closing Bal. of loan	173.24	14.44
5	**Interest cost**	**10.97**	**1.04**
6	**Overall Interest Rate (%)**	**10.0%**	**9.5%**

4.6 INTEREST ON WORKING CAPITAL

REL, in its Petition, submitted that the Working Capital has been calculated in accordance with the Commission's Tariff Regulations, which stipulate the components of working capital of a generating station. REL further submitted that the normative interest rate of 10% as indicated by SBI has been considered for estimating interest on working capital. REL has projected interest on working capital of Rs 10.28 Crore for FY 2006-07.

The Commission has analysed the Working Capital Computations of REL and observed REL has not considered the Maintenance Spares @ 1% of historical cost as stipulated in the Regulations. The Commission has estimated the total working capital requirement in accordance with the provisions of Tariff Regulations. The total working capital estimated by the Commission for FY 2006-07 works out to Rs 109.83 Crore as against Rs 102.82 estimated by REL.

Further, the Tariff Regulations stipulates that Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on the date on which the application for determination of tariff is made. As the short-term Prime Lending Rate of State Bank of India is around 10.25%, the Commission has considered the interest rate of 10.25% for estimating the interest on working capital. The interest on working capital for FY 2006-07 as estimated by the Commission works out to Rs 10.98 Crore as against Rs 10.28 Crore estimated by REL.

4.7 INCOME TAX

REL has projected income tax of Rs. 5.84 crore for its generation business, on the principle of grossing up of the RoE component. However, the income tax liability is proportionate to the taxable income, which depends on the revenue and expenditure of the business, rather than a mandatory value of RoE, which is based on the Commission's Tariff Regulations. Hence, the Commission rejects REL's claim that the income tax should be computed on the basis of grossing up of the RoE component.

The income tax liability for REL's Mumbai license area as a whole for FY 2006-07 would be expected to be in the same range as in the previous years. Moreover, based on the Commission's computations, REL has earned a surplus over its Reasonable Return, which needs to be refunded to the consumers. Hence, the income tax liability for FY 2006-07 for REL's Mumbai license area has been considered as the average of the actual income tax liability in the previous two years, i.e., Rs. 7.64 crore and Rs. 26.96 crore, which works out to Rs. 17.30 crore. This tax liability has been further apportioned to each business, viz., generation, transmission and distribution, in the proportion of the RoE component, in the absence of any other reference parameter. Thus, the income tax liability of the generation business of REL in FY 2006-07, has been estimated as Rs. 4.55 crore.

4.8 NON-TARIFF INCOME

REL has projected non-tariff income of Rs. 4.3 Cr in FY 2006-07, on account of interest on staff loans and advances, interest on contingency reserve investments, and sale of scrap. The Commission has considered an increase of around 16% over the actual non-tariff income in FY 2005-06, based on the past trend of increase in non-tariff income, and allocated the share of REL's generation business proportionately. The non-tariff income projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Non-Tariff Income (Rs. Crore)

S.No.	Particulars	FY 2006-07	
		Petition	Commission
1	Rents	0.07	0.07
2	Interest on Contingency Reserve Investments	1.07	1.07
3	Interest on staff loans & Advances	0.42	0.44
4	Sale of Scrap	2.51	2.51
5	Others	0.25	2.07

S.No.	Particulars	FY 2006-07	
		Petition	Commission
6	**Total**	**4.32**	**6.17**

4.9 RETURN ON EQUITY

REL has submitted that it has projected the Return on Equity (RoE) for FY 2006-07 for its generation business in accordance with the Tariff Regulations notified by the Commission, which stipulates a 14% return on equity per annum on the regulatory equity at the beginning of the Financial Year for which the return is being computed.

REL has added that it has allocated equity for generation assets, transmission assets and distribution assets based on its net fixed assets as on 1st April 2004 and corresponding total equity for its Mumbai Licensee Business. REL has clarified that since REL is an integrated utility, the total equity deployed was never linked to specific assets of generation or distribution, and hence, the allocation of equity needed a rational basis. REL has endeavoured to base this rationale on the net fixed assets of each function. Since all assets of REL are financed from own equity, a normative equity of 30% of total equity employed for generation assets added during the years FY 2004-05 and FY 2005-06 has been considered, based on the Tariff Regulations.

The Commission has computed the allowable RoE for FY 2006-07 on the opening equity base in FY 2006-07, based on the opening equity levels in FY 2004-05, and the normative equity component of the addition to capital assets considered for the generation function for FY 2004-05 and FY 2005-06. The RoE projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Return on Equity (Rs. Crore)

S.no.	Particulars	Ref.	FY 2006-07	
			Petition	Approved
1	Regulatory Equity at the beginning of the year		453.77	437.25
2	Capital Expenditure		184.74	11.00
3	Equity portion of capital expenditure		55.42	3.30
4	Regulatory Equity at the end of the year		509.19	440.55
	Return Computation			

S.no.	Particulars	Ref.	FY 2006-07	
			Petition	Approved
5	Return on Regulatory Equity at the beginning of the year	14%	63.53	61.21
6	**Total Return on Regulatory Equity**		63.53	61.21

4.10 AGGREGATE REVENUE REQUIREMENT (ARR)

The ARR of the generation business of REL is the summation of all the expenses and RoE. REL has projected the ARR for FY 2006-07 at Rs. 827.6 crore, which includes generation incentive of Rs. 14.3 crore, for generation above normative PLF of 80%. The Commission has determined the ARR for FY 2006-07, based on the expenses allowed under various heads, as discussed above. Further, the component of generation incentive has not been considered, as this is not a part of the cost structure of the generation business, but is primarily a tariff component besides one has to earn incentive on attaining or bettering the performance norms. Hence, the Commission rules that the generation incentive will be payable at the end of the year, based on the actual generation above the normative PLF. The ARR projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Aggregate Revenue Requirement for REL Generation Business (Rs. Crore)

S.no.	Particulars	Ensuing Year FY 2006-07	
		Petition	Approved
1	Fuel Related Expenses	589.99	512.50
2	Operation & Maintenance Expenses	85.59	61.08
2.1	Employee Expenses	33.72	21.66
2.2	Administration & General Expenses	18.29	13.73
2.3	Repair & Maintenance Expenses	33.58	25.69
3	Depreciation, including advance against depreciation	51.42	45.90
4	Interest on Long-term Loan Capital	10.97	1.04
5	Interest on Working Capital	10.28	10.98
6	Other Expenses (pls provide details)	0.00	0.00
7	Income Tax	5.84	4.55
8	**Total Revenue Expenditure**	**754.09**	**636.05**
9	Return on Equity Capital / Reasonable Return on Capital base	63.53	61.21
10	Incentive	14.27	0.00
11	Less: Non-Tariff Income	4.32	6.17
12	**Aggregate Revenue Requirement**	**827.57**	**691.10**

Thus, the total ARR allowed by the Commission for REL's generation business in FY 2006-07 is Rs 691.10 crore, as compared to REL's projection of Rs. 827.6 crore.

4.11 SHARING OF GAINS AND LOSSES

The gains and losses on account of controllable and uncontrollable factors will be shared, at the time of truing up of ARR based on actuals, between the Utility and the consumers in accordance with Regulation 19 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, which stipulates

> *"19.1 The approved aggregate gain to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:*
>
> *(a) One-third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10;*
>
> *(b) In case of a Licensee, one-third of the amount of such gain shall be retained in a special reserve for the purpose of absorbing the impact of any future losses on account of controllable factors under clause (b) of Regulation 19.2; and*
>
> *(c) The balance amount of gain may be utilized at the discretion of the Generating Company or Licensee.*
>
> *19.2 The approved aggregate loss to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:*
>
> *(a) One-third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10; and*
>
> *(b) The balance amount of loss shall be absorbed by the Generating Company or Licensee."*

5 TARIFF DETERMINATION FOR REL'S GENERATION BUSINESS FOR FY 2006-07

Regulation 28 of MERC (Terms and Conditions of Tariff) Regulations, 2005 stipulates a two-part tariff for sale of power by Generating Company, comprising:

- Annual Fixed Charges
- Energy Charge

5.1 ANNUAL FIXED CHARGES

The Tariff Regulations further stipulate that the Annual Fixed Charges shall consist of recovery of the following components:

- Return on equity capital;
- Income-tax;
- Interest on loan capital;
- Depreciation, including Advance Against Depreciation, and amortization of intangible assets;
- Operation and maintenance expenses; and
- Interest on working capital.

The Commission has approved all these components of Annual Fixed Charges for FY 2006-07 in Section 4 of the Order (Annual Revenue Requirement of Generation Function for FY 2006-07). The total Annual Fixed Charges for REL's DTPS Generating Station as approved by the Commission for FY 2006-07 is Rs 178.6 Crore.

Regulation 33.1 of MERC (Terms and Conditions of Tariff) Regulations, 2005 stipulates that the target availability for recovery of full fixed charges shall be 80 percent. In case of REL's Dahanu Generating Station, the availability considered by the Commission for FY 2006-07 is 94.25%, which is higher than the target availability of 80%. Therefore, the Commission approves the Annual Fixed Charges to be recovered by REL Generation business from REL Distribution business during FY 2006-07 at **Rs 178.60 Crore.** REL Generation business shall recover the Annual Fixed Charges from REL Distribution business on pro-rata basis every month, i.e., $1/12^{th}$ of total Annual Fixed Charges every month.

5.2 ENERGY CHARGE

Regulation 35.1 of MERC (Terms and Conditions of Tariff) Regulations, 2005 stipulates that the Energy charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy sent out corresponding to scheduled generation. Based on the operational norms approved by the Commission and fuel parameters considered by the Commission for FY 2006-07, the rate of energy charge is estimated at Rs 1.33/kWh. **The Commission approves**

the Energy Charge of Rs 1.33/kWh for Dahanu Thermal Generating Station for FY 2006-07.

Further, the provisions of Regulation 82 of MERC (Terms and Conditions of Tariff) Regulations, 2005 read with the rulings of the Commission at Section 4.2.3 of this Order shall be applicable for adjustments towards variation in fuel prices with respect to the fuel prices considered by the Commission in the Order, through FAC mechanism.

5.3 INCENTIVE

REL, in its Petition, submitted that the Commission in its Tariff Regulations has provided for an incentive of 0.25 Rs/kWh for ex-bus scheduled energy generation in excess of generation beyond 80% PLF. REL submitted that it has always maintained very high PLF even in times when the incentive mechanism was not existing, thereby contributing to reduction in the State's power shortage.

As discussed in Section 3, REL has estimated generative incentive to the extent of Rs 14.3 crore as part of the Annual Revenue Requirement of its generation business. The Commission has not considered the estimated incentive as part of ARR, as incentive is not a cost component, rather it is a tariff component. The Commission rules that the generation incentive will be payable @ Rs 0.25/kWh for the actual generation in excess of generation beyond 80% normative PLF, at the end of the year, based on the actual generation.

5.4 SUMMARY OF TARIFF APPROVED FOR REL'S DTPS FOR FY 2006-07

The summary of tariff approved by the Commission for REL's Dahanu generating station for FY 2006-07 is given in the Table below:

S.No	Component	Tariff
1	**Annual Fixed Charge**	**Rs 178.6 Crore**
2	**Energy Charge**	**Rs 1.33/kWh**

6 ANNUAL REVENUE REQUIREMENT OF REL'S TRANSMISSION BUSINESS FOR FY 2006-07

Reliance Energy Limited (REL) has a generating station at Dahanu, Maharashtra (Dahanu Thermal Power Station – DTPS) with a total installed capacity of 500 MW (2 x 250 MW). REL submitted that REL's distribution system at Ghodbunder, Versova and Aarey is extended through two double circuit 220 kV lines upto DTPS, and these 220kV lines are used only for the purpose of evacuation of power from DTPS as per REL's Distribution and Retail Supply License and thus form an integral part of the Distribution System of REL. REL added that these 220kV Lines by their very nature of operation have always been considered as integral part of the Distribution Network. However, REL has undertaken a notional separation of 220kV line assets under transmission assets, in accordance with the Tariff Regulations. REL requested the Commission to consider the 220 kV lines emanating from DTPS as part of Distribution System.

The infrastructure of Transmission Function has been broadly classified as follows:

§ Transmission Lines
§ 220kV Station Equipment
§ Building
§ Testing Equipments

This aspect has been addressed in the Commission's Order on transmission pricing framework in Case No. 58 of 2005 issued on June 27, 2006, wherein the transmission network of REL has been considered as a part of the intra-State transmission network.

Accordingly, the Commission has determined the ARR of the transmission business of REL for FY 2006-07, in accordance with the MERC (Terms and Conditions of Tariff) Regulations, 2005, in this Section.

6.1 OPERATION & MAINTENANCE EXPENSES

6.1.1 Employee Expenses

REL has projected employee expenses of Rs. 7.9 Cr in FY 2006-07, including terminal benefits. REL has provided details of the employee expenses under various heads in accordance with the Formats stipulated by the Commission. The main heads of employee expenses are salaries and wages, dearness allowance, other allowances/bonus/benefits and terminal benefits.

