Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
World Trade Centre, Centre No.1, 13th Floor, Cuffe Parade, Mumbai – 400 005
Email: mercindia@mercindia.org.in
Website: www.mercindia.org.in

Case No.60 of 2011

IN THE MATTER OF
Approval of Multi Year Tariff Business Plan of Adani Power Maharashtra Limited for the second Control Period from FY 2012-13 to FY 2015-16

Shri V. P. Raja, Chairman
Shri Vijay L. Sonavane, Member

Date: March 27, 2012

O R D E R

Upon directions from the Maharashtra Electricity Regulatory Commission (Commission or MERC), Adani Power Maharashtra Limited's Transmission Business (APML-T), submitted its application for approval of the Multi Year Tariff (MYT) Business Plan for its Transmission Business for the second Control Period from FY 2011-12 to FY 2015-16, under affidavit. The Commission, in exercise of the powers vested in it under Section 61 and Section 62 of the Electricity Act, 2003 (EA 2003) and all other powers enabling it in this behalf, and after taking into consideration all the submissions made by APML-T, issues raised during the Public Hearing, and all other relevant material, approves the MYT Business Plan for the Transmission Business of APML for the second control period from FY 2012 – 13 to FY 2015 – 16 as under.

Table of Contents

List of Abbreviations

A&G	Administrative and General
APML	Adani Power Maharashtra Limited
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
COD	Date of Commercial Operation
CSR	Corporate Social Responsibility
CST	Central Sales Tax
DPR	Detailed Project Report
ED	Excise Duty
FY	Financial Year
GFA	Gross Fixed Assets
ICB	International Competitive Bidding
IDC	Interest During Construction
InSTS	Intra-State Transmission System
IPTC	Independent Private Transmission Company
IWC	Interest on Working Capital
JV	Joint Venture
LS	Lump Sum
MERC	Maharashtra Electricity Regulatory Commission
MSETCL	Maharashtra State Electricity Transmission Company Limited
MYT	Multi Year Tariff
O&M	Operation and Maintenance
R&M	Repair and Maintenance
REL/RInfra	Reliance Energy Limited/Reliance Infrastructure Limited
ROE	Return On Equity
RoW	Right Of Way
SBI-PLR	State Bank of India-Prime Lending Rate
SLDC	State Load Despatch Centre
STU	State Transmission Utility
SWOT	Strengths Weaknesses Opportunities Threats
TTSC	Total Transmission System Cost
TVS	Technical Validation Session
VAT	Value Added Tax
WCL	Western Coalfields Limited

1 BACKGROUND AND BRIEF HISTORY

A Petition has been filed by Adani Power Maharashtra Limited's Transmission Business (APML-T), for approval of the MYT Business Plan for its Transmission Business for the second Control Period from FY 2011-12 to FY 2015-16, under Sections 61 and 62 of the Electricity Act, 2003 and Regulation 7 and 57 of the MERC MYT Regulations.

Adani Power Maharashtra Limited's Transmission Business, hereinafter referred to as APML-T, has been granted Transmission License No. 2 of 2009 by the Commission vide Order dated July 6, 2009 and subsequent amendment vide Order dated March 30, 2011.

1.1 EVOLUTION OF REGULATORY REGIME FOR TRANSMISSION PRICING

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 August 26, 2005. Subsequently, 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 granted a special dispensation for all the Utilities in Maharashtra from implementation of MYT framework for FY 2006-07. The Commission, in the said 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 MYT framework shall be the three financial years from April 1, 2007 to March 31, 2010. The Commission, at the start of the first Control Period issued the MYT Order for each Utility in the State, approving their ARR for each year during the Control Period. The Commission subsequently issued the Annual Performance Review (APR) Orders for each Utility in each year of the Control Period which included truing up of the ARR of the past year or $(n-1)^{th}$ year, provisional truing up of the ARR of current year or n^{th} year and determination of revised ARR/tariff for the ensuing year or $(n+1)^{th}$ year. The Transmission Utilities for which such Orders were issued include Maharashtra State Electricity Transmission Co. Ltd (MSETCL), Transmission Business of The Tata Power Co. Ltd (TPC-T) and Transmission Business of Reliance Infrastructure Ltd (RInfra-T) that constituted the Intra-State Transmission System (InSTS) of Maharashtra. In addition, the principles of Transmission Pricing framework in the State for the first Control Period were stipulated vide the Commission's Order dated August 2006 in Case No. 58 of 2005. Accordingly, the Intra-State Transmission Tariffs were determined for the respective years on the basis of Total Transmission System Cost (TTSC), which were derived based on pooling of the ARRs of each Transmission Utility of the State. The said pooled cost for Intra-State Transmission System (InSTS) within Maharashtra, hereinafter referred to as Total Transmission System Cost (TTSC) has been recovered from the Transmission System Users in the State, which mainly constituted the DISCOMs of the State. The Commission has issued Orders for such Transmission Tariff from time to time on an annual basis, the latest such Order having been issued in Case No. 120 of 2009 on September 10, 2010.

1.2 MERC MYT REGULATIONS

The Commission, in exercise of the powers conferred by the EA 2003, notified the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2011, (hereinafter referred as the MERC MYT Regulations) on February 4, 2011. These Regulations are applicable for the second Control Period starting from FY 2011-12 to FY 2015-16. The said Regulations were amended by Maharashtra Electricity Regulatory Commission (Multi Year Tariff) (First Amendment) Regulations, 2011 vide notification dated October 21, 2011.

1.3 PETITION FOR BUSINESS PLAN APPROVAL, ADMISSION OF THE BUSINESS PLAN PETITION AND PUBLIC PROCESS

Pursuant to notification of MERC MYT Regulations on February 4, 2011, the Commission vide letter dated March 25, 2011 has directed all Licensees and Generating Companies to submit their Business Plan and MYT Petition for the Second Control Period FY 2011-12 to FY 2015-16, latest by March 31, 2011. APML-T submitted its Business Plan and its Tariff Petition for the second Control Period under affidavit together on April 13, 2011.

Subsequently, the Commission vide letter dated May 2, 2011 communicated the preliminary data gaps identified in both Business Plan and MYT Petition. APML-T responded with replies vide its letter dated May 11, 2011. Based on the submissions, a Technical Validation Session (TVS) on the Business Plan and MYT Petition was held on May 12, 2011 wherein APML-T was directed to submit revised Business Plan and MYT Petition within 15 days from date of TVS. The list of individuals, who participated in the Technical Validation Session is provided at **Appendix-1**. APML-T filed its revised Petition vide its letter dated May 27, 2011.

Subsequently, the Commission vide its letter dated July 28, 2011 directed APML-T to submit Business Plan Petition separately on affidavit with proper prayers. In compliance with the directive, APML-T submitted its Petition for approval of the Business Plan for the second Control Period from FY 2011-12 to FY 2015-16 on August 5, 2011, with the following main prayers.

"

a. *Admit the Petition of APML-T for Business Plan for FY 2011-12 to FY 2015-16 submitted herewith, as the relevant activities including TVS has already been concluded.*

b. *Approve the Business Plan for Second Control Period (FY 2011-12 to FY 2015-16) as proposed in this Petition.*

c. *Condone any inadvertent omissions/errors/shortcomings and permit APML-T to add/change/modify/alert this filing and make further submissions as may be required at a future date.*

d. *Allow any other reliefs, order or direction which the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.*

e. *Pass such further order, as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case."*

The Commission, while directing APML-T to submit its ARR Petition for FY 2011-12 as per MERC Tariff Regulations, 2005 vide its letter dated November 4, 2011, had also conveyed that the ARR for FY 2012-13 to FY 2015-16 would be determined based on the MYT Petition to be filed in accordance with the MERC MYT Regulations, 2011. The Commission admitted the Petition of APML-T on October 14, 2011. In accordance with Section 64 of the EA 2003, the Commission directed APML-T to publish its Business Plan Petition in the prescribed abridged form and manner, to ensure adequate public participation. The Commission also directed APML-T to reply expeditiously to all the suggestions and objections received from stakeholders on its Petition. APML-T issued the Public Notice in newspapers inviting suggestions and objections from stakeholders on its Business Plan Petition. The Public Notice was published in Indian Express (English), Lokmat Times Nagpur (English), Loksatta (Marathi) and The Deshonnati (Marathi) newspapers on October 24, 2011. The copies of APML-T's Petitions and its summary were made available for inspection/purchase to members of the public at APML-T's offices and on APML's website (www.adanipower.com). The copy of the Public Notice and

Executive Summary of the Petition was also available on the website of the Commission (www.mercindia.org.in) in downloadable format. The Public Notice specified that the suggestions and objections, either in English or Marathi, may be filed in the form of affidavit along with the proof of service on APML-T.

The Commission did not receive any written suggestions or objections on the said Petition. The Public Hearing was held on December 1, 2011 at 11:00 hours at the Commission's Office. The list of persons who participated in the Public hearing is provided in **Appendix – 2.**

The Commission has ensured that the due process as contemplated under the law to ensure transparency and public participation was followed at every stage meticulously and adequate opportunity was given to all the persons concerned to file their say in the matter.

1.4 ORGANISATION OF THE ORDER

This Order is organised in the following six Sections:

- **Section 1** of the Order provides a brief history of the quasi-judicial regulatory process undertaken by the Commission. For the sake of convenience, a list of abbreviations with their expanded forms has been included.
- **Section 2** of the Order summarises the salient features of the Business Plan Petition filed by APML-T
- **Section 3** discusses the Business Plan components, Key issues and Commission's Ruling on the same.
- **Section 4** of the Order details the approval of projection of ARR components as submitted by APML-T for the purpose of Business Plan Approval.
- **Section 5** of the Order approves the Performance Targets for APML-T for the second Control Period.
- **Section 6** of the Order provides necessary directives to APML-T for filing MYT Petition for the second Control Period.

2 SALIENT FEATURES OF THE PETITION

2.1 APPLICABILITY OF THIS ORDER TO FY 2012 -13 TO FY 2015 - 16

As submitted by APML-T the commissioning of the proposed transmission infrastructure is not expected to take place during FY 2011-12, i.e., the proposed transmission infrastructure would not be put to use during FY 2011-12. The Commission has also noted the present status of project execution and erection activities and the Petitioner's submission that expected commissioning for the transmission project is likely to be during May 2012. In accordance with the MERC Tariff Regulations, 2005, the ARR for FY 2011-12 cannot be approved by the Commission unless the transmission project is commissioned and the transmission assets are put to use, since all capital related costs can be allowed only after the assets are put to use. Hence, the question of approving the Business Plan for FY 2011 – 12 does not arise. The approval of the Business Plan will need to be for the period 2012 – 13.

Further, it is also pertinent to refer to the relevant clauses of the Bulk Power Transmission Agreement (BPTA) executed between APML-T, MSETCL and MSEDCL and subsequent clarification issued by MSETCL on the BPTA. The said Agreement was executed on January 4, 2011, subsequent to the Power Purchase Agreement for 1320 MW between MSEDCL and Adani Power Maharashtra Limited-Generation Business. Further, the effective date of the Agreement is mentioned as August 14, 2012. The relevant clause of BPTA is reproduced below:

> *"2.1 Effective Date*
>
> *Unless agreed to advance the Effective Date of this Agreement with mutual consent between the parties to the document, the Effective Date of this Agreement shall be 14th August 2012."*

Subsequent to executing the Agreement, MSETCL, vide its letter dated February 17, 2011, had provided a clarification regarding the Effective Date as following.

> *"Payment of transmission charges for making available Long Term Transmission Capacity Rights prior to the above Effective Date to Transmission System User shall be governed by MERC Orders & Regulations*

> *issued from time to time,* ***provided that the transmission line is put to commercial use.****"(****Emphasis Added)***

The above clause and subsequent clarification on the 'Effective Date', provides the basis for recovery of transmission charge for a period from the date of commercial use of the transmission line and the Effective Date. However, the above clause and subsequent clarification also emphasise on payment of transmission charges by Transmission System User only after the Date of Commercial Operation of the transmission system of APML-T.