REL has projected a 30% increase in employee cost in FY 2006-07 over FY 2005-06 levels, comprising normal salary increase of around 7.5% and a further increase of about 23 %

towards the expected salary revision in FY 2006-07. REL has submitted that the existing Wage Agreement with the Union is for a period of four years from 1.7.02 to 30.6.06, while the officers' salary revision is for four years from 1.4.02 to 31.3.06. REL has stated that during the last salary revision effective since FY 2002-03, there was an increase of around 20% for unionized staff/workers and about 30% for the officers, resulting in an overall increase of around 23%, over and above the normal annual increase. Hence, an overall increase of 23% has been provided towards Salary Revision in the FY 07 over and above the normal increase of 7.5%.

The Commission opines that in a regulated and cost-plus environment, employee expenses due to the salary revision need not be considered as pass through to the consumer and the Utility should get efficiency gains in return for wage revision. The Commission will consider approval of employee expenses on a normative basis, in future. Hence, the Commission has not considered the impact of the wage revision, while allowing the employee expenses for FY 2006-07. The Commission has considered an increase of around 7.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the increase projected by REL, and allocated the share of REL's transmission business proportionately. The employee expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Employee Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	**Commission**
1	Basic Salary	2.47	2.05
2	Dearness Allowance (DA)	1.30	0.97
3	Earned Leave Encashment	0.39	0.48
4	Other Allowances	2.86	1.70
	Terminal Benefits		
5	Provident Fund Contribution	0.39	0.25
6	Pension Payment	0.09	0.11
7	Gratuity Payment including prov.	0.36	0.16
8	**Gross Employee Expenses**	**7.86**	**5.72**
9	Less: Expenses Capitalised	0.00	0.00
10	**Net Employee Expenses**	**7.86**	**5.72**

6.1.2 Administration & General Expenses

REL has projected A&G expenses of Rs. 2.9 Cr in FY 2006-07. REL has provided details of the A&G expenses under various heads in accordance with the Formats stipulated by the Commission. The main heads of A&G expenses are insurance, rates & taxes, miscellaneous and others.

The Commission has considered an increase of around 3.3% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in A&G expenses, and allocated the share of REL's transmission business proportionately. The A&G expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

A&G Expenses (Rs. Crore)

S.no.	Particulars	FY 2006-07	
		Petition	Commission
1	**A&G Expenses**	2.86	2.15

6.1.3 <u>Repair & Maintenance Expenses</u>

REL has projected R&M expenses of Rs. 3.8 Cr for FY 2006-07, which is about 1.3% of the Gross Fixed Assets (GFA) at the beginning of the year. The Commission has considered an increase of around 3.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in R&M expenses, and allocated the share of REL's transmission business proportionately. The R&M expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

R&M Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Net R&M Expenses	3.78	2.36
2	Gross Fixed Assets at beginning of year	289.95	291.75
3	R&M Expenses as % of GFA at beginning of year	1.3%	0.8%

6.2 DEPRECIATION

REL, in its ARR Petition, proposed depreciation expenditure for FY 2006-07 for Transmission business as Rs 10.48 Crore. The overall depreciation rate amounts to 3.61% corresponding to opening GFA of Rs 289.95 Crore. REL submitted that depreciation expenditure projected for FY 2006-07 is in accordance with depreciation rates provided under MERC (Terms and Conditions of Tariff) Regulations, 2005. Further, REL proposed to undertake capital expenditure of Rs 10.00 Crore during FY 2006-07 corresponding to its transmission function with capitalisation of Rs 5.89 Crore during FY 2006-07.

The Commission has examined the depreciation and capitalisation proposed by REL in detail as against the various transmission related capex schemes approved by the Commission. The Commission had issued in-principle clearance for augmentation of 220 kV transmission network and replacement of switchgear and cables amounting to Rs 32.49 Crore during FY 2004-05. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 5.14 Crore during FY 2004-05 and Rs 3. 64 Crore during FY 2005-06. Further, REL proposes to incur capital expenditure of Rs 10.00 Crore during FY 2006-07 against the approved scheme.

While no specific details of capitalized components of scheme and asset thereof have been furnished, the Commission has considered the proposed capitalization as the same is within limits of the approved capital cost of the scheme.

The actual Opening level of GFA for FY 2006-07 amounts to Rs 291.75 Crore as against Rs 289.95 Crore claimed by REL. Further, REL has not proposed any interest capitalisation and only works capitalisation has been proposed. The Commission holds the view that interest cost during construction (IDC) should not be considered as part of revenue expense, however, the same should be capitalised along with assets, as and when put to use. Accordingly, the Commission had considered capitalised cost including IDC derived based on normative debt (70% of works capitalised) at the interest rate of 10% for the schemes initiated during FY 2004-05 and FY 2005-06 and at the rate of 8% for the schemes initiated during FY 2006-07. The capitalisation details during FY 2006-07 are summarised in the following Table:

Table: Capitalisation (Transmission) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	**Commission**
1	Works capitalized	5.89	5.89
2	Interest capitalized	0.00	0.33
3	**Total Capitalisation**	**5.89**	**6.22**

Further, as elaborated under Section 3, the Depreciation Rates as stipulated under MERC (Terms and Conditions of Tariff) Regulations, 2005 shall be applicable for FY2006-07. Accordingly, the Commission has determined depreciation expenditure in accordance with the Tariff Regulations. REL has considered depreciation rate of 3.6% for its transmission assets, on the premise that its transmission network is a part of the distribution system. However, as per Clause (C)(I)(i) of the Depreciation Schedule under the MERC Tariff Regulations, rate of depreciation for overhead transmission lines operating at nominal voltage above 66 kV is 2.57%. Accordingly, the Commission has allowed depreciation expenditure for FY 2006-07 on the 220 kV lines at the rate of 2.57%. The depreciation expenditure projected by REL and approved by the Commission for FY2006-07, has been summarised in the following Table:

Table: Depreciation Expense (Transmission) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	**Commission**
1	Depreciation	10.48	7.20
2	Opening GFA	289.95	291.75
3	**% Depreciation**	**3.61%**	**2.47%**

6.3 INTEREST ON LONG TERM LOAN

REL proposed interest expenditure of Rs 1.63 Crore for FY 2006-07 corresponding to its transmission function. Further, REL considered the interest cost based on normative debt: equity of 70:30 for financing of capital expenditure at the normative interest rate of 10% p.a. and normative loan repayment of 20 years.

REL has computed interest costs for the normative debt corresponding to entire capital expenditure proposed to be incurred during that year. In this context, the Commission observes that as per MERC (Terms and Conditions of Tariff) Regulations, 2005, the permissible interest cost in this case will have to be determined based on 'normative loan capital', as per Regulation 50.3.2, 47.1 and 47.2 of the Tariff Regulations. The relevant extract of the said Regulations is as under:

> *50.3.2 The Transmission Licensee shall be allowed to recover the interest rate on loan capital for approved capital expenditure projects commenced on or after April 1, 2005, approved additions to fixed assets and approved purchases of fixed assets on or after such date based on the following terms and conditions:*
>
> *47.1 Any capital expenditure incurred during a financial year on a capital expenditure project commenced on or after April 1, 2005 and/ or on purchase of fixed asset on or after such date shall be assumed to be financed at a normative debt:equity ratio of 70:30, to be applied on the <u>annual allowable capital cost</u> for such financial year: (<u>emphasis added</u>)*
>
> *47.2 Any <u>fixed asset capitalized</u> on account of a capital expenditure project commenced on or after April 1, 2005 or on account of fixed asset purchased on or after such date shall be assumed to have been financed at a normative debt:equity*

ratio of 70:30 to be applied on the original cost of such project/ fixed asset. (emphasis added)

Thus, the 'normative loan capital' should be linked to approved capital expenditure for the assets put to use. The Commission is of the opinion that interest expense towards capital expenditure needs to be capitalised as and when the asset is put to use and should not be charged to revenue expense. However, pursuant to such capitalisation, interest costs can be charged to revenue expense over the repayment tenure of such outstanding debt. Accordingly, the Commission has considered interest cost of normative debt corresponding to capitalised assets only. The Commission has considered interest cost at the interest rate of 10% p.a. for the assets put to use during FY 2004-05 and FY 2005-06 and at the interest rate of 8% p.a. for assets put to use during FY 2006-07. Accordingly, the weighted average rate of interest cost works out to 9.5%.

Further, as per provision under Regulation 48.2, normative loan repayment schedule for each year shall be equal to amount of depreciation for fixed assets to which such loan relates. Accordingly, the Commission has considered loan repayment schedule of 27 years for the loans drawn during FY 2006-07, however, the loan repayment for loans drawn during FY 2004-05 continue to be 10 years as provided earlier. The details of interest cost are summarised in the following table.

Table: Interest cost (Transmission) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Opening Bal. of Loan	13.28	6.52
2	Additions	7.00	4.35
3	Repayment	(0.87)	(0.57)
4	Closing Bal. of loan	19.41	10.30
5	**Interest cost**	**1.63**	**0.80**
6	**Overall Interest Rate (%)**	10.0%	9.5%

6.4 INTEREST ON WORKING CAPITAL

REL, in its Petition, submitted that the Working Capital requirement has been computed in accordance with the Commission's Tariff Regulations, which stipulate the components of working capital of the transmission business. REL further submitted that the normative interest rate of 10% as indicated by SBI has been considered for estimating interest on working capital. REL has projected interest on working capital of Rs 0.12 Crore for FY 2006-07.

The Commission has estimated the total working capital requirement in accordance with the provisions of Tariff Regulations. The total working capital estimated by the Commission for FY 2006-07 works out to Rs 0.77 Crore as against Rs 1.21 Crore estimated by REL.

Further, the Tariff Regulations stipulates that Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on the date on which the application for determination of tariff is made. As the short-term Prime Lending Rate of State Bank of India is 10.25%, the Commission has considered the interest rate of 10.25% for estimating the interest on working capital.

The interest on working capital for FY 2006-07 as estimated by the Commission works out to Rs 0.08 Crore as against Rs 0.12 Crore estimated by REL.

6.5 INCOME TAX

REL has projected income tax of Rs. 10.89 crore for its transmission business, on the principle of grossing up of the RoE component. As explained earlier, the Commission rejects REL's claim that the income tax should be computed on the basis of grossing up of the RoE component.

As explained earlier in para 4.8, the income tax liability for FY 2006-07 for REL's Mumbai license area works out to Rs. 17.30 crore. The apportioned income tax liability of the transmission business of REL in FY 2006-07, has been estimated as Rs. 4.55 crore.

6.6 CONTRIBUTION TO CONTINGENCY RESERVES

REL has considered contribution to contingency reserves @ 0.5% of the closing GFA for FY 2006-07, amounting to Rs. 1.48 crore. The Commission has however, considered contribution to contingency reserves @ 0.5% of the opening GFA for FY 2006-07, in accordance with the Commission's Tariff Regulations, amounting to Rs. 1.46 crore.

6.7 NON-TARIFF INCOME

REL has projected non-tariff income of Rs. 1.2 Cr in FY 2006-07, due to miscellaneous receipts and others. The Commission has considered an increase of around 16% over the actual non-tariff income in FY 2005-06, based on the past trend of increase in non-tariff income, and allocated the share of REL's transmission business proportionately. The non-tariff income projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Non-Tariff Income (Rs. Crore)

S.No.	Particulars	FY 2006-07	FY 2006-07
		Petition	Commission
1	Delayed Payment Charges	-	-
2	Miscellaneous receipts	1.17	3.07
3	Interest on Contingency Reserve Investments	-	-
4	Others	0.05	0.05
5	**Total**	**1.22**	**3.11**

6.8 RETURN ON EQUITY

REL has submitted that it has projected the Return on Equity (RoE) for FY 2006-07 for its transmission business in accordance with the Tariff Regulations notified by the Commission. However, REL has considered a RoE of 16% for its transmission business, on the premise that its transmission business is an integral part of its distribution business.

REL has added that it has allocated equity for generation assets, transmission assets and distribution assets based on its net fixed assets as on 1st April 2004 and corresponding total equity for its Mumbai Licensee Business. REL has clarified that since REL is an integrated utility, the total equity deployed was never linked to specific assets of generation or distribution, and hence, the allocation of equity needed a rational basis. REL has endeavoured to base this rationale on the net fixed assets of each function. Since all assets of REL are financed from own equity, a normative equity of 30% of total equity employed for transmission assets added during the years FY 2004-05 and FY 2005-06 has been considered, based on the Tariff Regulations.