In view of the above, the question of approving the Business Plan for FY 2011 – 12 does not arise. The approval of the Business Plan will need to be for the period 2012 – 13.

The Commission is of the view that the ARR of APML-T shall only be recoverable subsequent to the date of commissioning of the proposed Transmission project and subject to Commission's approval of the same. In this context, approval of Business Pan for FY 2011 – 12, has become redundant.

Hence, the Commission has undertaken examination of projection of ARR components for FY 2012-13. APML-T will have to file its MYT Petition covering ARR projections for FY 2012-13 to FY 2015-16, which shall be scrutinised and approved by the Commission upon due regulatory process, which shall form part of the Total Transmission System Charges (TTSC) of the intra-State transmission system to be determined for FY 2012-13 under the Intra-State Transmission Tariff Order for the year. The recovery of transmission charges of APML-T for FY 2012-13 shall be based on the aforementioned Intra-State Transmission Tariff Order for FY 2012-13 to be issued by the Commission and would be applicable in case of APML-T from the month subsequent to the month in which the transmission system project of APML-T is commissioned.

2.2 PREMISE FOR THE BUSINESS PLAN PETITION

In view of development of the 3300 MW coal based thermal power project at Tiroda, in Maharashtra, Adani Power Maharashtra Limited expressed its willingness to Maharashtra State Electricity Transmission Company Limited (MSETCL), in its capacity as State Transmission Utility (STU), to develop the necessary transmission infrastructure as a "Transmission Licensee" to expedite the evacuation of power from Phase 1 of 1980 MW (3x660 MW) thermal power plant of APML at Tiroda.

Subsequently, APML submitted an application to the Commission for grant of Transmission Licence under Section 14 of the Electricity Act, 2003. The Commission, vide its Order dated July 6, 2009, granted the Transmission Licence No. 2 of 2009 to APML and authorised APML to establish the following transmission lines and the associated infrastructure:

- 400 kV Double Circuit Quad conductor transmission line from Tiroda to proposed 400 kV Koradi-II substation.
- 400 kV Double Circuit Quad conductor transmission line from Tiroda to proposed 400 kV Warora switching station.
- 4 Nos., 400kV bays for the above two double circuit transmission lines at Tiroda project switchyard.
- 2 Nos. 400 kV bays for Tiroda-Koradi-II double circuit transmission lines at Koradi-II substation.
- 2 Nos. 400 kV bays for Tiroda-Warora double circuit transmission lines at Warora switching station.

Further, APML submitted that, it decided to expand the thermal project by implementing Phase II of the Tiroda Project (2x660 MW). In view of the expansion, APML approached the MSETCL, in its capacity as STU, with a request to plan evacuation system for additional capacity of 1320 MW (2x660 MW) for Phase II. Accordingly, STU reviewed the power evacuation scheme and planned intra-State 765kV transmission system consisting of two 765kV single circuit lines from Tiroda to Aurangabad via Koradi and Akola. In view of the proposed development of 765 kV transmission system, STU advised APML, vide letter dated December 5, 2009, that the 400 kV D/C Tiroda-Koradi II transmission line with the two associated 400 kV bays each at Tiroda and Koradi ends will not be required any more. Therefore, APML requested the Commission to suitably amend the "Transmission Licence for Adani Power Maharashtra Limited (Licence No.2 of 2009)" by excluding development of 400 kV D/C Tiroda-Koradi II transmission line and the associated bays. The Commission vide Order dated March 30, 2011 granted the amendment in Transmission No.2 of 2009 and authorised APML to establish and operate the following lines and associated infrastructure:

- 400 kV Double Circuit Quad conductor transmission line from Tiroda to proposed 400 kV Warora switching station.
- 2 Nos. 400 kV bays at Tiroda project switchyard

- 2 Nos. 400 kV bays at Warora switching station

In view of the directives issued by the Commission, APML submitted the Business Plan Petition for its Transmission Business for the second Control Period for FY 2011-12 to FY 2015-16 as per Regulation 7 of MERC MYT Regulations on August 5, 2011. The details regarding Business Plan components as submitted by APML and the Commission's rulings are elaborated in subsequent Sections of this Order. Regulation 7 of the aforesaid MERC MYT Regulations is reproduced below for reference.

> *" 7.1 The Generating Company, Transmission licensee and Distribution Licensee shall file a Business Plan, for the Control Period of five (5) financial years from April 1, 2011 to March 31, 2016, as directed by the Commission, which shall comprise but not be limited to detailed category-wise sales and demand projections, power procurement plan, capital investment plan, financing plan and physical targets, in accordance with guidelines and formats, as stipulated by the Commission from time to time.*
>
> *7.2 The capital investment plan shall show separately, ongoing projects that will spill into the year under review and new projects (along with justification) that will commence but may be completed within or beyond the tariff period. The Commission shall consider and approve the capital investment plan for which the Generating company and Transmission Licensee or Distribution Licensee may be required to provide relevant technical and commercial details"*

Further, in the current Petition, APML-T also submitted the forecast for Aggregate Revenue Requirement and expected revenue from tariff over the Control Period in line with Regulation 8.1 of MERC MYT Regulations. The said Regulation is reproduced below.

> *"8.1 The applicant, based on the Business Plan, shall submit the forecast of Aggregate Revenue Requirement and expected revenue from tariff, for the control period in such manner, within such time limit thereof, as provided in Part C of these Regulations and accompanied by such fee payable, as may be specified under the MERC (Fees and Charges) Regulations, 2004, as amended from time to time."*

As part of the Business Plan, APML-T also submitted its Capital Investment Plan in line with Regulation 58 of MERC MYT Regulations, as reproduced below:

> *"58.1 The Transmission Licensee shall submit a Capital Investment Plan with full details of its proposed capital expenditure projects to the Commission for approval along with the Business Plan:*
> *Provided that the Capital Investment Plan shall be submitted each year of the second control period.*
> *58.2 The Capital Investment Plan shall be a least cost plan for undertaking investments on strengthening and augmentation of intra-state transmission system of the Transmission Licensee*
> *58.3 The Capital Investment Plan shall cover all capital expenditure projects of a value exceeding Rs Ten (10) Crore and shall be in such form as may be stipulated by the Commission from time to time.*
> *58.4* ***The Capital Investment Plan shall be accompanied by such information, particulars and documents as may be required*** *including but not limited to the information such as number of bays, name, configuration and location of grid substations, substation capacity (MVA), transmission line length (ckt-km)* ***showing the need for the proposed investments, alternatives considered, cost/benefit analysis and other aspects that may have a bearing on the transmission charges." (emphasis Added)***

APML-T has submitted that it has proceeded to prepare and submit the current Business Plan Petition for its Licensed Transmission Business for the Second Control Period (FY 2011-12 to FY 2015-16), in accordance with the above mentioned provisions of the MERC MYT Regulations.

2.3 SUMMARY OF THE BUSINESS PLAN PETITION

APML-T, in the current Petition has broadly submitted its Business Plan for the second Control Period under two heads, namely Strategic Plan and Operation Plan. The Strategic Plan covers aspects such as Human Resource Development Plan, Market Assessment, SWOT Analysis, Risk Analysis and Risk Mitigation Plans and other Environmental and Social Responsibility initiatives. The Capital Investment Plan and forecast of ARR Components have been presented under the Operational Plan. A brief summary of the various major Plans submitted by APML-T is given below:

Strategic Plan

a) **Human Resource Plan**: APML has submitted its Recruitment Policy, HR Development Plan and Employee Reward Policy envisaged for the new Control Period. It has been submitted that Adani Group has chalked out detailed manpower plans based on realistic projection of growth envisaged in its Generation and Transmission business.

b) **Market Assessment:** APML under this head has submitted the major challenge for its transmission business as operating and maintaining a secure and reliable transmission network for evacuation of power from its Phase-1 of thermal power project at Tiroda. Further, while admitting that under the present Regulatory framework, APML's transmission lines may cater to the open access requirements of any future transmission system user, APML-T has contended that it does not envisage any such possibility in the near future.

c) **Risk Mitigation Plan**: APML has identified various types of risks including Construction Risks, Implementation Risks, Operational Risks, Regulatory Risks, Financial Risks and Off-Take Risks for the coming years. Various risk mitigation plans have been chalked out by APML-T and the same are detailed in the subsequent sections of this Order.

d) **Environmental initiatives and CSR initiatives**: Under this part of the Business Plan, APML has detailed various initiatives it wishes to undertake as part of its Environmental and Social Responsibility. APML mainly wishes to undertake developmental initiatives in the villages surrounding its Generation/Transmission project to help local communities towards better livelihood and their overall development.

Operational Plan

e) **Capital Expenditure Plan:** APML-T has considered revised estimated capital expenditure as Rs. 649.03 Crore vis-a-vis the in-principle approved Capital expenditure of Rs. 620.07Crore.

f) **ARR forecast for Second Control Period:** The ARR for the second Control Period has been forecasted under two Scenarios, wherein Scenario-1 depicts the ARR forecast based on the revised capital cost of Rs. 649.03 Crore and Scenario-2 depicts the ARR forecast considering a 2% escalation envisaged in the revised capital cost. The ARR projections under both Scenarios are shown below:

Table: ARR projection under two scenarios as submitted by APML-T (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Scenario-1	93.65	137.22	132.99	129.02	125.02
Scenario-2	95.43	139.82	135.50	131.43	127.34

2.4 KEY ASSUMPTIONS MADE BY THE PETITIONER

APML-T submitted that the current Business Plan is being submitted on projections drawn prior to commissioning of its Transmission Project and the figures stated in the Petition are subject to modification at a later date. APML-T, in the Business Plan Petition, projected an expected completion schedule for the 400 kV D/C Tiroda-Warora transmission line of August, 2011 instead of March, 2011. Thus, APML has estimated computations of various components under ARR, i.e., O&M expenses, Depreciation, etc., based on the expected Date of Commissioning (COD) of August 2011. However the commissioning of the transmission line has been delayed and as per the revised status the completion schedule is expected to be by the end of February 2012. Further, during recent public hearing held on March 2, 2012 in the matter of APML-T's ARR Petition for FY 2011-12 (Case 174 of 2011), APML-T submitted that pending forest clearance, foundations, erection of towers and stringing of transmission line for limited route length is yet to be accomplished and hence the commissioning of transmission system is likely to be delayed and revised date of commissioning is expected to be during May, 2012.

Further to the above, APML-T has considered the following principles for projection of ARR for the second Control Period.

a) APML – T has projected the Return on Equity at the rate of 15.5 % per annum and in accordance with the methodology specified in the MERC MYT Regulations.
b) The revised estimate of capital expenditure of APML – T is Rs. 649.03 Crore
c) Interest on Long-Term Loans has been projected considering the debt-equity ratio of 70:30 as mentioned in the MERC MYT Regulations and based on the debt estimated; the interest liability is calculated at 12.50 %.
d) Depreciation has been computed as per rate specified in the MERC MYT Regulations.
e) The Operations and Maintenance (O&M) Expenses have been projected for the Control Period considering the 'per bay norm' and the 'per circuit kilometre norm' for O&M expenses specified in the MERC MYT Regulations for New Transmission Licensees.

f) Interest on working capital has been computed on normative basis in accordance with the MERC MYT Regulations.

g) Contribution to Contingency reserves has been considered as specified in the MERC MYT Regulations.

h) Non Tariff Income has been considered from the investment in line with the norms provided in MERC MYT Regulations.

i) Tax on Income has been considered at MAT rate of 18.5% and applicable education cess and surcharge.

3 BUSINESS PLAN COMPONENTS

3.1 CAPITAL EXPENDITURE PLAN

APML-T estimated a total capital expenditure for the 400kV Quad D/C transmission line from Tiroda to Warora switching station and installation of two 400 kV line bays at Tiroda and Warora at Rs 649.03 Crore including IDC component of Rs 33.15 Crore over the second Control Period from FY 2011-12 to FY 2015-16.