The Commission has computed the RoE in accordance with the Tariff Regulations, which stipulates a 14% return on equity per annum on the regulatory equity at the beginning of the Financial Year for which the return is being computed, and on 50% of the equity component of the projected addition to capital assets during the year. The RoE projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Return on Equity (Rs. Crore)

S.no.	Particulars	Ref.	Ensuing Year FY 2006-07	
			Petition	Approved
1	Regulatory Equity at the beginning of the year		132.64	130.27
2	Capital Expenditure		10.00	6.22
3	Equity portion of capital expenditure		3.00	1.87

S.no.	Particulars	Ref.	Ensuing Year FY 2006-07	
			Petition	Approved
4	Regulatory Equity at the end of the year		135.64	132.13
	Return Computation			
5	Return on Regulatory Equity at the beginning of the year	14%	21.22	18.24
6	Return on Equity portion of capital expenditure	14%*(3)/2	0.24	0.13
7	**Total Return on Regulatory Equity**		21.46	18.37

6.9 AGGREGATE REVENUE REQUIREMENT (ARR)

The ARR of the transmission business of REL is the summation of all the expenses and RoE. REL has projected the ARR for FY 2006-07 at Rs. 59.4 crore. The Commission has determined the ARR for FY 2006-07, based on the expenses allowed under various heads and RoE allowed, as discussed above. The ARR projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Aggregate Revenue Requirement of REL Transmission (Rs. Crore)

S.no.	Particulars	Ensuing Year FY 2006-07	
		Petition	Approved
1	Operation & Maintenance Expenses	14.52	10.22
1.1	Employee Expenses	7.88	5.72
1.2	Administration & General Expenses	2.86	2.15
1.3	Repair & Maintenance Expenses	3.78	2.36
2	Depreciation, including advance against depreciation	10.48	7.2
3	Interest on Long-term Loan Capital	1.63	0.8
4	Interest on Working Capital and on consumer security deposits	0.12	0.08
5	Other Expenses (pls give details)	0.00	0.00
6	Income Tax	10.89	1.36
7	Contribution to contingency reserves	1.48	1.46
8	Adjustment for profit/loss on account controllable/uncontrollable factors	0.00	0.00
9	**Total Revenue Expenditure**	39.12	21.13
10	Return on Equity Capital / Reasonable Return on Capital Base	21.46	18.37
11	**Aggregate Revenue Requirement**	**60.58**	**39.49**

S.no.	Particulars	Ensuing Year FY 2006-07	
		Petition	Approved
12	Less: Non Tariff Income	1.22	3.11
13	Less: Income from Other Business	0.00	0.00
14	**Aggregate Revenue Requirement from Transmission Tariff**	**59.37**	**36.38**

6.10 SHARING OF GAINS AND LOSSES

The gains and losses on account of controllable and uncontrollable factors will be shared at the time of truing up of ARR based on actuals between the Utility and the consumers in accordance with Regulation 19 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, which stipulates

> *"19.1 The approved aggregate gain to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:*
>
> *(a) One-third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10;*
>
> *(b) In case of a Licensee, one-third of the amount of such gain shall be retained in a special reserve for the purpose of absorbing the impact of any future losses on account of controllable factors under clause (b) of Regulation 19.2; and*
>
> *(c) The balance amount of gain may be utilized at the discretion of the Generating Company or Licensee.*
>
> *19.2 The approved aggregate loss to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:*
>
> *(a) One-third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10; and*
>
> *(b) The balance amount of loss shall be absorbed by the Generating Company or Licensee."*

6.11 SHARE OF INTRA-STATE TRANSMSSION ARR AND TRANSMISSION TARIFF

REL's share of the intra-State transmission ARR and the transmission tariff payable by REL-D business has been elaborated in the Commission's Order in Case No. 31 of 2006, issued on September 29, 2006, on the Transmission Tariff payable by different distribution businesses.

7 ANNUAL REVENUE REQUIREMENT OF REL'S DISTRIBUTION BUSINESS FOR FY 2006-07

7.1 SALES PROJECTIONS

REL, in its Petition for FY 2006-07, submitted that the Commission has effected a re-categorisation of consumer categories during FY 2004-05 in accordance with the Tariff Order for REL for FY 2004-05, Review Order dated December 23, 2004 and other Orders of the Commission. REL provided the break-up of category wise sales for the last four years, viz., FY 2000-01 to FY 2004-05 in the Petition and mentioned that consumption pattern of categories has changed after the implementation of Tariff Order dated July 1, 2004. REL further submitted that as the category-wise actual sales data is available for a small time period after the implementation of the Tariff Order, it has relied on overall system growth to project sales for FY 2006-07.

REL submitted that the overall sales have grown at CAGR of 5% over the five-year period from FY 2000-01 to FY 2004-05 and hence, REL has considered a 5% annual growth in total sales on actual sales in FY 2004-05 to project the total sales for FY 2006-07. REL further submitted that while projecting sales for FY 2006-07, it has not considered impact of migration by consumers through poaching by any parallel licensee or consumers opting for Distribution Open Access and further REL has assumed that the status quo shall be maintained on supply by TPC for consumers below 1000 kVA. The total sales projected by REL for FY 2006-07 is 7248 MU.

As discussed in Section 3 of this Order, the Commission directed REL to submit the category-wise sales for FY 2005-06 and REL submitted the total sales for FY 2005-06 as 6881 MU. The Commission has analysed the actual category wise sales for the past five years, i.e., from FY 2000-01 to FY 2005-06. The Commission concurs with the logic that with the rationalisation of consumer categories in the Tariff Order dated July 1, 2004, there is change in consumption in some of the categories.

The Commission has estimated the total sales of REL Distribution Business for FY 2006-07 considering the growth rate of 5.19%, equivalent to 5 years CAGR for the period FY 2000-01 to FY 2005-06. The total sale projected by the Commission for FY 2006-07 is 7238 MU. The total sales of REL Distribution Business has been allocated to consumer categories in proportion to actual category-wise sales during FY 2005-06. The summary of category-wise sales for FY 2006-07 as projected by REL and as considered by the Commission is given in the Table below:

Table: Category-wise Sales for FY 2006-07 (MU)

Category	Petition	Commission
Residential	4042	3955
Commercial	1199	1240
LTP-1	257	267
LTP-2	868	870
HT Supply	790	807
HT Housing Colonies	37	37
Street Lighting	52	53
Temp. Lighting	3	9
Total	**7248**	**7238**

7.2 DISTRIBUTION LOSSES

REL submitted that the actual distribution loss for first half of FY 2005-06 was 12.1% and projected distribution loss for FY 2006-07 as 12.1%. REL submitted that the load growth in REL is taking place in LT categories only and sales to low end LT consumers is increasing, which in turn is resulting in increase in the technical losses in the system, and hence, it is a challenge to maintain the same level of distribution losses in the system. However, REL is able to retain the system loss levels at the same level on account of reduction in technical losses through capital investment and arresting commercial losses and hence, REL has proposed to maintain the same level of distribution losses for FY 2006-7.

The Commission in its Tariff Order for FY 2004-05 approved the Distribution loss of 12.5% and mentioned that the distribution losses shall be reduced by eliminating the commercial losses. The actual loss level achieved during FY 2004-05 and FY 2005-06 is 12.1% and 12.02% respectively. The Commission observed that REL in its proposals submitted for approval of Capital Expenditure schemes has indicated a loss reduction of around 109 MU in FY 2004-05 and 34 MU in FY 2005-06, thus aggregating to total loss reduction of around 1.5% over the actual loss level of FY 2003-04. However, in the ARR Petition, REL has not considered any loss reduction during FY 2006-07. Considering the actual loss reduction achieved during FY 2004-05 and FY 2005-06 and loss reduction indicated by REL alongwith Capital Expenditure Schemes, the Commission approves the target of 0.5% distribution loss reduction to be achieved during FY 2006-07. The Distribution loss level approved by the Commission for FY 2006-07 is 11.52%.

7.3 TRANSMISSION LOSSES AND PROJECTED ENERGY INPUT

Apart from the distribution losses, REL, in its Petition for FY 2006-07, has considered transmission losses of 2% and transformation loss of 0.5% on the generation available from Dahanu TPS. Further, REL has considered the tie transformation losses on proposed power purchase from TPC.

As per Regulation 14 of the MERC (Transmission Open Access) Regulations, 2005, the energy losses in the intra-State transmission system, as determined by SLDC and approved by the Commission are required to be borne by the Transmission System Users pro-rata to their usage of intra-State transmission system. Based on the CPRI study, the Commission has approved transmission losses for Intra-State Transmission system as 4.85% for FY 2006-07. In addition, Commission in its Order dated June 27, 2005 (Case 58 of 2005) for Transmission Pricing Framework has extensively dealt with the issue of treatment of transmission loss for intra-State transmission system and energy accounting thereof. The relevant extract of this Order is as under:

- *"Transmission loss shall be borne by all TSUs (off-takers) on pro-rata basis based on their energy drawal depending on actual transmission loss level. Any variation in the actual transmission loss level from the normative transmission loss level, if any, set by the Commission shall be adjusted in accordance with the provisions contained under MERC (Terms and Conditions for Tariff) Regulations 2005.*
- *MSETCL, as Government Company operating the SLDC, shall be responsible for undertaking recording of State-wide energy accounts, monitoring of power flows and recording of utilization of capacity across intra-State transmission system."*

In view of the above, the Commission has considered the intra-State transmission system loss of 4.85% for projecting REL's (Distribution) Energy Input requirement for FY 2006-07. The summary of projected Energy Input for FY 2006-07 is given in following Table:

Table : Projected Energy Input of REL-D for FY 2006-07

Description	Unit	Approved
Total Sales	MU	7238
Distribution Losses	MU	942
Distribution Losses	%	11.52%
Energy Input to Distribution System	MU	8180
Intra-State Transmission System Losses	%	4.85%
Intra-State Transmission System Losses	MU	417
Projected Energy Input	**MU**	**8597**

Further, the Commission in its Order dated September 29, 2006 (Case 31 of 2006) in the matter of Determination of Transmission Tariff for Intra-State Transmission System (InSTS) for FY2006-07, has approved the mechanism for Energy Accounting amongst the Distribution Licensees (Transmission System Users-TSUs) in the State as follows:

"The actual energy units drawn by TSU (as recorded by T<>D interface) shall be grossed up by applying composite transmission loss factor (i.e. multiplication factor of

1/(1-loss%), as determined based on methodology outlined under Appendix-1 on monthly basis. The grossed up energy drawal by each TSU (or distribution licensee) shall be compared against the energy contracted (through own generation or power purchase by concerned TSU) to establish overdrawal or under-drawal by the concerned TSU (or distribution licensee). The overdrawal and underdrawal by various TSUs shall be settled on the basis of weighted average system marginal price for the State prevalent for the month and shall be paid for by overdrawing TSU to under-drawing TSU".

7.4 ENERGY AVAILABILITY AND POWER PURCHASE COST

REL, in its Petition, submitted that REL has Universal Service Obligation (USO) and is therefore required to supply power to all its consumers. REL submitted that to meet is load requirement, REL has a generation capacity of 500 MW at DTPS and sources its balance power requirement from TPC.

REL, in its Petition, also highlighted the issue of non release of outlets by TPC at 22/33 kV level. The Commission has separately dealt with the issue of release of outlets by TPC to REL, in its Order in Case 4 of 2003, Case 14 of 2006 and Case 15 of 2006.

7.4.1 Dahanu Thermal Power Station (DTPS)

REL has projected the power purchase of 3777 MU from DTPS. As discussed in Section 4 of the Order, the Commission has projected net generation of 3856 MU from DTPS and the same has been considered as power available to REL Distribution business from DTPS. Further, based on the tariff approved for DTPS in Section 5 of the Order, the total power purchase cost of REL Distribution Business including incentive payable for generation beyond 80% PLF, works out to Rs 707 Crore. The summary of power purchase from DTPS for FY 2006-07 is given in the following Table:

Table: Summary of Power Purchase from DTPS for FY 2006-07

Sl.	Description	Unit	Petition	Approved
1	Quantum	MU	3777	3856
2	Fixed Charges	Rs Crore	223.3	178.6
3	Variable Charges	Rs Crore	589.9	512.7
5	Incentive	Rs Crore	14.3	15.7
6	Total Costs	Rs Crore	827.6	707.0
7	Cost per unit	Rs/kWh	2.19	1.83

7.4.2 Power Purchase from Renewable Sources

REL, in its Petition, submitted that considering the capacity additions in the State planned by renewable sources such as Wind, Bagasse based cogeneration, small hydel projects and biomass based cogeneration, it had estimated RPO for FY 2006-07 at 3.9% of total energy input requirement equivalent of 321 MU. Considering the average cost of Rs 3.60/kWh for renewable sources REL has estimated the RPO obligation as Rs 115.4 Crore. Further, REL estimated the differential cost of meeting RPO obligation as Rs 54 Crore, considering the energy charge of power purchase from TPC as Rs 1.86/kWh.