The total estimated capital expenditure submitted by APML vis-a-vis in-principle approved Capital expenditure has been summarised in the Table below:

Table: Capital Expenditure ***(Rs Crore)***

S. No	Particulars	In-principle Approval	Revised Cost Estimate by APML-T	Difference
1	Preliminary and Pre-operative expenses	1.65	1.50	(0.15)
2	EPC Cost of the Project	471.38	516.73	45.35
2.1	*- Supply Cost*	359.65	391.80	32.15
2.2	*- Erection Cost*	108.29	121.50	13.21
2.3	*- Type Test*	3.44	3.43	(0.01)
3	Non-EPC Cost			
	- 400 kV Line Bays at Tiroda	12.00	12.00	0.00
	- 400 kV Line Bays at Warora	13.20	18.66	5.46
4	Overheads	41.23	47.00	5.77
5	Escalation towards completion cost	29.10	15.00	(14.10)
6	Contingency	14.55	5.00	(9.55)

S. No	Particulars	In-principle Approval	Revised Cost Estimate by APML-T	Difference
7	Interest during construction	36.96	33.15	(3.81)
8	**TOTAL CAPITAL COST**	**620.07**	**649.03**	**28.96**

APML also submitted the breakup of Capital Expenditure requirements in terms of Preliminary expenses, transmission line and the associated bays. The Capital cost breakup as submitted by APML is summarised below:

Table: Preliminary Expenses

S. No	Items	Unit	Quantity	Rate	Est. Cost
				Rs Crore/unit	Rs Crore
1.	Licence and Pre-Approvals	LS			0.4
2	Section 164-Survey	km	219.00	0.0023	0.5
3	Section 164-Maps, publication etc.	LS			0.1
4	System Studies	LS			0.4
5	Detailed Project Report	LS			0.1
6	Project Appraisal	LS			0.1
7	NIT, Bid Process and Awards	LS			0.1
	TOTAL				**1.5**

Table: Transmission Line

S. No	Items	Total Ex Works Price (Including ED & CST/VAT) in Rs Crore	Total Freight & Insurance charges in Rs Crore	Total Price (Incl Taxes and Duties) in Rs Crore
A	**SUPPLY CONTRACT**			
A1	Tower Materials	151.23	3.54	154.77
A2	Hardware Materials	26.02	0.35	26.37
A3	Earthwire	2.49	0.20	2.69
A4	ACSR Moose Conductor	178.81	3.18	181.99
A5	Insulators	24.18	1.80	25.98
	Sub Total Supply	**382.73**	**9.07**	**391.80**
B	**ERECTION CONTRACT**			
B1	Construction, Erection, Testing and Commissioning	98.91		98.91
B2	Land and compensation	22.59		22.59
	Sub Total Erection	**121.50**		**121.50**
C	**TYPE TEST**			3.43
	Transmission Lines Total	**(A+B+C)**		**516.73**

Table: Line Bays

S. No	Items	Unit	Quantity	Rate Rs Crore/unit	Est. Cost Rs Crore
1.	Line bays at Tiroda	No.	2.00	6.00	12
2	Line bays at Warora	No.	2.00		18.66

The annual rolling plan for the Capital Expenditure as submitted by APML amounts to capital outlay of Rs 65.73 Crore, Rs 432.07 Crore and Rs 151.23 Crore over FY

2009-10, FY 2010-11 and FY 2011-12, respectively, as summarised in the Table below:

Table: Phasing of Capital Expenditure ***(Rs Crore)***

Particulars	**FY 2009-10**	**FY 2010-11**	**FY 2011-12**	**Total**
Phasing of Expenditure	64.30	416.28	135.29	615.88
IDC @ 12.50% on Debt (70 %)	1.43	15.79	15.94	33.15
Total	**65.73**	**432.07**	**151.23**	**649.03**

The Commission has undertaken preliminary scrutiny of the Capital Investment Plan and has made certain critical observations in this Order regarding the estimate of capital cost for the purpose of Business Plan projections with due consideration to regulatory provisions under MERC MYT Regulations in relation to capital expenditure and subsequent submissions provided by APML-T during the regulatory process. The relevant provisions of MERC MYT Regulations, viz, Regulation 59, Regulation 27 and Regulation 28 are as under:

59. Capital Cost : Transmission

59.1 For the purpose of determination of tariff, the Capital Cost for a Transmission Project and additional capitalisation thereof, shall be allowed in accordance with the provisions outlined under Regulation 27 and Regulation 28 respectively.

27. Capital Cost and Capital Structure

27.1 Capital cost for a project shall include:

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation on the loan during construction up to the date of commercial operation of the project, ***as admitted by the Commission, after prudence check;***

(b) capitalised initial spares subject to the ceiling rates specified in this Regulation; and

(c) additional capital expenditure determined under Regulation 28:

Provided that the assets forming part of the project but not put to use or not in use, shall be taken out of the capital cost.

> *27.2 The capital cost admitted by the Commission* ***after prudence check shall form the basis for determination of tariff:***
>
> *Provided that* ***prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.***
>
> *27.3* ***The approved Capital Cost shall be considered for determination of tariff and if sufficient justification is provided for any escalation in the Project Cost, the same may be considered by the Commission subject to the prudence check:***
>
> *Provided that in case the actual capital cost is lower than the approved capital cost, then the actual capital cost shall be considered for determination of tariff of the Generating Company or Transmission Licensee or Distribution Licensee.* ***(emphasis added)***
>
> .....
>
> .....
>
> ***28. Additional Capitalisation***
>
> *28.1 The following capital expenditure, actually incurred or projected to be incurred, on the following counts* ***within the original scope of work, after the date of commercial operation and up to the cut-off date*** *may be admitted by the Commission, subject to the prudence check:*
>
> .....
>
> *28.2* ***Impact of additional capitalisation*** *on tariff, if any, shall be considered* ***during Mid-term Performance Review and tariff determination*** *of third Control Period starting from April 1, 2016. (****emphasis added****)*

In view of the above provisions of MERC MYT Regulations, it is clarified that the detailed scrutiny, review and approval of Capital Cost subject to prudence check would be undertaken separately along with the MYT Petition upon availability of audited details of completed capital cost of the transmission project. Pending the detailed scrutiny, review and approval of Capital Cost, the Commission has considered the in-principle approved capital cost of the proposed transmission scheme of APML-T, for the purpose of approval of Business Plan projections. However, the Commission has undertaken preliminary scrutiny of revised estimate of capital cost as submitted by APML-T in the present Petition and Commission’s views in the matter are elaborated at para 4.2.1 of this Order, which should be duly considered by APML-T while making the capital cost submissions in its MYT Petition.

Accordingly, for the purpose of Business Plan approval, the Commission has considered the following revised Estimate of Capital Cost:

Table: Capital Expenditure considered for Business Plan approval ***(Rs Crore)***

S. No	**Particulars**	**In-principle Approval**	**Revised Cost Estimate by APML-T**	**Cost Estimate considered by Commission for Business Plan purposes (Same as In-principle Approval)**
1	Preliminary and Pre-operative expenses	1.65	1.50	1.65
2	EPC Cost of the Project	471.38	516.73	471.38
2.1	*- Supply Cost*	359.65	391.80	359.65
2.2	*- Erection Cost*	108.29	121.50	108.29
2.3	*- Type Test*	3.44	3.43	3.44
3	Non-EPC Cost			
	- 400 kV Line Bays at Tiroda	12.00	12.00	12.00
	- 400 kV Line Bays at Warora	13.20	18.66	13.20
4	Overheads	41.23	47.00	41.23
5	Escalation towards completion cost	29.10	15.00	29.10
6	Contingency	14.55	5.00	14.55
7	Interest during construction	36.96	33.15	36.96
8	**TOTAL CAPITAL COST**	**620.07**	**649.03**	**620.07**

The Capital Cost shall be subjected to further prudence check and availability of audited financial statements for completed Capital Cost upto COD at the time of approval/finalisation of the MYT Petition to be filed by APML-T for the second Control Period.

3.2 FINANCING PLAN

APML-T, in the Business Plan Petition, submitted that it proposes to fund the project with a normative debt:equity ratio of 70:30 in accordance with Regulation 30 of MERC MYT Regulations.

Regulation 30 of the MERC MYT Regulations specifies

> *"30.1 For a project declared under commercial operation on or after April 1, 2011, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan for the Generating Company, Transmission Licensee and Distribution Licensee:*
>
> *Provided that where equity actually deployed is less than 30% of the capital cost of the capitalized asset, the actual equity shall be considered for determination of tariff:*
>
> …
>
> *30.3 Any expenditure incurred or projected to be incurred on or after April 1, 2011, as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension, shall be serviced in the manner specified in the Regulation."*

Further, APML submitted that financial closure for the project is currently underway and it has received in-principle approval from lenders for debt financing of the project, i.e., Rs 454.32 Crore, at an interest rate of 12.50%.

Table: Source of funding as per APML

Particulars	Basis	Rs Crore
Hard Cost		615.88
IDC		33.15
Project cost including IDC		**649.03**
Equity	30% of project cost	194.71
Debt	70% of project cost	454.32
Interest Rate	p.a	12.50%

In reply to a specific query raised by the Commission as regards submission of copy of in-principle letters received from lenders for debt financing of the project, APML-T submitted a copy of agreement with SBI Capital Markets Ltd. However, the given document indicates only that SBI Capital Markets Ltd. shall arrange for lenders to fund the debt requirements of APML for the given project based on indicative terms subject to due diligence from the lenders. Thus, the copy of the letter submitted by APML-T is only an in-principle letter of loan syndication/arrangement signed with SBI Capital Markets Ltd for Debt arrangement/syndication and does not qualify as a sanction letter or documentary proof for considering an interest rate of 12.5% for interest computations.

In the absence of a firm tie up for funding arrangement/loan agreements, the Commission, for the purpose of approval of the present Business Plan is constrained to consider the interest rate of 12.5% as submitted by APML-T. However, the interest rates considered in the present Order shall be revisited based on actuals, as per the terms of financial closure of the project, subject to submission of necessary documentary proofs for the same by APML-T.

The details of the interest computation considered for approval of the present Business Plan have been elaborated in the subsequent paragraphs of this Order.

3.3 PERFORMANCE PLAN

APML-T, in the Business Plan Petition, submitted that since the proposed 400 kV D/C Tiroda-Warora Transmission line is yet to be commissioned, the performance of the said transmission line is not yet known. However, APML submitted that it has undertaken all prudent engineering practices for erection of transmission line and shall deploy standard commissioning procedure to ensure that the transmission line will be ready to deliver reliable and efficient transmission services to its beneficiaries. Further, APML-T submitted that it proposes to attain an Annual Availability of 98% for its AC transmission system.

The Commission has noted the submissions of APML-T in this regard. Further, to achieving the performance targets in terms of transmission availability, APML-T should also maintain optimum levels of other parameters such as transmission loss, voltage profile, frequency profile, safety, etc., while operating its transmission system throughout its useful life.

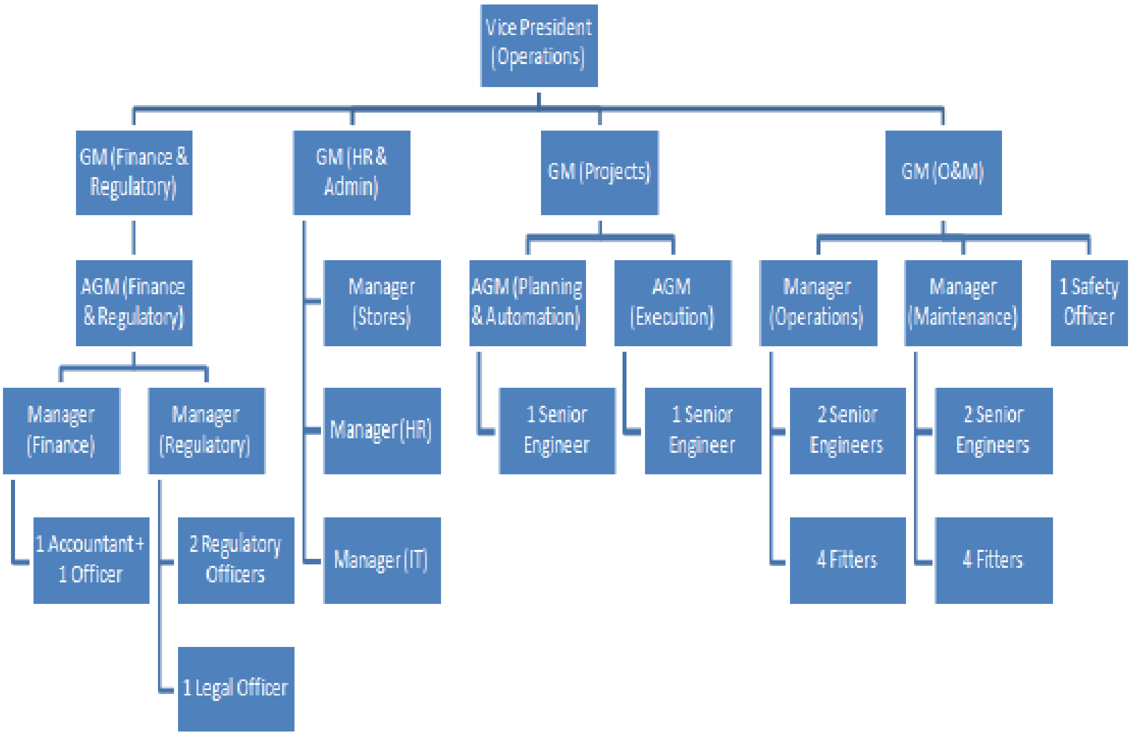
A detailed elaboration on the performance trajectory for APML-T is provided under Section-5 of this Order.

3.4 HUMAN RESOURCE PLAN

APML submitted that in view of the rapid development plans envisioned by its Parent company, Adani Group, for setting up of Power Plants and Transmission infrastructure, APML has chalked out a detailed manpower plan based on realistic projections of its HR needs.

As regards the Recruitment Policy, APML submitted that its Talent Acquisition function has been decentralised so as to streamline its operations. The recruitment process is aimed at hiring quality, skilled human resources that matches the needs of each role in order to create “Role Based Organisation”. Further, APML submitted that it emphasises on all-round development for its employees by offering On-the-Job and Off-the-Job Coaching and Mentoring, Special Project Assignments and domestic and international training exposure. APML also submitted that in order to create a culture of meritocracy, it has structured the Performance Management System to reward high performers.

Further, APML-T also submitted details of the Directors on the Board of the Company and also proposed the following Organisation structure to undertake its transmission business.



The Commission has considered the submissions of APML-T in this regard.

3.5 RISK ANALYSIS AND RISK MITIGATION PLAN

APML-T, in the Business Plan, submitted various kinds of risks that it might be exposed to and the mitigation plans put in place to avert these risks. The details as submitted by APML is summarised in the Table below:

Table: Risk Analysis and Mitigation Plan

Risk	Impact	Mitigation Plan
Construction Risks	Risk of geological surprises or unknown terrain that may require special design of towers and change in route of transmission line	Detailed route survey and soil testing undertaken; mitigates the risk of unknown terrain
Implementation Risks	Delay in implementation of 400 kV Tiroda-Warora transmission line	EPC contract awarded after following International Competitive Bidding (ICB) with strict penalties for time overruns.
Operational	Service Interruptions and	Comprehensive O&M services

Risk	Impact	Mitigation Plan
Risks	unavailability of the transmission line	planned for upkeep and maintenance of the line
Regulatory Risks	Enactment of new Regulations may impact the viability of the project	To make appropriate representations during consultative process for new Regulatory framework
Financial Risks	Interest Rate variations may impact cost of Debt and thus exposes APML to interest rate risks	Suitable Interest Rate hedges such as interest rate swaps and options may be bought to mitigate interest rate risks
Off-Take Risks	Non-availability of power off-take may lead to stranding of assets and hence may have financial impact on APML	APML has executed BPTA with MSETCL and MSEDCL to mitigate the off-take risks.

The Commission has considered the submissions of APML-T in this regard. However, the Commission has few additional observations on the construction risk, operational risk and off-take risk, associated with the transmission system to be developed by APML-T, which have been elaborated below.

3.5.1 Construction Risk

As part of the data gaps on the Business Plan Petition, the Commission had asked APML-T to submit the copy of BPTA executed by APML-T and MSEDCL/ MSETCL. APML-T in response, submitted the copy of the BPTA executed between APML-T, MSETCL and MSEDCL. The said agreement was executed on January 4, 2011. Further, the effective date of the agreement was mentioned as from August 14, 2012. The relevant clause of BPTA is reproduced as below.

"2.1 Effective Date

Unless agreed to advance the Effective Date of this Agreement with mutual consent between the parties to the document, the Effective Date of this Agreement shall be 14th August 2012."

Subsequent to executing the agreement, MSETCL, vide its letter dated February 17, 2011, had provided a clarification regarding the Effective Date as following.

"Payment of transmission charges for making available Long Term Transmission Capacity Rights prior to the above Effective Date to Transmission System User shall be governed by MERC Orders & Regulations

issued from time to time, ***provided that the transmission line is put to commercial use.****"(Emphasis Added)*

The above clause and subsequent clarification on the 'Effective Date', provides the understanding on the recovery of transmission charge for a period from the date of Commercial use of the transmission line and the Effective Date. However, the above clause and subsequent clarification also emphasise on payment of transmission charges by Transmission System User only after the date of Commercial use of the transmission system of APML-T. The said transmission lines of APML-T shall however, be put to Commercial use once the same is commissioned and evacuates the power generated by the generating plant of APML-G. Thus, from the above, it is clear that recovery of transmission charges from Transmission System Users shall be linked with the commissioning date of transmission system, which in turn is further linked to the commissioning of the generation plant of APML-G. In case the transmission line is ready for commissioning but the same is not put to commercial use due to the late commissioning of the generating units of APML-G, it will lead to late recovery of transmission charges and further would result in cost over-run of the transmission project. So as to cover the impact of such incidences, APML-T while executing Transmission Development Agreement (TDA), with APML-G has included the following sub-clause.

"3.5 Liquidated Damages for Delay in Commissioning of Project

...

3.5.2 If the APML-T is not in a position to commission any transmission works by its Required Commercial Operation Date, due to APML (G)'s failure to complete and make available the Interconnection Facilities for testing and commissioning of the project, then APML (G) shall pay to APML (T) a sum equivalent not exceeding to Rs. 1 crores as liquidated damages."

As regards the clause related to Liquidated Damages payable to APML-T to the extent of Rs 1.00 Crore towards time/cost overrun of the project through the contractual agreement, the Commission is of the opinion that such liquidated damages should not be limited to Rs 1.00 Crore and instead should be linked to such rate per week of delay or part thereof so that, delay caused by APML-G is not passed on to the Transmission System Users through the ARR of APML-T. Moreover, the Commission reiterates that the issues of time overrun and cost-overrun thereof shall be governed as per the relevant provisions under MERC MYT Regulations and the claim for cost overrun will have to be scrutinised and dealt with at the time of prudence check for completed capital cost of the project upon availability of audited cost details.

APML-T should give due care to the same while filing the MYT Petition for the second Control Period. APML-T, while filing the MYT Petition for the second Control Period, should also clearly specify the additional impact on capital cost attributable to delay caused by APML-G, if any.

3.5.2 Operation Risk

APML-T, in the present Petition/Regulatory process submitted that the original transmission project was intended for evacuation of 1980 MW (3x660 MW) of Phase-I of APML Generating Station through 400 kV Tiroda-Koradi-II and 400 kV Tiroda-Warora transmission lines. However, as per amended transmission licence (Para 1.12 and Para 1.13), the present application covers only Tiroda-Warora line and associated bays. Further, as per submissions in the present Petition, APML has entered into PPA with MSEDCL for sale of power for 1320 MW (2x660 MW) pursuant to Case-1 competitive bidding process. Hence, in this context, the Commission in order to ensure whether the single line has the ability to evacuate the generation capacity of 1980 MW asked APML to confirm the available transmission capacity and extent of power that can be evacuated from its transmission project comprising only Tiroda-Warora line.

While replying to the above query of the Commission, APML-T presented the technical parameters of the Tiroda-Warora 400 kV line. Further, APML-T submitted the computation of the line’s Surge Impedance Loading, Thermal Capacity and the safe limit of line loadability per circuit as 1125 MW. The submissions of APML-T in this regard are reproduced as below.

1. Purpose

To define the power flow capacity (SIL and Thermal) of 400kV Tiroda – Wardha D/C line.

2. Line Parameters

a)	Line Length	=	219km
b)	Conductor details	=	400kV Quad Moose
c)	ACSR Moose Current Carrying Capacity	=	828A (in tropical condition)
d)	Line Reactance	=	0.25Ω/km
e)	Line Inductance	=	0.796mH/km
f)	Line Capacitance	=	0.013631μF/km

3. Calculation

a) Surge Impedance (Z_C):

Z_C = √ (L/C)

= 241.66 Ω

b) Surge Impedance Loading (SIL):

SIL = $(kV)^2 / Z_C$

= 662 MW

c) Thermal Capability:

Thermal capability = √3 VI cosΦ

= 1835MW @ 0.8 power factor

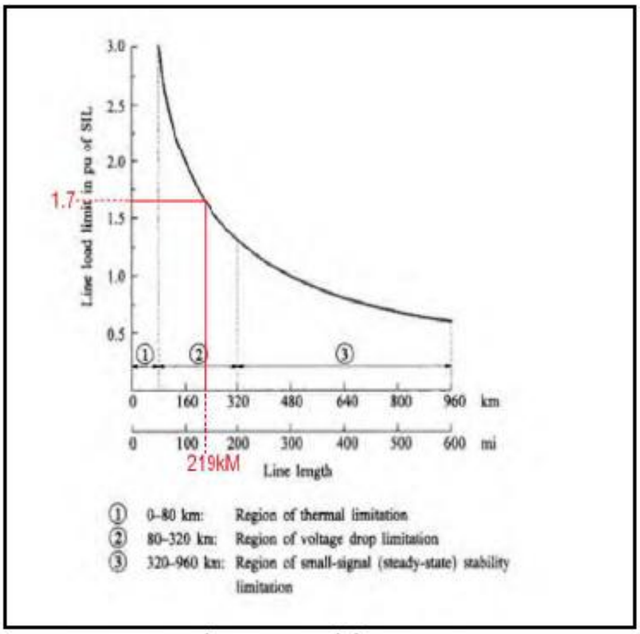


Figure 1: St. Claire Curve

St. Claire curve (Figure - 1) is derived from empirical studies and illustrates a non linear relationship between maximum loading of a transmission line and the length of the line.

From Figure 1, it is obvious that Tiroda – Warora 400kV D/C line (219km) can be loaded upto 1.7 times of its Surge Impedance Loading (SIL).

Hence, safe limit of line loadability per circuit = 1.7 x SIL

= 1125 MW

(- Read the name of the Transmission line in Point 1 above as 400 kV Tiroda-* ***Warora*** *D/C line)*

From the above, APML-T inferred as under:.

a) ACSR Quad Moose Conductor Current Carrying Capacity is 3312A @ conductor temperature of 75 deg C.
b) Thermal Capacity of Line with ACSR Quad Moose Conductor @ 400kV is 1835 MW @ 0.8 p.f.
c) Surge Impedance Loading of 400kV Transmission Line with ACSR Quad Moose Conductor is 663 MW.
d) Safe Limit of Tiroda – Warora line load ability per circuit is 1125 MW which implies that 400kV D/C Tiroda–Warora line has a carrying capacity of 2250MW, which is more than sufficient for evacuation of 3x660MW (1980MW) Units of APML-G.

APML-T further clarified that original transmission project of 400 kV D/C Tiroda-Warora line and 400 kV D/C Tiroda –Koradi line had taken into consideration (n-1) contingency requirements of IEGC for evacuation of 1980 MW. Subsequent to transmission license amendment, the safe limit line capacity of 400 kV D/C Quad moose Tiroda – Warora has been calculated to be 2250 MW and the present (n-1) contingency requirement of APML-G is being satisfied by the inclusion of 765 kV system being developed by M/s Maharashtra Eastern Grid Power Transmission Company Limited.