The Commission vide its Order (Case 6 of 2006) dated August 16, 2006 in the matter of Long term Development of Renewable Energy Sources and associated Regulatory (RPS) Framework has approved the Renewable Purchase Specification (RPS) for FY 2006-07 as 3% of energy requirement of Distribution Licensee. Thus, the RPS obligation of REL for FY 2006-07 works out to 258 MU. Further, the Commission has considered the average price of renewable energy during FY 2006-07 as Rs 3.30/kWh, and the total cost of meeting RPS obligations by REL during FY 2006-07 works out to Rs 85.11 Crore. The summary of RPS for FY 2006-07 is given in the following Table:

Table: Summary of RPS for FY 2006-07

Sl.	Description	Unit	Petition	Approved
1	Quantum	MU	3777	3856
2	Average Rate	Rs/kWh	3.60	3.30
3	Total Costs	Rs Crore	115.4	85.1

7.4.3 Power Purchase from Tata Power Company

REL, in its Petition, has projected power purchase of 4574 MU from TPC during FY 2006-07. The Commission vide its Order dated December 9, 2005 in Case No. 4 of 2003 directed REL and TPC to enter into a Power Purchase Agreement for supply of power from TPC to REL. However, till date, the Commission has not received any power purchase agreement executed between TPC and REL for the approval of the Commission.

After considering the energy available from REL’s Dahanu Generating Station and RPS obligations of REL for FY 2006-07, the balance energy requirement of REL for FY 2006-07 works out to 4483 MU. In the absence of any agreement between REL Distribution business and TPC Generation Business, the Commission has allocated the projected energy available from TPC Generation business and the fixed charges of TPC Generating Stations in proportion to non-coincident peak demand met by TPC of three Distribution Licensees i.e. TPC-D, REL-D and BEST. The methodology of allocation of energy from TPC-Generating Stations, Fixed Component of Tariff and Variable Charge per unit approved by Commission for FY 2006-07 is elaborated in the Order dated October 3, 2006 on TPC’s ARR and Tariff Petition for FY 2005-06 and FY 2006-07 (Case 12 and 56 of 2005). As elaborated in the Order on TPC’s ARR and Tariff Petition for FY 2006-07, the tariff approved by the Commission for TPC Generation business is as follows:

Table : Tariff of TPC-G applicable to REL-D

S.No	Component	Unit	Value
1	Fixed Charge of Thermal; Station (REL Distribution Share)	Rs Crore	175.74
2	Average Variable Charge	Rs/kWh	2.72
3	Incentive for generation above 80% PLF	Rs/kWh	0.25
4	Rebate due to excess recovery of hydel Fixed Charge-REL Distribution Share	Rs Crore	46.10

The summary of projected power purchase and costs for purchase of power by REL-D from TPC-G is given in following Table:

Table: Power Purchase from TPC-G during FY 2006-07

Licensee	Quantum	Fixed Ch.	Variable Charge	Incentive	Rebate (Excess Hydel Recovery)	Total Costs	Cost per unit
	MU	**Rs Crore**	**Rs Crore**	**Rs Crore**	**Rs Crore**	**Rs Crore**	**Rs/kWh**
REL (D)	3982	175.74	1081.20	7.37	46.09	1218.22	3.06

The total generation from TPC Generation Business is not sufficient to meet the total demand and energy input requirement of three Distribution Licensees in Mumbai i.e., TPC-D, REL-D and BEST, and hence additional energy needs to be procured for meeting the overall energy requirement of Mumbai system.

TPC, in its ARR and Tariff Petition for FY 2006-07, has proposed that TPC-D will procure the additional energy requirement of Mumbai System for meeting the requirement of its own distribution network as well as for supplying power to other two Distribution Licensees, i.e., REL-D and BEST to meet their overall energy requirement.

The Commission opines that each Distribution Licensee should meet its power requirement by entering into appropriate contracts for sourcing of power. However, in the absence of formal agreements, the Commission has considered this additional power available to Mumbai system, for the purposes of this Order. The Commission has allocated this power purchase to the three Distribution Licensees/Businesses to meet the overall projected energy requirement. Accordingly, the energy allocated to REL-D out of power purchase from other sources through TPC-D is projected as 501 MU at a total cost of Rs 221.07 Crore. The summary of power purchase by REL-D from TPC-D is given in following Table:

Table: Power Purchase from Other Sources (TPC-D) during FY 2006-07

S.No	Description	Unit	Value
1	Quantum	MU	501

S.No	Description	Unit	Value
2	Average Rate	Rs/kWh	4.41
3	Total Cost	Rs Crore	221.07

7.4.4 Standby Charges

Earlier, the erstwhile MSEB was providing standby facility to TPC. The total standby charges payable by TPC to MSEB as approved by the Commission is around Rs 396 Crore. In the existing mechanism of sharing and recovery of standby charges, the standby charges to be paid by REL to TPC as approved by the Commission is of the order of Rs 91 Crore. The balance standby charges is paid by TPC to MSEB, and TPC is recovering these standby charges through bulk supply tariff levied to two Distribution Licensees REL and BEST and retail consumers of TPC.

However, with the restructuring of erstwhile MSEB, MSEDCL is providing standby support to meet the requirement of Mumbai system by shedding load in its area of supply, if required. Thus the standby charges of Rs 396 Crore are to be paid to MSEDCL.

As the Commission has approved the ARR and Tariff of Generation, Transmission and Distribution Business of TPC separately, TPC cannot recover Standby Charges through bulk supply tariff. In view of the changed industry structure, the Commission is the opinion that the standby charges needs to be recovered by MSEDCL from the three Distribution Licensees/Businesses in Mumbai, i.e., REL-D, TPC-D and BEST, to ensure that all the consumers of Mumbai system contributes to standby charges. The Commission has allocated the total standby charges payable by the Distribution Licensees/Businesses to MSEDCL in proportion to the average non-coincident peak demand of Distribution Licensees in Mumbai system during FY 2005-06. The average non-coincident peak demand of Distribution Licensees in Mumbai System during FY 2005-06 and sharing of Standby Charges amongst Distribution Licensees is given in the Table below:

Table: Standby Charge for FY 2006-07

	TPC-D	REL-D	BEST	Total
Average Non Coincident Peak Demand (NCD) during FY 06 (MW)	458	1291	774	2523
% of NCD	18.2%	51.1%	30.7%	100%
Standby Charge (Rs Crore)	**71.9**	**202.6**	**121.5**	**396**

7.4.5 Summary of Power Purchase for FY 2006-07

The summary of Power Purchase for REL-D as approved for FY 2006-07 is given in the following Table:

Table: Summary of Power Purchase for FY 2006-07

Source	Quantum MU	Total Cost (Rs Crore)	Unit Rate (Rs/kWh)
Dahanu	3856	707.00	1.83
TPC-G	3982	1218.22	3.06
TPC-D	501	221.07	4.41
RPS	258	85.11	3.30
Total	**8597**	**2231.40**	**2.60**
Standby Charges		**202.60**	
Total Incl. Standby		**2434.00**	

7.5 TRANSMISSION CHARGES

The Commission had issued an Order on June 27, 2006 in the matter of development of Transmission Pricing Framework for the State of Maharashtra and other related matters (Case 58 of 2005). Further, the Commission vide its Order dated September 29, 2006 in the matter of Determination of Transmission Tariff for Intra-State Transmission System (InSTS) for FY 2006-07 (Case 31 of 2006) has approved the base transmission tariff of Rs 110.20/kW/month. Further the Commission in its Order on Determination of Transmission Tariff opined that *"The total transmission system cost (TTSC) shall be shared amongst the long term transmission system users comprising distribution licensees such as MSEDCL, TPC-D, REL-D and BEST-D in accordance with their share of non-coincident peak demand"* and as per clause 15 of said Order, the Commission has approved the REL-D share of transmission charges for FY 2006-07 as Rs 170.70 Crore. Accordingly, the total transmission charges of Rs 170.70 Crore for REL-D towards use of intra State transmission system has been considered as a part of the ARR for FY 2006-07.

7.6 OPERATION & MAINTENANCE EXPENSES

7.6.1 Employee Expenses

REL has projected employee expenses of Rs. 241.50 Cr in FY 2006-07, including terminal benefits. REL has provided details of the employee expenses under various heads in accordance with the Formats stipulated by the Commission. The main heads of employee expenses are salaries and wages, dearness allowance, other allowances/bonus/benefits and terminal benefits.

REL has projected a 30% increase in employee cost in FY 2006-07 over FY 2005-06 levels, comprising normal salary increase of around 7.5% and a further increase of about 23 %

towards the expected salary revision in FY 2006-07. REL has submitted that the existing Wage Agreement with the Union is for a period of four years from 1.7.02 to 30.6.06, while the officers' salary revision is for four years from 1.4.02 to 31.3.06. REL has stated that during the last salary revision effective since FY 2002-03, there was an increase of around 20% for unionized staff/workers and about 30% for the officers, resulting in an overall increase of around 23%, over and above the normal annual increase. Hence, an overall increase of 23% has been provided towards salary revision in the FY 07 over and above the normal increase of 7.5%.

The Commission feels that in a regulated and cost-plus environment, employee expenses due to the salary revision need not be considered as pass through to the consumer and the Utility should get efficiency gains in return for wage revision. The Commission will consider approval of employee expenses on a normative basis, in future. Hence, the Commission has not considered the impact of the wage revision, while allowing the employee expenses for FY 2006-07. The Commission has considered an increase of around 7.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the increase projected by REL, and allocated the share of REL's distribution business proportionately. Capitalisation of employee expenses has also been projected to increase at the same rate, in line with the philosophy adopted by REL for projecting capitalisation. The employee expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Employee Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Basic Salary	67.73	58.55
2	Dearness Allowance (DA)	26.90	21.99
3	Earned Leave Encashment	24.13	14.47
4	Other Allowances	100.65	59.07
	Terminal Benefits		
5	Provident Fund Contribution	12.81	7.03
6	Pension Payment	1.76	0.57
7	Gratuity Payment including prov.	14.96	7.41
8	**Gross Employee Expenses**	**248.94**	**169.10**
9	Less: Expenses Capitalised	7.41	6.76
10	**Net Employee Expenses**	**241.53**	**162.33**

7.6.2 Administration & General Expenses

REL has projected A&G expenses of Rs. 84.1 Cr in FY 2006-07. REL has provided details of the A&G expenses under various heads in accordance with the Formats stipulated by the

Commission. The main heads of A&G expenses are insurance, rates & taxes, miscellaneous and others.

The Commission has considered an increase of around 3.3% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in A&G expenses, and allocated the share of REL's distribution business proportionately. The A&G expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

A&G Expenses (Rs. Crore)

S.no.	Particulars	FY 2006-07	
		Petition	Commission
1	**A&G Expenses**	84.05	63.10

7.6.3 Repair & Maintenance Expenses

REL has projected R&M expenses of Rs. 89.41 Cr for FY 2006-07, which is about 4.5% of the Gross Fixed Assets (GFA) at the beginning of the year. However, the actual R&M expenditure allowed in previous years, excluding the impact of the extraordinary incidence of R&M expenses in FY 2005-06, due to the cable damage on account of road widening work undertaken by MMRDA, works out to 2.7% of GFA for REL as a whole. The Commission has considered an increase of around 3.5% over the allowed level of expenses in FY 2005-06 (after truing-up), based on the past trend of increase in R&M expenses, and allocated the share of REL's distribution business proportionately. In FY 2006-07 also, REL has estimated the expenditure on account of cable damage due to road widening work undertaken by MMRDA and work done by other agencies like Mahanagar Gas, etc., to the extent of Rs. 57 crore, and requested the Commission to direct MMRDA to reimburse the cost incurred by REL towards the same.

As stated earlier, REL is entitled, under Section 185(2)(b) of the EA 2003 read with the rules made under Section 67(2) by the Central Government and notified vide G.S.R. 217(E) dated 18th April, 2006, to secure compensation from MMRDA towards the damage to their cables. In view of the above, REL is directed to submit to the Commission monthly progress/status reports alongwith copies of communication exchanged with MMRDA, in relation to the compensation that REL is entitled to claim from MMRDA, under law, as aforesaid.

The R&M expenditure allowed for distribution business has been increased such that the overall R&M expenditure allowed for REL as a whole is 2.7% of GFA. The R&M expenditure allowed by the Commission for FY 2006-07 works out to 3.5% of GFA. The

R&M expenditure projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

R&M Expenses (Rs. Crore)

Sl.	Particulars	FY 2006-07	
		Petition	**Commission**
1	Net R&M Expenses	89.41	69.95
2	Gross Fixed Assets at beginning of year	1,982.08	1,984.89
3	R&M Expenses as % of GFA at beginning of year	4.5%	3.5%

7.7 DEPRECIATION

REL, in its ARR Petition, proposed depreciation expenditure for FY 2006-07 for its distribution business as Rs 74.88 Crore. The overall depreciation rate amounts to 3.78% corresponding to opening GFA of Rs 1982.08 Crore. REL submitted that depreciation expenditure projected for FY 2006-07 is in accordance with depreciation rates provided under MERC (Terms and Conditions of Tariff) Regulations, 2005. Further, REL proposed to undertake capital expenditure of Rs 684.21 Crore during FY 2006-07 corresponding to its distribution function with capitalisation of Rs 492.44 Crore during FY 2006-07.