The Commission notes the above submissions made by APML-T. However, the Commission also has the following observations regarding the operation risk of the proposed 400 kV D/C Tiroda-Warora Line.

a) The above submission by APML-T states that simultaneous availability of both the 400 kV circuits is required for evacuation of 1980 MW of power from the generating station of APML-G. However, since the double circuit is being drawn through the same transmission towers, any event of a tower collapse due to accident or natural calamity shall render both the 400 kV circuits unavailable and would hinder the evacuation of power from the generating station of APML-G.
b) It is evident from the submission of APML that (n-1) contingency requirement of APML-G shall be satisfied only upon commissioning of the proposed 765 kV system of Maharashtra Eastern Grid Power Transmission Company Limited. However, no mechanism has been planned by APML-T for meeting the (n-1) contingency requirement until the proposed 765 kV system is in place. In this context, the Commission directs APML-T to devise and put in place a special protection scheme in consultation and with approval of STU in order to meet the (n-1) contingency requirement of the proposed 400 kV D/C

Tiroda – Warora Line. The additional capital expenditure to the extent of putting in place the special protection scheme should be submitted to the Commission separately along with the submission of the MYT Petition for the new Control Period, for scrutiny of the same.

3.5.3 Capacity Off-take Risk

The Commission as part of datagaps, asked APML-T to submit the details of transmission capacity allotments to the transmission system users for each financial year of the second Control Period. In response, APML-T submitted that its transmission system will be part of the integrated intra-State transmission network planned by STU, and the transmission line will be available for use by any TSU of the State. Further, the Transmission line will have capacity to evacuate about 1980 MW of power. It was also submitted that APML-G has already executed long term PPA of aggregate capacity of 1320 MW with MSEDCL. Besides, APML-G is also in the process of executing medium term PPA with MSEDL for supply of 800 MW power for a period of 1 year.

Based on the above submission made by APML, the Commission envisages two types of Off-take risks, which are elaborated as under:

a) **Under utilisation of Transmission Capacity**: From the above submission, it is evident that only 1320 MW out of 1980 MW to be generated from APML-G is firmly tied up through long term PPA. Further, APML has not provided any status of the medium term PPA with MSEDCL for supply of power over and above 1320 MW. Thus, in the absence of any firm capacity allocation over and above the existing long term PPA for 1320 MW, the additional transmission capacity will remain unutilised. In this scenario, allowing the recovery of ARR of the entire Transmission line with a transmission capacity of 1980 MW wherein only 1320 MW is being allocated to TSU, shall cause burden of such transmission costs to be shared by such long term intra-State Transmission System Users who share the ARRs of all Intra-State Transmission Licensees on a pooled basis.

b) **Transmission Capacity Utilisation for Sale of Power outside the State:** In the present scenario, APML-G may tie up the additional capacity (over and above 1320 MW for which long term PPA has already been signed), for sale of power outside the State and use APML-T's line for evacuating such additional power using the additional available capacity of the lines. In the event of such cases, the open access charge including the transmission charges to the extent of utilisation of additional capacity used for sale of power outside the State shall be borne by the Generator (APML-G) and such transmission costs cannot be passed on to the intra-State Transmission System Users. Further, recovery of transmission charges from APML-G to such extent shall be used to reduce the Total Transmission System Cost (TTSC) payable by the Transmission System Users of the Maharashtra InSTS network.

In case, some part of the generation capacity is tied up for sale outside the State of Maharashtra and uses the Transmission Capacity of APML-T's Tiroda-Warora line to that extent, then APML should specify such quantum upfront or along with submission of MYT Petition for the second Control Period. Further, APML-T should not propose to pass on the burden of charges of such part of its total transmission capacity, which is used for evacuation of outside-State sale of power, to the intra-State Transmission System Users.

3.6 ENVIRONMENT POLICY AND CORPORATE SOCIAL RESPONSIBILITY INITIATIVES PLAN

APML-T, in the Business Plan Petition, has submitted that during the construction of its generating station, it had purchased land from the local communities. In view of this land acquisition, a few hamlets of these villages were required to resettle at a different place. APML submitted that it had undertaken Resettlement and Rehabilitation initiatives for local communities residing in these villages. Moreover, APML also submitted that in order to generate desirable outcome from its Corporate Social Responsibility (CSR) initiatives, it has appointed VIKSAT, Ahmedabad to prepare a comprehensive report on assessment of community needs in these villages. The different focus areas for community development as highlighted by APML-T are listed below:

a) Status of civic amenities like drinking water, electricity and lighting, sanitation facilities, road, health services and veterinary services
b) Local governance and village institutions
c) Health and well-being of people
d) Education
e) Livelihood and employment
f) Housing and living conditions.

APML also submitted that it has started to implement the above mentioned focus areas and intends to address most of the issues to the best possible extent.

As regards contribution towards Corporate Social Responsibility, the Commission is of the view that if the Company or the shareholders of the Company wish to contribute/donate towards charitable causes, the same should be contributed from return earned out of the business, rather than passing on such costs to the Utility's consumers. Hence for approval of Business Plan for FY 2012-13 to FY 2015-16, the Commission has not considered the expenses towards CSR, in the form of other expenses, as claimed by APML.

3.7 FUTURE BUSINESS OPPORTUNITIES PLAN

As regards prospective Business Opportunities, APML highlighted three broad categories namely:

a) Joint Venture (JV): APML submitted that it may decide to execute a JV to build transmission lines in the future.
b) Power Line Communication: APML submitted that in case of demand for Power line communication in Maharashtra it may decide to invest in this business.
c) Participate in Independent Private Transmission Company (IPTC) bidding: APML submitted that it may participate in IPTC bidding for transmission schemes at Central or State sector either on standalone basis or with other joint venture partners.

The Commission has noted the submissions of APML-T in this regard. Further, keeping in view the provisions of Section 41 of the EA 2003, the Commission is of the opinion that all possible options of revenue from other business should be explored by APML-T so that the same could be used for reducing the charges for transmission and wheeling and thus, mitigate the cost burden on the Transmission System Users.

4 APPROVAL OF PROJECTION OF ARR COMPONENTS UNDER BUSINESS PLAN

APML, in its Petition, has given details of its Operational Plan for its transmission business (APML-T) for FY 2011-12 to FY 2015-16 under various heads, viz, O&M expenses, Depreciation, interest on loans, etc., as per the data formats prescribed by the Commission.

As regards treatment of the submissions made by APML-T for FY 2011-12 under this Business Plan, the Commission had earlier observed that since, the Financial Year 2011-12 is almost over and under such circumstances, it will not be feasible to determine the ARR under the MERC MYT Regulations for APML from April 1, 2011. In this context, the Commission vide its letter dated November 4, 2011 directed APML-T to submit its ARR and Tariff Petition for FY 2011-12 as per Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005. In compliance with this direction, APML-T has filed a separate Petition for approval of ARR for FY 2011-12 (Case No. 174 of 2011), in accordance with Maharashtra Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005 and the same is being processed by the Commission. However, during the public hearing of the said Petition (Case No. 174 of 2011) held on March 2, 2012, APML-T submitted that the commissioning of the proposed transmission infrastructure is not expected to take place during FY 2011-12 and the revised expected commissioning for the transmission project is likely to be during May 2012. Since, in accordance with the MERC Tariff Regulations, 2005, all capital related costs can be allowed only after the assets are put to use, the Commission cannot consider the expenditure in FY 2011-12 for approval as the commissioning of the project is not expected to take place during FY 2011-12.

In view of the above, while approving the current Business plan of APML-T for the second Control Period, the Commission has not considered the operational expenditure heads for FY 2011-12.

Accordingly, the total expenditure under various heads, for the years from FY 2012-13 to FY 2015-16, as approved by the Commission in the present Order, has been discussed in subsequent Sections. Further, since the transmission project is expected to be commissioned by end of May 2012, it is assumed that the project will be operational for only 10 months during FY 2012-13.

4.1 OPERATION & MAINTENANCE EXPENSES

The norms for Operation and Maintenance (O&M) expenses for existing and new Transmission licensees for the period from FY 2012-13 to FY 2015-16 have been stipulated on the basis of circuit kilometre of the transmission lines and number of bays in the substation of the Transmission licensee.

Regulation 61.5 of the MERC MYT Regulations specifies:

> *"61.5 Operation and Maintenance expenses*
> *61.5.1 The norms for O&M expenses for existing and new Transmission Licensees have been stipulated for the control Period on the basis of circuit kilometre of the transmission lines and number bays in the substation of the Transmission Licensee, as given below:*
> *...*
> *61.7 O&M norms for New Transmission Licensee*
>
> *61.7.1 For the new Transmission Licensees, the year-wise O&M norms as stipulated for MSETCL shall be applicable norms for the transmission assets added by such new Transmission Licensee(s) for respective year during the third control period.*
> *Provided that same shall not be applicable to those new projects which are awarded on a competitive bidding basis.*
>
> ***Explanation**: The term " New Transmission Licensee" shall mean the transmission licensee for which Transmission license is granted by the Commission prior to or after the date of effectiveness of these Regulations, and whose transmission project assets are commissioned after March 31, 2010.*

In accordance with the above provisions of MERC MYT Regulations, 2011, APML-T, being a new Transmission Licensee, (i.e., its transmission assets being commissioned after March 31, 2010) has estimated the O&M expenses based on the year-wise O&M norms as specified for MSETCL, and based on the proposed circuit kilometres and number of bays for FY 2011-12 to FY 2015-16. The O&M expense estimated by APML-T is shown in the Table below:

Table: O&M Expenses as submitted by APML **(Rs Crore)**

O&M Expenses	**Units**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
For Line						
Distance of line	Ckt.km	438.00	438.00	438.00	438.00	438.00
MERC Norms	Rs lakh/ckt-km	0.53	0.56	0.59	0.63	0.66
For Bay						
No of bays	No.	4	4	4	4	4
MERC Norm	Rs lakh/bay	93.75	99.11	104.78	110.78	117.11
O&M Expenses	**Rs Crore**	**4.05**	**6.42**	**6.78**	**7.19**	**7.58**

The Commission, after taking into account the years under consideration for the present Business Plan Order along with the respective transmission network parameters and the applicable norms, approves the O&M expenses for FY 2012-13 to FY 2015-16 as summarised in the following Table:

Table: O&M Expenses approved by the Commission (Rs Crore)

O&M Expenses	**Units**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
For Line					
Distance of line	Ckt.km	438.00	438.00	438.00	438
MERC Norms	Rs lakh/ckt-km	0.56	0.59	0.63	0.66
For Bay					
No of bays	No.	4	4	4	4
MERC Norm	Rs lakh/bay	99.11	104.78	110.78	117.11
Months in operation	Months	10	12	12	12
O&M Expenses	**Rs Crore**	**5.34**	**6.78**	**7.19**	**7.58**

4.2 CAPITAL EXPENDITURE AND CAPITALISATION

4.2.1 Capital Expenditure

APML had estimated a project cost of Rs 622.38 Crore, against which the Commission has accorded an in-principle approval for Rs 620.07 Crore. However, in the present Petition, APML submitted that there has been an increase in the estimated cost of project and APML now expects the required capital investment for the project to be Rs 649.03 Crore.

The total estimated capital expenditure submitted by APML vis-a-vis in-principle approved Capital expenditure has been summarised in the Table below:

Table: Capital Cost ***(Rs Crore)***

S. No	Particulars	Approved	Revised Cost	Difference
1	Preliminary and Pre-operative expenses	1.65	1.50	(0.15)
2	EPC Cost of the Project	471.38	516.73	45.35
2.1	*- Supply Cost*	359.65	391.80	32.15
2.2	*- Erection Cost*	108.29	121.50	13.21
2.3	*- Type Test*	3.44	3.43	(0.01)
3	Non-EPC Cost			
	- 400 kV Line Bays at Tiroda	12.00	12.00	0.00
	- 400 kV Line Bays at Warora	13.20	18.66	5.46
4	Overheads	41.23	47.00	5.77
5	Escalation towards completion cost	29.10	15.00	(14.10)
6	Contingency	14.55	5.00	(9.55)
7	Interest during construction	36.96	33.15	(3.81)
8	**TOTAL CAPITAL COST**	**620.07**	**649.03**	**28.96**

APML submitted the following reasons for variations between estimated and approved project cost.

- **Forest Involvement**: Owing to 27 Hectare of reserved forest areas in the original route of the line, rerouting of the transmission line was necessitated for a portion of the forest areas encountered.
- **Coal Mine Involvement:** Coal bearing areas in Umred and Warora Tehsil near village Yokana in Chandrapur district was encountered on the original line route. The exploration of the coal deposits of WCL is continuously in progress in Nagpur and Chandrapur districts. This required diversion of the line in order to circumvent the coal bearing areas by about 12 km from original route. Now, the route involves more meandering and consequent angle points and also increases in power line crossings.
- **Local Resistance:** The resistance of farmers and other locals from Tiroda district and nearby villages required diversion of the line through less developed area. This has resulted in additional angle points and increase in the line length at Tiroda end, Warora end and Chandrapur district.
- **Implementation of 2 bays at Warora switching station:** APML had estimated a capital expenditure of Rs 13.20 Crore towards completion of bays at Warora substation. However, subsequent to demand note raised by MSETCL for undertaking works at Warora substation on deposit work basis, APML has incurred an expenditure of Rs 18.66 Crore as intimated by MSETCL.

In response to a specific query raised by the Commission regarding increase in EPC cost to Rs. 516.73 Crore as against in-principle approved EPC cost of Rs 471.38 Crore, APML-T reiterated the reasons as outlined above for escalation in EPC costs.

As regards expenses for undertaking works at Warora substation (2 numbers of 400 kV line bays) by MSETCL on deposit work basis, APML-T in the Petition submitted that it has incurred an expenditure of Rs. 18.66 Crore and has considered the same as part of the revised capital expenditure. However, the Commission observed that the 'amount receipt' (dated December 01, 2010) issued by MSETCL, which was submitted as documentary proof towards this expenditure shows an amount of only Rs 17.91 Crore against the claim of 18.66 Crore made by APML-T.

Upon seeking justification for increase in Overheads cost from the in-principle approved Rs 41.23 Crore to the now estimated Rs 47.00 Crore, APML-T submitted the same to be due to route diversion on account of increase in line length, local resistance and resulting extension in timelines of commissioning of the transmission line.

Further, Interest during construction (IDC) expenses for the said Transmission system has been estimated as Rs 33.15 Crore out of revised capital cost estimate of Rs 649.03 Crore. Interest rate during construction is considered by APML-T as 12.50%. The Commission asked APML to submit the details of month-wise loan drawal and computation of IDC thereof along with IDC component pertaining to delay in commissioning of the said transmission line. APML, in its reply, submitted that as IDC is an estimated figure, it may undergo changes subsequent to capitalisation of assets after commissioning and therefore, requested the Commission that it may approve these estimates as provisional and approve the final cost after commissioning of the assets subject to prudence check. Moreover, based on submissions made by APML-T under its Tariff Petition for FY 2011-12 in Case No. 174 of 2011, which is under consideration of the Commission, it is observed that expenditure incurred during construction period has been met through funding from the parent company.

The Commission has the following observations as regards the revised Capital cost submitted by APML-T in the current Petition and on the considerable increase in the same compared to the corresponding in principle approved amount.

a) Even though APML-T has provided reasons for increase in the estimated capital cost, the same need to be subject to further prudence check, especially in the wake of almost one year's delay in the expected Commissioning of the project (the project was initially envisaged to be completed in March 2011, the commissioning date of which has now been further revised to end of February 2012 and further revised to May 2012 as per recent submissions during public hearing held on March 2, 2012 in the matter of Case 174 of 2012). As specified under Regulation 12.2 of the MERC MYT Regulations, the increase in Capital Expenditure on account of time and cost overruns in the implementation of the said infrastructure not attributable to force-majeure events shall be treated as a controllable factor. Pending the detailed scrutiny, review and approval of Capital Cost, the Commission has considered the in-principle approved capital cost of the proposed transmission scheme of Rs 620.07 Crore, for the purpose of approval of Business Plan projections.
b) It is observed that sufficient justification regarding the basis of computation of Overheads and increase in cost of Overheads from in-principle approved level of Rs 41.23 Crore to revised estimate of Rs 47 Crore has not been provided by APML-T. **APML-T should submit such justification as part of the MYT Petition submissions to be filed for the second Control Period.** For the purpose of the present Business Plan Petition, the Commission has retained capital expenditure towards Overheads at Rs 41.23 Crore as approved in-

principle. The capital cost shall any way be further subjected to fresh prudence check at the time of approval of MYT Order for the second Control Period and such cost shall form the basis for projecting the ARR of APML-T for the second Control Period.

c) It is also observed that APML-T in the revised capital cost has considered cost towards heads, viz., escalation towards completion cost and Contingency, which are included in the initial estimates to take care of the unforeseen increases in the cost. However, with firming up of EPC contract and the project nearing completion, the need for provisioning towards escalation or contingency in the present revised cost estimates does not arise, as the actual increases in the capital cost are already being captured by AMPL-T under the respective components of the capital cost. However, pending the detailed scrutiny, review and approval of Capital Cost, the Commission has retained the cost components under these two heads as approved in-principle.

d) Further, as regards IDC cost component, it is observed that the capital expenditure incurred by APML during the construction period has been funded by its parent company "Adani Power Ltd" (APL). For the purpose of Business Plan projections, the Commission has considered interests cost for IDC computations at the rate of 12.50% p.a. as submitted by APML. Further, it is clarified that the IDC cost component will have to be reviewed by the Commission at the time of issuance of MYT Order based on actual rate of interest, actual finance plan and ascertaining the increase in IDC costs due to time-overrun and/or cost overrun upon availability of audited completed cost of the project, subject to prudence check.

e) As regards works undertaken at Warora substation (2 numbers of 400 kV line bays) by MSETCL on deposit work basis, APML-T in the Petition submitted that it has incurred an expenditure of Rs. 18.66 Crore towards the same. However, as highlighted in the above paragraph, the 'amount receipt' (dated December 01, 2010) issued by MSETCL which was submitted as documentary proof towards this expenditure by APML-T shows an amount of only Rs 17.91 Crore against the claim of 18.66 Crore as made by APML-T in the present Petition. APML-T should reconcile the difference while making related submissions as part of its MYT Petition to be filed for the second Control Period. For the purpose of the Business Plan approval, the Commission has approved expense towards such item at the same level as approved in-principle.

Accordingly, for the purpose of Business Plan, the Commission has considered the capital cost to be Rs 620.07 Crore as approved in-principle against the Capital cost of Rs. 649.03 Crore as estimated by APML-T in the present submission subject to prudence check and decision on the additional cost attributable to delay in commissioning the project in the ensuing ARR process.

4.2.2 Capitalisation

APML has proposed total Capitalisation amounting to Rs 649.03 Crore over the second Control Period from FY 2011-12 to FY 2015-16. The summary of Capitalisation as proposed by APML is presented in the Table below:

Table: Capitalisation submitted by APML ***(Rs Crore)***

Scheme	FY12	FY 13	FY 14	FY 15	FY 16
400 kV Quad Tiroda-Warora Transmission line	649.03	0.00	0.00	0.00	0.00

Considering the approved capital cost of Rs 620.07 Crore as compared to the estimated capital cost of Rs 649.03 Crore as submitted by APML, the Commission has considered Capitalisation of Rs 620.07 Crore for the purpose of Business Plan approval. The Capitalisation approved by the Commission is summarised in the Table below:

Table: Capitalisation approved by the Commission (Rs Crore)

Scheme	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
400 kV Quad Tiroda-Warora Transmission line	0.00	620.07	0.00	0.00	0.00

4.3 DEPRECIATION

While projecting Depreciation Expenditure for the second Control Period from FY 2011-12 to FY 2015-16, APML-T submitted that it has computed Depreciation based on the provisions stipulated under Regulation 31 of MERC MYT Regulations and on consideration of an annual Depreciation rate of 5.28%.

The depreciation expenditure submitted by APML-T for FY 2011-12 to FY 2015-16 has been summarised in the following Table:

Table: Depreciation as submitted by APML-T ***(Rs Crore)***

Depreciation	**FY12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**
Months in operation (m)	8	12	12	12	12
GFA(a)	649.03	649.03	649.03	649.03	649.03
Depreciation rate (r)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciation (a)*(r)*(m)/12	22.85	34.27	34.27	34.27	34.27

APML-T has computed Depreciation based on expected date of commissioning of assets associated with Tiroda-Warora transmission line (August 1, 2011 or 244 days in FY 2011-12).

The Commission, for the purpose of the current Business Plan Order has approved depreciation for the years under consideration of the second Control Period starting from FY 2012-13 as under. Further, the revised approved capitalisation has been considered for the purpose of computation of depreciation.

Table: Depreciation as approved by the Commission ***(Rs Crore)***

Depreciation	**FY13**	**FY14**	**FY15**	**FY16**
Opening Gross Fixed Assets (GFA)	0.00	620.07	620.07	620.07
Addition of Gross Fixed Assets	620.07	0.00	0.00	0.00
Closing Gross Fixed Assets	620.07	620.07	620.07	620.07
Depreciation rate (r)	5.28%	5.28%	5.28%	5.28%
Depreciation	**27.27**	**32.74**	**32.74**	**32.74**

The Commission observes that APML-T has computed depreciation of its assets under a single asset class. However, the Commission directs APML-T to submit assets class-wise details along with the MYT Petition for the second Control Period and compute depreciation asset class-wise in accordance with the depreciation rates specified in the MERC MYT Regulations.

4.4 INTEREST ON LONG-TERM LOAN

APML-T, in the Petition, submitted that the project cost of Rs 649.03 Crore is proposed to be funded at a normative Debt:Equity ratio of 70:30, which would comprise of Rs 454.32 Crore as the total Debt component. The interest rate considered by APML for funding its Debt requirement is 12.50 %. Further, based on submissions made by APML under its Tariff Petition for FY 2011-12 (in Case No. 174 of 2011), it is observed that over and above the equity contribution of 30%, the parent company, i.e., Adani Power Ltd., has also funded the Debt requirement pending first disbursement from the lenders. The interest on long-term debt projected by APML is summarised in the Table below:

Table: Interest on Long Term Loans submitted by APML ***(Rs Crore)***

Particulars	**Ensuing Years**				
	FY12	**FY 13**	**FY 14**	**FY 15**	**FY 16**
Opening Balance of Loan	454.32	431.47	397.20	362.93	328.66
Loan Addition	0.00	0.00	0.00	0.00	0.00
Loan Repayment	22.85	34.27	34.27	34.27	34.27
Cl. Balance of Loan	431.47	397.20	362.93	328.66	294.39
Interest Expense	36.91	51.79	47.51	43.22	38.94

APML, in response to the query raised by the Commission regarding submission of necessary documentary proof for considering the interest rate of 12.50%, submitted a copy of agreement with SBI Capital Markets Ltd. However, the given document indicates only that SBI Capital Markets Ltd., shall arrange for lenders to fund the debt requirements of APML for the given project based on indicative terms subject to due diligence from the lenders. Thus, the copy of agreement submitted by APML is only an agreement signed between SBI Capital Markets Ltd for Debt arrangement/ syndication and does not qualify as a sanction letter or a documentary proof for considering an interest rate of 12.5% for interest computations.

In this context, the Commission observes that as risk associated with the transmission business is lower than that of the generation business, the same should be reflected in interest cost of debt funds when apportioned between APML-G and APML-T out of overall loan availed by APML at estimated interest cost of 12.5% p.a. as proposed by APML. Thus, under its MYT Petition, APML-T should provide adequate justification in case it proposes the interest rate for transmission business same as that of generation business.