The Commission has examined the depreciation and capitalisation proposed by REL in detail as against the various distribution related capex schemes approved by the Commission. The details of some of the key schemes are elaborated in following paragraphs.

- The Commission had issued in-principle clearance for Receiving Stations amounting to capital outlay of Rs 112.35 Crore during FY 2004-05. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 10.97 Crore during FY 2003-04, Rs 55.00 Crore during FY 2004-05 and Rs 17.55 Crore during FY 2005-06. Further, the Commission has considered balance capital expenditure of Rs 28.83 Crore to be incurred during FY 2006-07 against the approved scheme. In addition, REL had submitted capex scheme for receiving stations during FY 2006-07 amounting to Rs 119.52 Crore, which is currently under scrutiny of the Commission.
- The Commission had issued in-principle clearance for SCADA DMS scheme amounting to capital outlay of Rs 77.88 Crore as against REL's proposal for Rs 151.41 Crore during FY 2004-05. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 5.02 Crore during FY 2003-04, Rs 11.78 Crore during FY 2004-05 and Rs 26.75 Crore during FY 2005-06. Accordingly, the Commission has considered balance capital expenditure of Rs 34.33 Crore to be incurred during FY 2006-07 against the approved scheme.

- The Commission had issued in-principle clearance for 11kV Mains and Distribution transformer scheme amounting to capital outlay of Rs 132.47 Crore as against REL's proposal for Rs 179.85 Crore during FY 2004-05, by disallowing cost of dry type transformers amounting to around Rs 47.4 Crore. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 6.96 Crore during FY 2003-04 and Rs 48.76 Crore during FY 2004-05. During FY 2005-06, REL had also furnished distribution schemes for approval involving outlay of Rs 63.43 Crore, which again included outlay of Rs 28 Crore towards dry type transformers. Accordingly, the Commission has only considered balance capital expenditure to be incurred during FY 2006-07 as against the approved scheme.
- The Commission had issued in-principle clearance for DTPS Absorption Scheme amounting to capital outlay of Rs 75.75 Crore as submitted by REL during FY 2004-05. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 30.27 Crore during FY 2004-05 and Rs 17.96 Crore during FY 2005-06. Accordingly, the Commission has only considered the balance capital expenditure during FY 2006-07.
- The Commission had issued in-principle clearance for scheme of Metering and Instruments amounting to capital outlay of Rs 74.25 Crore as against REL's proposal for Rs 111.52 Crore during FY 2004-05 disallowing replacement of electromechanical single phase and polyphase meters with service age less than 15 years. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 88.72 Crore during FY 2004-05. Further, for FY 2005-06, REL submitted scheme involving capital outlay of Rs 123.42 Crore, which included replacement of electromechanical meters with static meters amounting to Rs 101.76 Crore. As REL has proposed replacement of meters having service age less than 15 years, amounting to almost Rs 91.16 Crore, the Commission has not considered for capitalisation any capital expenditure towards metering and instrument scheme during FY 2006-07.
- The Commission had issued in-principle clearance for scheme of Disaster Management System-Phase I amounting to capital outlay of Rs 36.72 Crore corresponding to urgent works as against REL's proposal for Rs 65.30 Crore during FY 2005-06. Out of above, REL has capitalised around Rs 0.80 Crore during FY 2005-06. Accordingly, the Commission has considered for capitalisation balance capital expenditure of Rs 35.92 Crore during FY 2006-07.
- The Commission had issued in-principle clearance for Corporate office and customer care centre scheme amounting to capital outlay of Rs 135.64 Crore as against REL's proposal for Rs 180.89 Crore during FY 2004-05. The Commission notes that against the approved scheme, REL has incurred capital expenditure of Rs 4.93 Crore during FY 2004-05 and Rs 3.67 Crore during FY 2005-06. Further, during FY 2006-07, REL had proposed to incur an outlay of Rs 71.06 Crore against this head. Accordingly, the

Commission has considered the same for the purpose of capitalisation during FY 2006-07, as the same is within the limits approved under in-principle clearance.

The actual opening level of GFA for FY 2006-07 amounts to Rs 1984.89 Crore as against Rs 1982.08 Crore considered by REL. Further, REL has not proposed any interest capitalisation and only works capitalisation has been proposed. The Commission holds the view that interest cost during construction (IDC) should not be considered as part of revenue expense, however, the same should be capitalised along with assets, as and when put to use. Accordingly, the Commission had considered capitalised cost including IDC derived based on normative debt (70% of works capitalised) at the interest rate of 10% for the schemes initiated during FY 2004-05 and FY 2005-06 and at the rate of 8% for the schemes initiated during FY 2006-07. The capitalisation details during FY 2006-07 are summarised in the following Table:

Table: Capitalisation (Distribution) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Works capitalized	492.44	283.57
2	Interest capitalized	0.00	15.88
3	**Total Capitalisation**	**492.44**	**299.45**

Further, as elaborated under Section 3, the Depreciation Rates stipulated under MERC (Terms and Conditions of Tariff) Regulations, 2005 shall be applicable for FY 2006-07. Accordingly, the Commission has determined depreciation expenditure in accordance with the Tariff Regulations. The average depreciation rate as considered by REL for its distribution assets during FY 2006-07 amounts to 3.78%. The depreciation expenditure projected by REL and approved by the Commission for FY 2006-07, has been summarised in the following Table:

Table: Depreciation Expense (Distribution) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Depreciation	74.88	72.84
2	Opening GFA	1982.08	1984.89
3	**% Depreciation**	**3.78%**	**3.67%**

7.8 INTEREST ON LONG TERM LOAN

REL proposed interest expenditure of Rs 72.68 Crore for FY 2006-07 for its distribution business. Further, REL considered the interest cost based on normative debt: equity of 70:30 for financing of capital expenditure at the normative interest rate of 10% p.a. and normative loan repayment of 20 years.

REL has computed interest costs for the normative debt corresponding to entire capital expenditure proposed to be incurred during that year. In this context, the Commission observes that as per MERC (Terms and Conditions of Tariff) Regulations, 2005, the permissible interest cost in this case will have to be determined based on 'normative loan capital', as per Regulation, 73.1, 73.2 and 76.3.2 of the Tariff Regulations. The relevant extract of the said Regulations is as under:

> *73.1 Any capital expenditure incurred during a financial year on a capital expenditure project commenced on or after April 1, 2005 and/ or on purchase of fixed asset on or after such date shall be assumed to be financed at a normative debt:equity ratio of 70:30, to be applied on the annual allowable capital cost for such financial year: (emphasis added)"*
>
> *76.3.2 "The Distribution Licensee shall be allowed to recover the interest rate on all loans taken for approved capital expenditure projects commenced on or after April 1, 2005, approved additions to fixed assets and approved purchases of fixed assets on or after such date based on the following terms and conditions:*

Thus, the 'normative loan capital' has to be linked to approved capital expenditure for the assets put to use. The Commission is of the opinion that interest expense towards capital expenditure needs to be capitalised as and when the asset is put to use and should not be charged to revenue expense. However, pursuant to such capitalisation, interest costs can be charged to revenue expense over the repayment tenure of such outstanding debt. Accordingly, the Commission has considered interest cost of normative debt corresponding to capitalised assets only. The Commission has considered interest cost at the interest rate of 10% p.a. for the assets put to use during FY 2004-05 and FY 2005-06 and at the interest rate of 8% p.a. for assets put to use during FY 2006-07. Accordingly, the weighted average rate of interest cost works out to 9.6%.

Further, as per Regulation 74.2, normative loan repayment schedule for each year shall be equal to amount of depreciation for fixed assets to which such loan relates. Accordingly, the Commission has considered loan repayment schedule of 20 years for the loans drawn during FY 2006-07, however, the loan repayment for loans drawn during FY 2004-05 continue to be

10 years as provided earlier. The details of interest cost are summarised in the following Table:

Table: Interest cost (Distribution) (Rs Crore)

Sl.	Particulars	FY 2006-07	
		Petition	Commission
1	Opening Bal. of Loan	502.97	379.51
2	Additions	478.95	209.61
3	Repayment	(31.22)	(24.05)
4	Closing Bal. of loan	950.70	565.07
5	**Interest cost**	**72.68**	**45.13**
6	**Overall Interest Rate (%)**	**10.0%**	**9.6%**

7.9 INTEREST ON WORKING CAPITAL AND CONSUMER SECURITY DEPOSITS

REL, in its Petition, submitted that the Working Capital requirement has been computed in accordance with the Commission's Tariff Regulations, which stipulate the components of working capital of the distribution business. REL further submitted that the normative interest rate of 10% as indicated by SBI has been considered for estimating interest on working capital. REL has projected interest on working capital of Rs 19.75 Crore for FY 2006-07. REL projected interest on consumer security deposits as Rs. 10.23 crore, @ 5.5% of the projected security deposit of Rs. 186 crore.

The Commission has estimated the total working capital requirement in accordance with the provisions of Tariff Regulations. REL has not projected any increase in the amount of consumer security deposit. However, the Commission has projected an increase in consumer security deposit, in proportion to the increase in revenue from existing tariffs. The total working capital estimated by the Commission for FY 2006-07 works out to Rs 69.2 Crore as against Rs 197.5 crore estimated by REL.

Further, the Tariff Regulations stipulates that Rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on the date on which the application for determination of tariff is made. As the short-term Prime Lending Rate of State Bank of India is 10.25%, the Commission has considered the interest rate of 10.25% for estimating the interest on working capital.

The interest on working capital for FY 2006-07 as estimated by the Commission works out to Rs 7.1 Crore as against Rs 19.8 Crore estimated by REL. The interest on consumer security deposits has been projected by the Commission as Rs. 10.8 crore, @ 5.5% on the projected consumer security deposit of Rs. 196.2 crore.

7.10 PROVISIONING FOR DOUBTFUL DEBTS

REL's ARR and Tariff Petition for FY 2006-07 has not specifically brought out the quantum of provisioning for bad debts, in the text portion. However, in the ARR Formats, REL has sought the Commission's approval for provisioning towards bad and doubtful debts to the extent of Rs. 5.5 crore, which amounts to 1.5% of receivables. The Commission has allowed provisioning for bad and doubtful debts to the extent of Rs. 4.72 crore, which works out to 1.5% of receivables.

7.11 INCOME TAX

REL has projected income tax of Rs. 86.5 crore for its distribution business, on the principle of grossing up of the RoE component. As explained earlier, the Commission rejects REL's claim that the income tax should be computed on the basis of grossing up of the RoE component.

As explained earlier in para 4.8, the income tax liability for FY 2006-07 for REL's Mumbai license area works out to Rs. 17.30 crore. The apportioned income tax liability of the distribution business of REL in FY 2006-07, has been estimated as Rs. 11.4 crore.

7.12 CONTRIBUTION TO CONTINGENCY RESERVES

REL has considered contribution to contingency reserves @ 0.5% of the closing GFA for FY 2006-07, amounting to Rs. 12.4 crore. The Commission has however, considered contribution to contingency reserves @ 0.5% of the opening GFA for FY 2006-07, in accordance with the Commission's Tariff Regulations, amounting to Rs. 9.9 crore.

7.13 NON-TARIFF INCOME

REL has projected non-tariff income of Rs. 28.1 Cr in FY 2006-07, due to miscellaneous receipts and others. The Commission has considered an increase of around 16% over the actual non-tariff income in FY 2005-06, based on the past trend of increase in non-tariff income, and allocated the share of REL's distribution business proportionately. The non-tariff income projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Non-Tariff Income (Rs. Crore)

S.No.	Particulars	FY 2006-07	
		Petition	Commission
1	Delayed Payment Charges	8.67	16.04
2	Miscellaneous receipts	9.97	26.08
3	Interest on Contingency Reserve Investments	2.53	2.53
4	Others	6.93	7.15
5	**Total**	**28.10**	**51.81**

7.14 RETURN ON EQUITY

REL submitted that it has projected the Return on Equity (RoE) for FY 2006-07 @16% for its distribution business in accordance with the Tariff Regulations notified by the Commission. REL added that it has allocated equity for generation assets, transmission assets and distribution assets based on its net fixed assets as on 1st April 2004 and corresponding total equity for its Mumbai Licensee Business. REL clarified that since REL is an integrated utility, the total equity deployed was never linked to specific assets of generation or distribution, and hence, the allocation of equity needed a rational basis. REL has endeavoured to base this rationale on the net fixed assets of each function. Since all assets of REL are financed from own equity, a normative equity of 30% of total equity employed for distribution assets added during the years FY 2004-05 and FY 2005-06 has been considered, based on the Tariff Regulations.

The Commission has computed the RoE in accordance with the Tariff Regulations, which stipulates a 16% return on equity per annum on the regulatory equity at the beginning of the Financial Year for which the return is being computed, and on 50% of the equity component of the projected addition to capital assets during the year. The RoE projected by REL and that considered by the Commission for FY 2006-07 is given in the following Table:

Return on Equity (Rs. Crore)

S.no.	Particulars	Ref.	Ensuing Year FY 2006-07	
			Petition	Approved
1	Regulatory Equity at the beginning of the year		963.01	913.09
2	Capital Expenditure		684.21	299.45
3	Equity portion of capital expenditure		205.26	89.84

S.no.	Particulars	Ref.	Ensuing Year FY 2006-07	
			Petition	Approved
4	Regulatory Equity at the end of the year		1168.27	1002.93
	Return Computation			
5	Return on Regulatory Equity at the beginning of the year	16%	154.08	146.09
6	Return on Equity portion of capital expenditure	16%*(3)/2	16.42	7.19
7	**Total Return on Regulatory Equity**		170.50	153.28

7.15 DISTRIBUTABLE SURPLUS

In Section 3, the revenue surplus earned by REL in FY 2004-05 and FY 2005-06, as computed by the Commission, after truing up for the actual revenue and expenditure subject to prudence check, has been detailed. In addition to this revenue surplus, REL also has certain reserves available, which can be passed through to consumers. The Commission has detailed its philosophy of appropriating the reserves available with REL, in its previous Tariff Order for REL for FY 2004-05, in order to reduce the tariff burden on consumers, who have contributed to creation of these reserves in the past. In fact, REL itself has suggested in the matter of TPC's ARR and Tariff Petition that TPC's carried forward shortfall relating to FY 2005-06 should be reduced by the available reserves, before it is allowed to be reflected in FY 2006-07. The total reserves thus available with REL at the end of FY 2005-06, have been appropriated towards the revenue shortfall in FY 2006-07, as shown in the Table below:

Table: REL's Distributable Surplus

Sl	Particulars	Amount (Rs. Cr)
1	Revenue surplus earned in FY 2004-05	82.92
2	Interest on surplus earned in FY 2004-05	8.71
3	Revenue surplus earned in FY 2005-06	55.93
4	Interest on surplus earned in FY 2005-06	2.52
5	Reserves available for distribution	110.21
5.1	*Contingency Reserve*	75.45
5.2	*Tariff & Dividend Control Reserve*	17.38
5.3	*Consumer Benefit Account*	17.38
6	**Total Distributable Surplus**	**260.29**

Though the Commission has appropriated the available reserves for the purposes of tariff determination for FY 2006-07, the Commission has also ensured that these reserves will be built up again for future use, by providing for contribution to contingency reserves in accordance with the stipulations of the Commission's Tariff Regulations, which has been discussed in earlier paragraphs of this Order.

7.16 IMPACT OF ATE ORDER ON REBATES GIVEN BY REL IN PREVIOUS YEARS

In its Order dated 20th February 2004 in Case No. 1 of 2003, in the matter of rebates given by REL to selective consumers, the Commission had ruled that the rebates were illegal and a departure from the pre-existing tariff of BSES without the Commission's approval. The Commission ruled that "*the burden of past rebates and those, if any, extending until fresh determination of tariff by the Commission will have to be borne entirely by BSES Limited.*"

Accordingly, in the previous Tariff Order for REL issued on July 1, 2004, the Commission stated,

> *"BSES has been offering rebates to selected consumer categories and consumers. TPC had filed a Petition before the Commission claiming that these rebates were illegal. The Commission issued its Order on February 20, 2004 in Case No. 1 of 2003. The Commission held that the loss in revenue due to these rebates would have to be borne by BSES as they had not been approved by the Commission. BSES has submitted details of the revenue lost due to the rebates offered to the consumers. Accordingly, the Commission has restated the revenue billed by BSES to its consumers, to account for the loss in revenue due to the selective rebates offered by BSES."*

Subsequently, REL filed an appeal before the Honourable Appellate Tribunal for Electricity (ATE) on the Commission's Order dated 20th February 2004 in Case No. 1 of 2003. The ATE has given its Order in this matter on May 22, 2006, which was forwarded by REL to the Commission, with the remark that as the ATE's Order has been issued after submission of the ARR and Tariff Petition by REL, the effect of the ATE Order could not have been considered in the ARR for FY 2006-07. As the ATE's Order impacts the revenue requirement of REL, the Commission has incorporated the impact of the ATE's ruling on this matter.

In its ruling dated May 22, 2006, ATE inter-alia, identified the following points for its consideration:

i) *"Whether grant of rebate by REL to its consumers is illegal and violative of statutory provisions of The Central Acts 54 of 1948, 9 of 1910 and 14 of 1998 and Tariff Notification?*

iii) *Whether the directions issued by MERC in para 51 of its order is sustainable or liable to be set aside?*

iv) *Whether the order of MERC in Case No. 1 of 2003 dated 20.02.2004 is liable to be interfered?"*

The ATE has ruled that:

> *"In the light of the above pronouncement and discussions, we hold that the view taken by the Commission that no rebate is permissible by a DISCOM and that the total amount of rebate given has to be borne by the DISCOM does not reflect the correct legal position and hence the order challenged is set aside. Accordingly there will be a direction to the Regulatory Commission to follow the dicta laid by Hon'ble Supreme Court and allow the amount as reserve for the years in question and in terms of Schedule VI of Electricity (Supply) Act 1948. In the circumstances the appeal is allowed and there will be a direction in the above terms."*

Further, while deciding on the item 3 as mentioned above, ATE in Clause 29 of the Order has stated

> *"As regard the third point, while following the judgment of Supreme Court in Workmen Vs Management of Sijua (Jherriah) Electric Supply Co. Ltd. reported in (1974) 3 SCC 473 the directions issued by MERC is set aside as legally not sustainable and not called for".*

TPC has filed an appeal before the Hon'ble Supreme Court on the ATE Order. However, the Hon'ble Supreme Court has neither given any ruling on the matter, nor granted a stay with status-quo ante on the ATE Order. Hence, the Commission has to implement the prevailing ATE Order in the matter of rebates given by REL to selected consumers. The total amount involved is Rs. 350 crore, which has to be collected from REL's consumers through the tariff mechanism, which amounts to an average tariff increase of 24% on this count alone. In order to comply with the Honourable ATE's Order, the Commission has decided that the revenue gap of Rs. 350 crore on this account alone will be recovered through the levy of an 'additional energy charge' of Rs. 0.97 per kWh, which will be payable by all consumer categories (except BPL category), for a period of six months only, i.e., for the period October 1, 2006 to March 31, 2007.

7.17 AGGREGATE REVENUE REQUIREMENT (ARR)

The ARR of the distribution business of REL is the summation of all the expenses and RoE. REL has projected the ARR for FY 2006-07 at Rs. 3057 crore. The Commission has determined the ARR for FY 2006-07, based on the expenses allowed under various heads and RoE allowed, as discussed above. The ARR projected by REL and that allowed by the Commission for FY 2006-07 is given in the following Table:

Aggregate Revenue Requirement (REL-D) (Rs. Crore)

S.no.	Particulars	Ensuing Year FY 2006-07	
		Petition	Approved
1	Power Purchase Expenses	2067.69	2231.13
1.1	Power Purchase [from TPC-G]	1186.35	1218.22
1.2	Power Purchase from REL-G	827.57	706.73
1.3	Power Purchase from TPC-D	0.00	221.07
1.4	Power purchase - RPS Obligations	53.77	85.11
2	Share of Standby Charges	90.60	202.60
3	Transmission charges payable	59.37	170.70
4	Operation & Maintenance Expenses	414.99	295.38
4.1	Employee Expenses	241.53	162.33
4.2	Administration & General Expenses	84.05	63.10
4.3	Repair & Maintenance Expenses	89.41	69.95
5	Depreciation	74.88	72.84
6	Interest on Long-term Loan Capital	72.68	45.13
7	Interest on Working Capital and on consumer security deposits	29.98	17.87
8	Provisioning for Bad Debts	5.50	4.72
9	Income Tax	86.51	11.39
10	Contribution to contingency reserves	12.37	9.92
11	**Total Revenue Expenditure**	**2914.57**	**3061.69**
12	Return on Equity Capital / Reasonable Return on Capital Base	170.50	153.28
13	**Aggregate Revenue Requirement**	**3085.07**	**3214.97**
14	Less: Distributable surplus from previous years		260.29
15	Less: Non Tariff Income	28.10	51.81
16	**Aggregate Revenue Requirement from Retail Tariff**	**3,056.97**	**2,902.87**
17	**Reversal of treatment on rebate given by REL, on account of ATE Order**		**350.01**

7.18 SHARING OF GAINS AND LOSSES

The gains and losses on account of controllable and uncontrollable factors will be shared at the time of truing up of ARR based on actuals between the Utility and the consumers in accordance with Regulation 19 of the MERC (Terms and Conditions of Tariff) Regulations, 2005, which stipulates

"19.1 The approved aggregate gain to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:

- *(a) One-third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10;*
- *(b) In case of a Licensee, one-third of the amount of such gain shall be retained in a special reserve for the purpose of absorbing the impact of any future losses on account of controllable factors under clause (b) of Regulation 19.2; and*
- *(c) The balance amount of gain may be utilized at the discretion of the Generating Company or Licensee.*

19.2 The approved aggregate loss to the Generating Company or Licensee on account of controllable factors shall be dealt with in the following manner:

- *(a) One-third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be specified in the Order of the Commission under Regulation 17.10; and*
- *(b) The balance amount of loss shall be absorbed by the Generating Company or Licensee."*

8 TARIFF PHILOSOPHY APPLICABLE FOR REL'S DISTRIBUTION BUSINESS FOR FY 2006-07

8.1 APPLICABILITY OF REVISED TARIFFS

The revised tariffs will be applicable prospectively from October 1, 2006 till March 31, 2007, in accordance with the principle that tariffs can be revised only prospectively. In cases, where there is a billing cycle difference of a consumer with respect to the date of applicability of the revised tariffs, then the revised tariff should be made applicable on a pro-rata basis for the consumption. The bills for the respective periods as per existing tariff and revised tariffs shall be calculated based on the pro-rata consumption (units consumption during respective period arrived at on the basis of average unit consumption per day multiplied by number of days in the respective period falling under the billing cycle).

The Commission has determined the tariffs and revenue from revised tariffs as if the revised tariffs are applicable for the entire year, in line with the philosophy adopted by the Commission in the past in case of REL, MSEDCL, and TPC. In the previous Order for REL for FY 2004-05, the tariffs were reduced prospectively, and the over-recovery of revenue due to higher effective tariffs being applicable for three months of FY 2004-05, have been adjusted under the truing up mechanism in this Order. Similarly, in case there is any shortfall in actual revenue due to the applicability of the revised tariffs for only six months of FY 2006-07, the same will be adjusted in the truing up process, while truing up for the actual expenses, subject to prudence check.

As stated earlier, an 'additional energy charge' of Rs. 0.97 per kWh will be payable by all consumer categories (except BPL category), for a period of six months only, on account of compliance with the ATE's Order.

The Commission intends to introduce Multi Year Tariff (hereinafter referred to as MYT) regime with effect from April 1, 2007 as mentioned in the Commission's Order dated December 20, 2005. In this regard, the Commission directs REL to file the ARR and Tariff petition for MYT before November 30, 2006.

8.2 TARIFF PHILOSOPHY

The Commission has determined the tariffs in line with the tariff philosophy adopted by it in the past, and the provisions of law. The tariffs have been determined so that the cross-subsidy is reduced without subjecting any consumer category to a tariff shock, and also to consolidate the movement towards uniform tariffs throughout Mumbai.

The Commission has determined the tariffs applicable to REL's consumers, keeping in mind the existing tariff structure of REL, BEST, and the recently revised tariffs of MSEDCL, with the intention of reducing the imbalances between the tariffs applicable for the same consumer category across Licensees in the State.

The existing FAC has been equated to zero, on account of the adoption of the existing fuel costs for projection of the fuel expenses. In case of any variation in the fuel prices, REL will be able to pass on the corresponding increase to the consumers through the existing FAC mechanism, subject to the stipulated ceiling of 10% of average energy charges. The FAC will be charged on a monthly basis and post facto approval for the same should be obtained from the Commission.

The Commission has retained the existing categories and sub-categories/slabs, except for one or two instances. The consumer categories introduced by the Commission are detailed below:

1. In the Residential category, a new sub-category has been introduced, viz., Below the Poverty Line (BPL) category for consumers consuming less than 30 units per month, in line with the National Electricity Policy, and the two-part tariffs for this sub-category have been kept at the same levels as introduced for BEST. The Commission has been unable to determine the revenue impact of introduction of BPL category, due to the lack of adequate data. The Commission directs REL to gather data regarding the consumption of such consumers and identify consumers whose consumption level would be lower than 30 units per month, who are the real life-line category of consumers, so that the Commission can address the real life-line consumers in more scientific manner (i.e. BPL category tariffs). In case the consumption of BPL category consumers exceeds 30 units in any month, then such consumers will thereafter be automatically considered under 'residential' category LF-1, and will be charged accordingly. REL should endeavour to make this position very clear to such consumers through effective communication.