Further, as risk profile for transmission business significantly changes after commissioning of transmission project, there would be significant scope for re-negotiating the interest costs on debt. The five year Business Plan of APML has not factored this change in risk profile upon commissioning and need for consequent reduction in interest costs post commissioning. AMPL-T under its MYT petition should reflect such initiatives reflecting reduction in interest cost to reduce burden on beneficiaries/transmission system users.

However, for the purpose of approval of the present Business Plan, in the absence of a firm funding arrangement, the Commission is constrained to consider the interest rate of 12.5% as submitted by APML-T.

Further, the interest rate and interest computation for long term debt shall be reviewed by the Commission at the time of issuance of MYT Order based on actual rate of interest, subject to prudence check.

The interest expenses on long-term loan, as approved by the Commission for the years under consideration for the current Business Plan starting from FY 2012-13, in view of the approved Capitalisation, is summarised in the Table below:

Table: Interest on Long Term loans approved by the Commission (Rs Crore)

Particulars	**Ensuing Years**			
	FY13	**FY14**	**FY15**	**FY16**
Opening Balance of Loan	0.00	406.78	374.04	341.30
Loan Addition	434.05	0.00	0.00	0.00
Loan Repayment	27.27	32.74	32.74	32.74
Cl. Balance of Loan	406.78	374.04	341.30	308.56
Interest Expense	25.42	48.80	44.71	40.62

4.5 INTEREST ON WORKING CAPITAL

APML-T, in its Petition, submitted that the Working Capital requirement has been computed on a normative basis in accordance with the MERC MYT Regulations, which stipulates the components of working capital of the transmission business. APML has considered the normative interest rate of 14%, which is the State Bank Advance Rate (bench-mark interest rate specified in MERC MYT Regulations) as on August 3, 2011. APML projected interest on working capital of Rs 1.74 Crore, Rs 2.55 Crore, Rs 2.48 Crore, Rs 2.42 Crore and Rs 2.35 for FY 2011-12, FY 2012-13, FY 2013-14, FY 2014-15 and FY 2015-16, respectively.

The Commission has estimated the total working capital requirement in accordance with the provisions of MERC MYT Regulations, and approved the amount of O&M expenses, and total ARR requirement, based on which the working capital requirement has been computed for those years under consideration in the current Business Plan starting from FY 2012-13. The approved interest on working capital for the respective years for APML-T is as under:

Table: Interest on Working Capital ***(Rs Crore)***

Particulars	Ensuing Years			
	FY13	FY14	FY15	FY16
Interest on Working Capital	2.06	2.40	2.33	2.27

4.6 CONTRIBUTION TO CONTINGENCY RESERVES

APML-T has projected the contribution to contingency reserves as 0.5% of the GFA in line with the MERC MYT Regulations, over the Control Period of FY 2011-12 to FY 2015-16. The contribution to contingency reserves as projected by APML-T is shown in Table below:

Table: Contribution to Contingency Reserves submitted by APML ***(Rs Crore)***

Particulars	FY12	FY 13	FY 14	FY 15	FY 16
Contribution to Contingency Reserves	2.16	3.25	3.25	3.25	3.25

The Commission has allowed contribution to contingency reserves at 0.25 % of the GFA in accordance with the provisions of the MERC MYT Regulations and based on the capitalisation projected by the Commission during the years starting from FY 2012-13. The contribution to contingency reserves as allowed by the Commission is given in Table below:

Table: Contribution to Contingency Reserves approved by Commission (Rs Crore)

Particulars	FY13	FY14	FY15	FY16
Contribution to Contingency Reserves	1.29	1.55	1.55	1.55

4.7 RETURN ON EQUITY (ROE)

APML-T submitted that it has projected the Return on Equity (RoE) in accordance with the MERC MYT Regulations, which stipulates a 15.5% return on equity per annum based on the capital expenditure and capitalisation and debt:equity norm of 70:30. Further, APML has computed RoE on the basis of opening equity, 50% of the equity portion of the capitalisation during the year and reduction in equity on account of de-capitalisation of certain assets. Accordingly, RoE as projected by APML is shown in the Table below:

Table: Return on Equity submitted by APML (Rs Crore)

Particulars	FY12	FY 13	FY 14	FY 15	FY 16
Opening Equity	194.71	194.71	194.71	194.71	194.71
Additions to equity towards capital investments	0.00	0.00	0.00	0.00	0.00
Closing balance of Equity	194.71	194.71	194.71	194.71	194.71
ROE @ 15.5 % on the average balance	20.12	30.18	30.18	30.18	30.18

The Commission has considered RoE at the rate of 15.5% of the equity, in accordance with the MERC MYT Regulations, on the opening equity of the year and on 50% of the projected levels of assets capitalised during the year of the Control Period and considering the debt:equity ratio as 70:30. The computation of RoE as approved by the Commission for the years under consideration under the present Business Plan Order starting from FY 2012-13 is shown in the Table below:

Table: Return on Equity approved by the Commission ***(Rs Crore)***

Particulars	**FY13**	**FY14**	**FY15**	**FY16**
Regulatory Equity at the beginning of the year	0.00	186.02	186.02	186.02
Equity portion of the assets capitalised	186.02	0.00	0.00	0.00
Regulatory equity at the end of the year	186.02	186.02	186.02	186.02
Return on Regulatory Equity at the beginning of the year	0.00	28.83	28.83	28.83
Return on Equity portion of assets capitalised	24.01	0.00	0.00	0.00
Total Return on Regulatory Equity	24.01	28.83	28.83	28.83

4.8 INCOME TAX

The Income Tax estimated by APML for the second Control Period is shown in the Table below:

Table: Income Tax submitted by APML (Rs Crore)

Particulars	**FY12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**
Gross Income	93.65	137.22	132.99	129.02	125.02
Less O&M Expense	4.30	6.92	7.28	7.94	8.58
PBDIT	89.35	130.30	125.71	121.08	116.45
Less Depreciation	22.85	34.27	34.27	34.27	34.27
PBIT	66.51	96.03	91.44	86.81	82.18
Less Interest	38.65	54.34	49.99	45.64	41.29
PBT	27.86	41.69	41.45	41.17	40.89
Tax	**5.57**	**8.34**	**8.29**	**8.24**	**8.18**
MAT Rate	20.0%	20.0%	20.0%	20.0%	20.0%

As regards computation of Income-Tax for FY 2011-12 to FY 2015-16, the MERC MYT Regulations specifies that the Commission may provisionally approve Income

Tax payable for each year of the Control Period based on the actual income tax payable as per the latest audited accounts and the variation between the actual and approved Income Tax shall be reimbursed at the time of Mid Term Performance Review. The said Regulation is reproduced below for reference:

> *"34.1 The Commission in its MYT Order shall provisionally approve Income Tax payable for each year of the Control Period, if any, based on the actual income tax paid on permissible return as allowed by the Commission relating to electricity business regulated by the Commission, as per latest Audited Accounts available for the applicant, subject to prudence check*
>
> ...
>
> *34.2 Variation between Income Tax actually paid and approved, if any, on the income stream of the regulated business of Generating companies, Transmission licensees and Distribution licensees shall be reimbursed to/recovered from the Generating Companies, Transmission Licensees and Distribution Licensees, based on the documentary evidence submitted at the time of Mid-term Performance Review and MYT Order for the third Control Period, subject to prudence check.*

APML-T, in response to the query raised by the Commission regarding computation of Income-Tax in accordance with MERC MYT Regulations, stated that APML-T is yet to achieve COD and thus, there is no precedence for payment of income-tax. The Commission is of the view that since APML is a new transmission licensee and yet to achieve COD, the income–tax can be best estimated based on the approved ARR components.

The Commission observes that the ATE in its Judgment in Appeal No. 174 of 2009 filed by TPC-T, has explained the methodology to be followed by the Commission for computation of income tax. Extract of the ATE Judgment is quoted as under:

> *"10. In the light of the above submissions, we will now discuss this issue.*
>
> *11. The issue of income tax relates to the fact that the State Commission deals with regulatory accounts of each licensed business.* ***The State Commission is required to adjust the regulatory accounts' income to the taxation accounts. This could be done in 2 alternative methods. One by Profit Before Tax method and second by the method of Return on Equity. Profit Before Tax method is followed while truing up as details of all the elements are available by then. The second method is followed while submitting the***

details for APR or for tariff determination, as all adjustment details are not available at the point of submission.(Emphasis Added)

In the above Judgments, ATE has ruled that RoE as base, should be followed while computing the income tax for APR or estimating the ARR for the future year, as the actual data is not available, while, the method of computation, using Profit Before Tax method should be followed in case of final truing up, as actual income and expenditure details are available.

In accordance with the ATE Judgment stated above, the Commission has considered the Return on Equity method for computation of income tax for approval of the Business Plan, as the actual data is not available, for FY 2012-13 to FY 2015-16. Further, the true up based on actual reimbursement shall be considered at the time of mid-term review by the Commission.

Further, the Commission has considered income-tax based on MAT Rate as submitted by APML-T. The income-tax as approved by the Commission for the years under consideration for the present Business Plan approval starting from FY 2012-13 to FY 2015-16 is as summarised in the Table below:

Table: Income Tax approved by the Commission (Rs Crore)

Particulars	FY13	FY14	FY15	FY16
Regulated PBT (equivalent to ROE)	24.01	28.83	28.83	28.83
MAT Rate	20.01%	20.01%	20.01%	20.01%
Income Tax (Grossed up)	6.01	7.21	7.21	7.21

4.9 OTHER EXPENSES

APML-T submitted that it did not foresee any expenditure towards other expenses except for expenses towards Corporate Social Responsibility activities. The summary of Expenditure towards Other expenses, as submitted by APML-T, is shown in the Table below:

Table: Other Expenses as submitted by APML-T (Rs Crore)

Particulars	FY12	FY 13	FY 14	FY 15	FY 16
Corporate Social Responsibility	0.25	0.50	0.50	0.75	1.00

Total Other Expenses	0.25	0.50	0.50	0.75	1.00

The Commission is of the view that these costs are towards APML's Corporate Social Responsibility and are not necessary for the functioning of any Utility. In any case, these expenses should not be passed on to the consumers of APML, as the consumers are not benefiting from the same and thus, these expenses should be borne by APML. APML is free to incur such expenses from the returns earned out of the business. Thus, for the purpose of approval of Business Plan Petition, expenses under CSR have been disallowed.

4.10 NON TARIFF INCOME

APML-T submitted that it has projected Non-Tariff income based on the interest (Rate of interest considered as 7%) that would be accrued owing to investment made out of contingency reserves for the Control Period.