2. The number of slabs for Residential category consumers other than BPL category has been retained at three, viz., 0 to 100 units, 101 to 300 units, and consumption above 300 units.

3. The Commission after considering the MoP Order dated 9th June, 2005 on Electricity (Removal of Difficulties) (Eighth) Order, 2005 rules that HTP-IV Residential would be applicable only to the Group Housing Societies. Accordingly, the corresponding HT category has been renamed as "HT-Group Housing Society".

4. The Commission has introduced a new category, viz., Advertisements & Hoardings. This category will include any supply to advertisements and hoardings.

5. The Commission has introduced a new sub-category within Temporary Connections, viz., Temporary Supply for Traditional Public Religious Functions. This category will include temporary supply at low voltage only for Traditional Public religious functions.

6. The second sub-category within Temporary Connections will include any temporary supply of electricity at Low/Medium voltage for any construction work, decorative lighting for exhibitions, circus, film shooting, marriages, etc. and any activity not covered under Temporary Supply for Traditional Public Religious Functions.

7. Any HT Industrial and Commercial category consumer, undertaking sub-distribution to mixed loads, shall continue to be under this category for a period of six months from the date of this Order keeping in view the metering constraints and identification of consumers. Thereafter, the consumers belonging to this Category requiring a single point supply will have to either operate through a franchise route or take individual connections under relevant category.

8. The impact of introduction of new categories and PF incentive, etc., has not been assessed, and REL's revenues may be lower than estimated on this account. Hence, the Commission has provided for additional revenue of Rs. 6.2 crore, to take into account this uncertainty, and any shortfall/surplus due to these measures will be addressed at the time of truing up.

The recovery of fixed costs through fixed charges has been increased slightly, in accordance with the philosophy enunciated by the Commission in its earlier Orders.

Standby charges applicable to CPPs have been retained at the existing levels, viz., the base demand charges and the energy charges have been kept same as that for other HT consumers, and additional demand charges Rs. 20 per kVA/month would be chargeable for the standby component only in excess of contract demand.

The Commission has decided that in case of any inter-utility power exchange within the State other than 'contracted' power procurement, the rate applicable shall be the marginal cost of the supplying utility and the same shall be applicable on the net supply between utilities.

The Billing Demand definition has been retained at the present levels, i.e.,

Monthly Billing Demand will be the higher of the following:

a. Actual Maximum Demand recorded in the month during 0600 hours to 2200 hours;
b. 75% of the highest billing demand/Contract Demand, whichever is lower, recorded during the preceding eleven months;

c. 50% of the Contract Demand.

REL has installed Time-of-Day (ToD) meters for its HT industrial and commercial consumers, and LT industrial consumers, in accordance with the directives given by the Commission in the previous Order, and has submitted the consumption data. In this Order, the Commission has introduced ToD tariffs for the HT industrial and commercial consumers, and LT industrial consumers, with the view to disincentivise consumption during evening system peak hours, viz., 18:00 to 22:00 hours.

The existing cross-subsidy and the reduction in cross-subsidy considered by the Commission is given in the Table below:

Consumer Category	Avg Cost of Supply (Rs/unit)	Average Billing Rate (Rs./unit)		Ratio of Average Billing Rate to Average Cost of Supply (%)			Percentage point increase/ decrease in Tariff w.r.t Avg. CoS
		Existing Tariff	Revised Tariff	Tariff Order FY05	Existing Tariff	Revised Tariff	
Residential (LF1)	4.01	2.83	3.14	66%	70%	78%	8%
Commercial (LF2)		5.30	5.68	141%	132%	142%	9%
LTP-1		4.43	4.88	128%	111%	122%	11%
LTP-2		4.87	5.07	126%	121%	126%	5%
Streetlights		4.89	4.64	109%	122%	116%	-6%
HT Housing Colonies		4.01	4.00	98%	100%	100%	0%
HT Industrial		4.20	4.25	107%	105%	106%	1%

The State of Maharashtra is passing through a phase of acute power shortage, and even Mumbai city, which so far has been spared of load shedding, is likely to face power shortages in the coming summer months. In the absence of additional capacity in the region and prevailing constraints of transmission corridor availability, there is an urgent need for energy conservation and load management by all power intensive consumers, in the short-term as well as the long-term. In order to achieve this, the Commission has adopted the principle of economic signals for high consumption consumers, in order to inculcate the habit of energy conservation.

(i) All the residential and commercial consumers consuming more than 300 units per month henceforth, and all industrial consumers (irrespective of their level of consumption) in the REL License area will have to reduce their monthly consumption to a level of 80% of their consumption in the corresponding month in the past year (January 2005 to December 2005). A "Load Management Charge" shall be applicable for the consumption exceeding the 80% limit at the rate of additional 100% of the highest tariff chargeable to the respective category, and will be charged in the energy bill of the consumer in that month.

(ii) The money collected through the levy of this "Load Management Charge" has to be maintained in a separate fund to be used for energy conservation and Demand Side Management (DSM) measures.

(iii) Any reduction in the monthly consumption below the 80% limit prescribed on a consumption in the corresponding month in the past year (January 2005 to December 2005) will be incentivised with a "Load Management Rebate" at the rate of 50% of the normal chargeable rate to the kWh units in the tariff slab applicable to the reduction in the number of units, vis-à-vis the benchmark consumption of 80% of the consumption in the corresponding month of the previous years, by adjusting the bill accordingly. This would be funded by the fund mentioned in paragraph 'ii' above, calculated in the energy bill of the consumer for that month.

(iv) In case of residential and commercial consumers having consumption greater than 300 units per month henceforth, and all LT/ HT industrial and HT commercial consumers who have already reduced their consumption in the corresponding months in the last year due to the load regulation measures introduced by the Commission in its Order in Case No. 4 of 2005, the load management target will be at the same level as that of the corresponding month last year, and further reduction to 80% of the consumption in the previous year is not mandatory in such cases.

(v) This monthly consumption reduction target will not be applicable for new consumers and in case of change in occupancy during the last one year for the existing consumers.

(vi) As regards the essential services, it is desirable that they should also try to reduce their monthly consumption, however, in case of failure to reduce the consumption to a level of 80% of their consumption in the corresponding month in the past year (January 2005 to December 2005), "Load Management Charge" as well as "Load Management Rebate" will not be applicable for the operational installations of following essential services:

a. Railways
b. Water Supply and Sewerage systems operated by Government/local authorities
c. Telephone exchanges
d. Defence Establishments
e. Ports and Harbours

f. Meteorological observatories
g. Hospitals
h. News Agencies
i. TV and Radio Stations
j. Posts & Telegraphs
k. Airports
l. Atomic energy establishments

(vii) In case of the above essential services, the restriction of reducing the monthly consumption to 80% of their consumption in the corresponding month of the past year will however, be applicable for the attached residential colonies and the "Load Management Charge/Rebate" shall be applicable as mentioned in paragraphs '(i)' to '(v)' above

8.3 REVISED TARIFF EFFECTIVE FROM OCTOBER 1, 2006

Sl.	Consumer category & Consumption Slab	Tariffs	
		Fixed/Demand Charge (Rs/kVA/month)	**Energy Charge (p/kWh)**
	Low Tension Categories		
1	**Residential (LF-1)**		
	Below Poverty Line (BPL)	Rs. 3 per month	40
	Other Residential		
	0-100 units	Rs. 30 per month	160
	101-300 units	Rs. 50 per month$^{\$\$}$	360
	Above 300 units (balance units)		575
2	**Commercial (LF-2)**		
	0-300 units	Rs. 200 per month$^{\$\$\$}$	425
	301- 1000 units		500
	Above 1000 units (balance units)		650
3	**LTP-1** (LT Industrial below 15 HP load)	Rs. 150 per month	475
4	**LT Industrial – LTP-2** (including LT industries above 15 HP load, cinemas, film companies)	374	350
	TOD Tariffs (in addition to above base tariffs)		
	1800 hours to 2200 hours		*60*
	Remaining hours of the day		*0*
5	**Agriculture**	Rs. 15 per HP per month	110
6	**Streetlights**	374	290
7	**Temporary Connections**		

Sl.	Consumer category & Consumption Slab	Tariffs	
		Fixed/Demand Charge (Rs/kVA/month)	**Energy Charge (p/kWh)**
	Religious Purposes	Rs. 200 per month$$$	170
	Other Purposes	Rs. 200 per month	800
8	Advertisement & Hoardings	Rs. 200 per month	1100
	High Tension Categories		
9	**HT Group Housing Societies– Bulk Supply**	374	300
10	**HT Industrial**	374	320
	TOD Tariffs (in addition to above base tariffs)		
	1800 hours to 2200 hours		*60*
	Remaining hours of the day		*0*

Notes:

1. Fuel Adjustment Cost (FAC) will be applicable to all consumers and will be charged over the above tariffs, on the basis of the FAC formula prescribed by the Commission, and computed on a monthly basis.
2. $$: Fixed charge of Rs. 100 per month will be levied on residential consumers availing 3 phase supply. Additional Fixed Charge of Rs. 100 per 10 kW load or part thereof above 10 kW load shall be payable.
3. $$$: In case of LF-2 (commercial) consumers and Temporary connections, additional Fixed Charge of Rs. 150 per 10 kW load or part thereof above 10 kW load shall be payable.

8.3 WHEELING CHARGES

The Commission has determined the wheeling charges for each voltage network based on the voltage-wise asset base and capacity levels at each voltage. The ARR has been segregated between wheeling business and retail supply business based on the submissions made by REL. Consumers connected directly to the transmission network would not be required to pay the wheeling charges.

Table: Share of Wires Business in total REL-D ARR

Sl.	Particulars	Ensuing Year (FY 2006-07)			Ensuing Year (FY 2006-07)		
		Approved ARR (Rs Cr)	Network cost (%)	Supply Cost (%)	Network Cost (Rs Cr)	Supply Cost (Rs Cr)	Total ARR (Rs Cr)
1	**Power Purchase Expenses**	**2604.43**	**0%**	**100%**	**170.70**	**2433.73**	**2604.43**
1.1	Power Purchase [from TPC-G]	1218.22	0%	100%	0.00	1218.22	1218.22
1.2	Power Purchase from REL-G	706.73	0%	100%	0.00	706.73	706.73
1.3	Power Purchase from TPC-D	221.07	0%	100%	0.00	221.07	221.07
1.4	Power purchase - RPS Obligations	85.11	0%	100%	0.00	85.11	85.11
1.5	Share of Standby Charges	202.60	0%	100%	0.00	202.60	202.60
1.6	Transmission charges payable	170.70	100%	0%	170.70	0.00	170.70
2	**Operation & Maintenance Expenses**	**295.38**	**60.5%**	**40%**	**178.61**	**116.78**	**295.38**
2.1	Employee Expenses	162.33	52%	48%	84.10	78.23	162.33
2.2	Administration & General Expenses	63.10	50%	50%	31.55	31.55	63.10
2.3	Repair & Maintenance Expenses	69.95	90%	10%	62.96	7.00	69.95
3	Depreciation	72.84	90%	10%	65.55	7.28	72.84
4	Interest on Long-term Loan Capital	45.13	90%	10%	40.62	4.51	45.13
5	Interest on Working Capital and on consumer security deposits	17.87	0%	100%	0.00	17.87	17.87
6	Provisioning for Bad Debts	4.72	0%	100%	0.00	4.72	4.72
7	Other Expenses	0.00	0%	100%	0.00	0.00	0.00
7	Income Tax	11.39	15%	85%	1.71	9.68	11.39
8	Contribution to contingency reserves	9.92	90%	10%	8.93	0.99	9.92
9	**Total Revenue Expenditure**	**3061.69**	**15%**	85%	**466.12**	**2595.57**	**3061.69**
10	Return on Equity Capital / Reasonable Return on Capital Base	153.28	90%	10%	137.95	15.33	153.28
11	**Aggregate Revenue Requirement**	**3214.97**	**19%**	**81%**	**604.07**	**2610.90**	**3214.97**
13	Less: Distributable surplus from previous years	260.29	0%	100%	0.00	260.29	260.29
14	Less: Non Tariff Income	51.81	0%	100%	-	51.81	51.81
15	**Aggregate Revenue Requirement from Retail Tariff**	**2,902.87**	**21%**	**79%**	**604.07**	**2,298.80**	**2,902.87**

The Commission has considered the allocation of expenses where submitted by REL and applied certain assumptions to determine the allocation of expenses between wires and supply business, in the absence of allocation ratios. The Commission directs REL to maintain the accounts for expenses incurred on wires business and supply business separately, and submit the same along with the MYT Petition for FY 2007-08 onwards.

The total ARR of the Wires business as computed above has been apportioned to HT and LT in the ratio of HT and LT sales, and the HT cost has further been apportioned to LT category, since the HT system is also being used for supply to the LT consumers. Based on available data, the Commission has considered that around 15% of the demand arises due to sale to HT consumers. Thus, the wheeling charge applicable to consumers connected on the HT network works out to Rs. 35 per kW per month.

8.4 CROSS-SUBSIDY SURCHARGE

The Commission in its Order (Case No.9 of 2006) dated September 5th 2006 has defined the methodology to be followed for determination of cross-subsidy surcharge, as follows:

"S = T – [C (1+ L / 100) + D],

Where,

- *S is the surcharge*
- *T is the Tariff payable by the relevant category of consumers;*
- *C is the Weighted average cost of power purchase of top 5% at the margin excluding renewable power and purchase under UI*
- *D is the Wheeling charge*
- *L is the system loss for the applicable voltage level, expressed as a percentage*

L should be inclusive of transmission loss. For intra-State transactions, transmission loss prescribed by the Commission for the STU should be considered, while for inter-State transactions, additional loss compensation as provided by CERC in its Open Access Regulations should be considered"

The same methodology has been adopted by the Commission for determination of cross-subsidy surcharge. As per this methodology the Cross-Subsidy surcharge works out to zero, primarily because the weighted average cost of power purchase of top 5% at the margin works out to Rs. 5.99 per kWh, after adding the effective intra-State transmission tariff and the transmission loss, as against the average tariff of Rs 4.25/kWh for HT-Industrial category.

8.5 INCENTIVES AND DISINCENTIVES

Incentives

Power Factor Incentive

Whenever the average power factor is more than 0.95, an incentive shall be given at the rate of 1% (one percent) of the amount of the monthly energy bill (excluding FAC charge, demand charge, Additional Energy Charge, electricity duty, TOSE and Load Management Charge and other taxes) for every 1% (one percent) improvement in the power factor above 0.95. For PF of 0.99, the effective incentive will amount to 5% (five percent) reduction in the energy bill and for unity PF, the effective incentive will amount to 7% (seven percent) reduction in the energy bill.

Prompt Payment discount

A prompt payment rebate of 1% will be allowed on the energy bill (excluding fixed/demand charges, Additional Energy Charge, FAC, TOSE, Load Management Charge and other taxes) for the HT and LT industrial and commercial categories, if the bill is paid within seven days from the date of the bill or within 5 days of the receipt of the bill, whichever is later.

<u>Disincentives</u>

Power factor Penalty

Whenever the average power factor is less than 0.92, penal charges shall be levied at the rate of 2% (two percent) of the amount of the demand charges for the first 1% (one percentage point) fall in the power factor below 0.92, beyond which the penal charges shall be levied at the rate of 1% (one percent) for each percentage point fall in the power factor below 0.91.

8.6 REVENUE WITH REVISED TARIFFS

In FY 2006-07, REL will earn revenue for 6 months with existing tariff, while the revised tariffs will be applicable for 6 months, from October 1, 2006. The total revenue from sale of electricity based on revised tariffs if they were applicable for the entire year has been projected as Rs. 2915crore, excluding the revenue of Rs. 350 crore from the levy of Additional Energy Charge.

The detailed revenue computation with revised tariff has been given in **Appendix 3**. The impact of the tariff revision on the monthly electricity bills of the different consumer categories is presented in **Appendix 4**.

The Commission acknowledges the efforts taken by the Consumer Representatives and the various individuals, corporates and associations for their valuable contribution to the tariff process.

The Commission would also like to put on record, the efforts of its advisors, ABPS Infrastructure Advisory.

Sd/-	Sd/-	Sd/-
(S. B. Kulkarni)	(A. Velayutham)	(Dr. Pramod Deo)
Member	Member	Chairman, MERC

Sd/-

Secretary, MERC

APPENDIX 1 A

List of Individuals Who Attended The Technical Validation Session On 05.04.2006 In The Matter of ARR And Tariff Proposal For FY 05-06 & FY 06-07 of REL

Sl.	NAME
REL Officials	
1	Shri S.K.Shah
2	Shri M.Moolwaney
3	Shri D.R.Sukhtankar
4	Shri R.R.Mehta
5	Shri P.A.Shinde
6	Shri Siddarth Honn
7	Shri Kapil Sharma
8	Shri Zakir Khan
9	Shri P.Goyal
10	Shri Sharad Nath
TPC Officials	
11	Shri V.H.Wagle
12	Shri T.N.Ramakrishnan
13	Shri J.D.Kulkarani
14	Shri A.V.Katdare
15	Shri P.K.Anvekar
16	Shri M.K.Gupta
Consumer Representatives	
17	Shri Ashok Pendse
18	Shri Shantanu Dixit
19	Shri Nikit Abhyankar
Consultants to Commission	
20	Shri Palaniappan M
21	Shri Suresh Gehani
22	Shri Ajit Pandit
23	Shri S R Karkhanis
24	Shri R S Deshpande
25	Shri D M Ranganekar
26	Shri Bapat
27	Shri D Thakur
28	Shri Kumar

APPENDIX 1 B

List of Individuals Who Attended The Technical Validation Session On 17.04.2006 In The Matter of ARR And Tariff Proposal For FY 05-06 & FY 06-07 of REL

Sl.	Name of the person
BEST Officials	
1	Shri P.Haridasan
2	Shri A.V.Tendulkar
3	Shri A.G.Patil
4	Shri S.N.Pawar
REL Officials	
5	Shri Kapil Sharma
6	Shri M.Moolawaney
7	Shri Siddharath
8	Shri R.R.Mehta
9	Shri P.Goyal
10	Shri Sharad Nath
11	Shri R.S.Saha
12	Shri B.K.Mohanty
TPC Officials	
13	Shri V.H.Wagle
14	Shri T.N.Ramakrishnan
15	Shri J.D.Kulkarani
16	Shri R.Ramakrishnan
Consumer Representatives	
17	Dr.Ashok Pendse,
18	Shri Shantanu Dixit
19	Shri Nikit Abhyankar
Consultants to Commission	
20	Shri Palaniappan M
21	Shri Suresh Gehani
22	Shri Ajit Pandit
23	Shri S R Karkhanis
24	Shri R S Deshpande
25	Shri D M Ranganekar
26	Srhi Bapat
27	Shri D Thakur
28	Shri Kumar

APPENDIX 2

List of Individuals Who Attended The Public Hearing On 12.06.2006 In The Matter of ARR And Tariff Proposal For FY 05-06 & FY 06-07 of REL

S.No	Name of the Objector	Name of the Institution/Designation
Consumer Representatives		
1	Shri Shantanu Dixit	Prayas
2	Shri Nikit Abhyankar	Prayas
3	Dr.Ashok Pendse	MGP
4	Dr.S.L.Patil	Thane Belapur Ind.Assoc
REL Officials		
5	Shri Zakir Khan	
6	Shri P.A.Shinde	
7	Shri Kapil Sharma	Manager
8	Shri M.Moolawaney	Sr. Vice President
9	Shri Siddharath	Dy.. Manager
10	Shri R.R.Mehta	Sr. Vice President
11	Shri S.R.Khot	
12	Shri Sharad Nath	Sr.Officer
13	Shri P.S.Pandya	
TPC Officials		
14	Shri V.H.Wagle	Manager
15	Shri S.Ramakrishnan	
16	Shri J.D.Kulkarani	DGM
17	Shri Prashant K.Anvekar	
18	Shri Snehal Parvati	
19	Shri A.V.Katdare	
20	Shri M.K.Gupta	
BEST Officials		
21	Shri C.H.Shinde	
22	Shri A.G.Patil	
23	Shri S.N.Pawar	
Others		
24	Shri Abrol	BSSIA
25	Shri Suresh Kadge	NESCO
26	Shri N.Ponrathnam	Vel Induction Hardenings
27	Shri A.Srinivasn	Juniper Hotels
28	Shri Mahesh Barbhaya	Lata Enterprises
29	Shri Sayed Akbar Habeeb	Akbar Enterprises
30	Shri Shanti Patel	Anjali Electricals
31	Shri George Koshy	CNN-IBN
32	Shri G.J.Kolhe	MSETCL
33	Shri K.Srikant	Student-MBA
34	Shri A.Gundawar	Student-MBA
35	Mr&Mrs. Dipak Mehta	Urmi Elec
36	Shri K.Balan	Basan Elec

37	Ms.Swaeta Prasad	Rifo Sify
38	Shri Sayri Udas	Indian Express
39	Shri Say Kotian	Indian Express
40	Shri Soumitra Aaha	Graw Hyatt
Consultants to Commission		
41	Shri Suresh Gehani	ABPS Infra
42	Shri S R Karkhanis	ABPS Infra
43	Shri R S Deshpande	ABPS Infra
44	Shri D M Ranganekar	ABPS Infra
45	Shri D Thakur	WISE
46	Shri Kumar	WISE
47	Shri Bapat	SICOM

Appendix 3: REL - Expected Revenue at Existing Tariff in FY 2006-07 (October 06 to March 07)

	Avg No of Consumers	Components of tariff				Relevant sales & load/demand data for revenue calculation (FY		Full year revenue (Rs. Cr)						Average Billing Rate
		Energy Charge (Rs/Unit)	Fixed Charge (Rs/conn./month)	Demand Charge (Rs/KVA/ month)	Additional Energy Charge (due to compliance with ATE Order) (Rs/kWh)	Energy Units (MUs)	Avg. Demand (KVA / month)	Energy Charge	Fixed Charge	Demand Charge	Revenue from additional energy charge	Total	Total revenue excl. revenue from addnl energy charges	
LT Category														
LF - 1 (Residential)														
Lifeline category		0.40	3											
Residential														
0-100 Units	966,732	1.60	30	na	0.97	2,096	na	168	17	na	101	286	185	
101-300 Units	980,855	3.60	50	na	0.97	1,274	na	229	29	na	62	320	259	
>300 Units	188,930	5.75	50	na	0.97	585	na	168	6	na	28	202	174	
Three Phase Consumers		na	100*	na		na	na	na	4	na		4	4	
Sub Total	**2,136,517**					**3,955**		**565**	**56**	na	**191**	**813**	**622**	**3.14**
LF - 2 (Commercial)														
0-300 Units	252,767	4.25	200	na	0.97	571	na	121	30	na	28	179	152	
301-1000 Units	52,070	5.00	200	na	0.97	350	na	87	6	na	17	111	94	
>=1001 Units	20,201	6.50	200	na	0.97	320	na	104	2	na	15	122	106	
Three Phase Consumers		na	200*	na		na	na	na	0	na		0	0	
Sub Total	**325,037**					**1,240**		**313**	**39**	na	**60**	**412**	**352**	**5.68**
LTP - 1 (Upto 15 HP)	19,889	4.75	150	na	0.97	267	na	63	2	na	13	78	65	**4.88**
LTP - 2 (Above 15 HP)	5,250	3.50	na	374	0.97	870	303,582	152	na	68	42	262	220	**5.07**
Agriculture	11	1.10	15	na	0.97	0	na	0	0	na	0	0	0	**1.19**
Street Light	1	2.90	na	374	0.97	53	20,428	8	na	5	3	15	12	**4.64**
Temporary	48	6.00	200	na	0.97	9	na	3	0	na	0	3	3	**6.02**
HT Category														
HT - Housing	18	3.00	na	374	0.97	37	8,405	6	na	2	2	9	7	**4.02**
HT -Industrial	378	3.20	na	374	0.97	807	188,737	129	na	42	39	210	171	**4.25**
Total	**2,487,149**					**7,238**		**1,239**	**98**	**117**	**350**	**1,803**	**1,453**	**4.02**
									215					
Other Heads of Income (not included in other income)														
PF Surcharge												5.6	5.6	
Prompt Payment & ECS Payment Discount												-1	-1	
TOTAL REVENUE FROM SALE OF ELECTRICITY												**1808**	**1458**	

Appendix 4: Impact on Monthly Bills due to revised tariffs

Sl.	Consumer Category	Monthly Consumption (units)	Billing Demand (kVA)	Monthly Bill (Rs) Existing Tariff	Revised Tarif		Increase/ (Reduction)			
					excl AEC*	incl AEC*	excl AEC*		incl AEC*	
1	**Residential - BPL category**	25		61	13	13	(48)	-79%	(48)	-79%
2	**Residential Category**	75	0	134	150	223	16	12%	89	66%
		125	0	272	300	421	28	10%	149	55%
		400	0	1,355	1,505	1,892	150	11%	537	40%
3	**LT Commercial**	100	0	580	625	722	45	8%	142	24%
		750	0	3,599	3,725	4,450	126	3%	851	24%
		2500	0	13,498	14,725	17,143	1,228	9%	3,645	27%
4	**LTP-1**	4000	0	17,346	19,150	23,019	1,804	10%	5,673	33%
5	**LTP-2**	10000	40	47,950	49,960	59,632	2,010	4%	11,682	24%
6	**HT - Group Housing Society**	40000	500	306,460	307,000	345,687	540	0%	39,227	13%
7	**HT Industrial**									
	>1000 kW	250000	2000	1,535,250	1,548,000	1,789,792	12,750	1%	254,542	17%

Note: * - Additional Energy Charges on account of compliance with Honourable ATE's Order on allowance of rebate granted by REL to selected consumers