The Non-Tariff income estimated by APML-T is shown in the Table below:

Table: Non-Tariff Income submitted by APML-T ***(Rs Crore)***

Particulars	FY12	FY 13	FY 14	FY 15	FY 16
Non-tariff Income	-	0.08	0.27	0.49	0.72

The Commission, based on the approved Contribution to Contingency reserves as stated under previous paragraphs and an interest rate of 7% on contribution/investment made out of contingency reserves in accordance with MERC MYT Regulations, has approved the Non-Tariff Income for the years under consideration for the present Business Plan approval starting from FY 2012-13 as summarised in the Table below:

Table: Non-Tariff Income approved by Commission ***(Rs Crore)***

Particulars	FY13	FY14	FY15	FY16
Non-tariff Income	0.00	0.05	0.14	0.25

4.11 APPROVAL OF BUSINESS PLAN SCENARIO

In the Business Plan Petition, APML-T submitted two scenarios of its Aggregate Revenue Requirement (ARR) for the second Control Period, one in which the ARR is projected at the revised capital cost and second in which ARR is projected considering a 2% escalation in the revised capital cost. The two scenarios, over the second Control Period, for FY 2012-13 to FY 2015-16 are reproduced below:

Table: Scenario-1 (At Revised Capital Cost), Projected Aggregate Revenue Requirement by APML-T (Rs. Crore)

Sl No	Particulars	FY13	FY14	FY15	FY16
1	Operation and maintenance Expenses	6.42	6.78	7.19	7.58
2	Depreciation	34.27	34.27	34.27	34.27
3	Interest on Long-term Loan Capital	51.79	47.51	43.22	38.94
4	Interest on Working Capital	2.55	2.48	2.42	2.35
5	Other Expenses	0.50	0.50	0.75	1.00
6	Income tax	8.34	8.29	8.24	8.18
7	Contribution to Contingency Reserves	3.25	3.25	3.25	3.25
8	**Total Revenue Expenditure**	**107.11**	**103.07**	**99.33**	**95.56**
9	Add: Return on Equity Capital	30.18	30.18	30.18	30.18
10	**Aggregate Revenue Requirement**	**137.29**	**133.25**	**129.51**	**125.74**
11	Less: Non tariff Income	0.08	0.27	0.49	0.72
12	Less: Income from other business	0.00	0.00	0.00	0.00
13	**Net Aggregate Revenue Requirement**	**137.22**	**132.99**	**129.02**	**125.02**

Table: Scenario-2 (assuming 2% escalation in Revised Capital Cost), Projected Aggregate Revenue Requirement by APML-T (Rs. Crore)

Sl No	Particulars	FY13	FY14	FY15	FY16
1	Operation and maintenance Expenses	6.42	6.78	7.19	7.58
2	Depreciation	34.95	34.95	34.95	34.95
3	Interest on Long-term Loan Capital	52.83	48.46	44.09	39.72

Sl No	Particulars	FY13	FY14	FY15	FY16
4	Interest on Working Capital	2.60	2.53	2.46	2.39
5	Other Expenses	0.50	0.50	0.75	1.00
6	Income tax	8.51	8.46	8.40	8.34
7	Contribution to Contingency Reserves	3.31	3.31	3.31	3.31
8	**Total Revenue Expenditure**	**109.12**	**104.99**	**101.15**	**97.29**
9	Add: Return on Equity Capital	30.78	30.78	30.78	30.78
10	**Aggregate Revenue Requirement**	**139.90**	**135.77**	**131.94**	**128.07**
11	Less: Non tariff Income	0.08	0.27	0.49	0.72
12	Less: Income from other business	0.00	0.00	0.00	0.00
13	**Net Aggregate Revenue Requirement**	**139.82**	**135.50**	**131.43**	**127.34**

Based on the analysis detailed in the previous paragraphs, the Commission has approved the following scenario of ARR projections over the second Control Period for the years from FY 2012-13 to FY 2015-16. However, it should be noted that this approval is solely for the purpose of approving Business Plan of APML-T for the second Control Period, while the final ARR projections which shall have a bearing on the transmission tariff during the second Control Period, shall be approved as part of the MYT Order for the second Control Period. The summary of ARR projection approved by the Commission for the purpose of the present Order is as following.

Table: Projection of Aggregate Revenue Requirement of APML-T based on Business Plan Scenario Approved by Commission (Rs. Crore)

Sl No	Particulars	FY13	FY14	FY15	FY16
1	Operation and maintenance Expenses	5.34	6.78	7.19	7.58
2	Depreciation	27.27	32.74	32.74	32.74
3	Interest on Long-term Loan Capital	25.42	45.80	44.71	40.62
4	Interest on Working Capital	2.06	2.40	2.33	2.27

5	Other Expenses	-	-	-	-
6	Income tax	6.01	7.21	7.21	7.21
7	Contribution to Contingency Reserves	1.29	1.55	1.55	1.55
8	**Total Revenue Expenditure**	**67.39**	**99.47**	**95.74**	**91.96**
9	Add: Return on Equity Capital	24.01	28.83	28.83	28.83
10	**Aggregate Revenue Requirement**	**91.40**	**128.31**	**124.57**	**120.80**
11	Less: Non tariff Income	0.00	0.05	0.14	0.25
12	Less: Income from other business	-	-	-	-
13	**Net Aggregate Revenue Requirement**	**91.40**	**128.26**	**124.42**	**120.54**

5 APPROVAL OF PERFORMANCE TARGETS FOR THE CONTROL PERIOD

APML-T submitted that, since its transmission lines are not yet commissioned, the behaviour of the transmission line with respect to load and voltage profile is not known at this stage. However, APML-T stated that it has endeavoured to follow all prudent engineering practices for erection of the transmission line and shall also be deploying standard commissioning procedures to ensure that the transmission line will be ready to deliver reliable and efficient transmission services to its beneficiaries. APML-T further proposed to achieve the following operational targets for the proposed transmission line.

a. Target Availability for AC System: 98% on annualised basis
b. As regards Transmission loss trajectory, APML-T submitted that it will be bound by the Commission approved pooled transmission loss for the State as will be determined by the SLDC.

In order to adhere to the timeline specified in Regulation 19.1 of the MYT regulations requiring an application for determination of tariff, under a Multi-Year Tariff framework for the second Control Period from April 1, 2011 to March 31, 2016, to be made to the Commission before the commencement of FY 2011-12, by a removal of difficulty Order dated 23rd February 2011, the Commission held as follows:-

> *"The Commission hereby rules that Regulation 9.2 of the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2011 shall be kept in abeyance."*

However, the above Regulation 19.1 of the MYT regulations does not apply in the present case because an application for determination of tariff, under the Multi-Year Tariff framework will be considered not from April 1, 2011 but from April 1, 2012 to March 31, 2016. Hence, the aforesaid removal of difficulty Order dated 23rd February 2011 will also not apply to the present proceedings. Also, it is necessary to incorporate in the forecast of ARR the trajectory stipulated in this order. Hence, the Commission hereby rules that Regulation 9.2 of the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2011 shall be applicable to the Petitioner.

As per Regulations 9.2 and 18.3 of the MERC MYT Regulations, 2011, the performance trajectory as approved in the Business Plan Order shall form the basis for the MYT Petition to be filed by APML-T.

5.1 TRANSMISSION AVAILABILITY

Regulation 60.1 of the MERC MYT Regulations specifies a target availability of 98% for AC system of Transmission Licensee for full recovery of its annual transmission charges. Thus, APML-T has to maintain its Transmission system availability at least at the levels stipulated in the aforesaid Regulations, in order to be eligible to recover the full fixed charges, i.e., ARR, as determined by the Commission. Any reduction in system availability will lead to pro-rata reduction in recovery of the ARR. APML-T under the current Petition has proposed to maintain the system availability at 98% on an annual basis. However, the Commission in the present case observes that APML-T is a new Transmission Licensee and the transmission assets of the Licensee are yet to be commissioned. Thus, there exists no base year value of transmission availability upon which a trajectory for improvement of this performance parameter can be specified. In this context, the Commission finds it appropriate to consider the availability of APML-T on actual basis over the initial years of the Control Period and shall approve a trajectory for improvement of the system availability during the mid-term performance review of the Licensee.

5.2 TRANSMISSION LOSS

During the first Control Period, the Commission had considered a pooled intra-State Transmission Loss of 4.85% in accordance with the principles outlined under the Transmission Pricing Framework Order dated June 27, 2006 and Transmission Tariff Order dated September 29, 2006.

As regards Transmission Losses for the Second Control Period, Regulation 69 of the MERC MYT Regulations specifies as under:

> *"…*
>
> *69 Transmission losses*
>
> *69.1 The energy losses in the transmission system of the Transmission Licensee, as determined by the State Load Despatch Centre and approved by the Commission, shall be borne by the Transmission System Users in proportion to their usage of the intra-State transmission system:*
>
> *Provided that the Commission may stipulate a trajectory for transmission losses in accordance with Regulation 9 as part of the multi-year tariff framework applicable to the Transmission Licensee.*
>
> *Provided that any variation between the actual level of transmission losses, as determined by the State Load Despatch Centre and the approved level shall be dealt with, as part of the mid-term performance review, in accordance with the mechanisms provided in Regulation 11.*
>
> *…"*

APML-T being an intra-State Transmission Licensee, shall be bound by the pooled intra-State transmission loss approved by the Commission from time to time.

5.3 COMPLIANCE OF OTHER PERFORMANCE PARAMETERS - STANDARDS

Compliance with Standards of Performance parameters

In addition to improving the trajectory of performance parameters such as Transmission System availability, APML-T should also ensure maintaining optimum levels of performance in respect of parameters such as voltage profile, safety, etc., while operating its transmission system throughout its useful life. Various SERCs have specified Standards of Performance to be complied with by the Transmission

Licensees in their respective States. Some of the critical performance parameters pertinent to effective operation of the Transmission System by Licensees identified by States such as Andhra Pradesh, Madhya Pradesh, Rajasthan and Karnataka in their Transmission Licensee's Standards of Performance are listed below.

a) **Voltage Variation Index(VVI)**: Voltage Variation Index representing the degree of voltage variation from nominal value (in %) over a specified period of time shall be computed separately by the State Transmission Utility /Transmission Licensee for higher than nominal system voltage and lower than nominal system voltage
b) **Safety Standards**: IE Rules, 1956 lay down the general safety requirements to be observed by Transmission Licensees for construction, installation, protection, operation and maintenance of electric supply lines and apparatus.
c) **Feeder Availability**: The feeder availability gives the percentage of time during which the feeder remained available for transmission
d) **Substation Availability**; The sub-station availability expressed in percentage is the measure of the extent the power transmission capacity remained available from a sub-station.
e) **Reporting Requirement and Compliance**: Transmission Licensee shall maintain base data like Log sheet, Compliant Registers, and Interruption Registers and relevant load flow studies in respect of system security, etc., such that the same can be furnished for verification and also further shall be used to represent the compliance of the Transmission Licensee to the standard of performance.

While the Commission has not specified any Standards of Performance for the Transmission Licensees in the State, it is desirable that Transmission licensees exhibit high performance standards in respect of above performance parameters. In this context, APML-T being a part of the intra-State Transmission System should propose its commitment towards achievement of above listed standards of performance parameters during the next Control Period and present such proposal under its MYT Petition for the second Control Period.

5.4 PREPAREDNESS AND COMPATIBILITY FOR EVOLUTIONARY POC BASED TRANSMISSION PRICING METHODOLOGY

The existing framework of transmission pricing of Maharashtra at intra-State level is based on postage stamp method. The mechanism has served the needs of the system well. However, the National Electricity Policy and Tariff Policy mandate that the national Transmission tariff framework should be sensitive to distance, direction and related to quantum of power flow.

CERC, after due consideration of the alternative methodologies for allocation of transmission charges and the comments received from various stakeholders has considered implementation of the Point of Connection (PoC) methodology based on a hybrid method, which brings together the strengths of both the Marginal Participation and the Average Participation Method. Under this framework, any generator node is required to pay a single charge based on its location in the grid to gain access to any demand customer located anywhere in the country. Similarly, any demand node will also be required to pay just one charge and get access to any generator in the grid. This is based on load flow studies conducted for each node, one at a time. The same principle holds for transmission losses that a generator node or demand node has to bear.

The MERC MYT Regulations has necessary enabling provisions for changing the existing transmission pricing framework and introduce one as followed by CERC, during an appropriate time of the next Control Period. The relevant Regulation is reproduced below:

> ***"67 Transmission Pricing Framework***
> *67.1 The Commission may, after conducting a detailed study and due regulatory process, change the existing transmission pricing framework to the one adopted at the Central level, during this Control Period, or afterwards, whenever the Commission may deem appropriate."*

The Point of Connection (POC) method as adopted at the inter-State level by the CERC relies mainly on load flow analysis. For implementation of similar approach at State level, inputs to the proposed Transmission Pricing model, viz., Nodal generation information, Nodal demand information, Transmission circuits between these nodes, Technical characteristics of each network branch: Resistance, Reactance, line charging and capacity of each network branch, and the associated lengths of each line will be required to be obtained systematically from each user of the network and network service provider by the SLDC/STU (or any other agency designated by the Commission for this purpose) for computing the transmission usage charges for each season annually.

Thus, for adoption of POC methodology at the State level, several Intra-State level transmission system data inputs are required.

The POC based method of transmission pricing is data intensive and the accuracy of the transmission charges derived shall depend on the accuracy of the data provided as input to such transmission pricing model. In view of this, all intra-State entities including STU/transmission licensees should take utmost care in making available the required data with desired accuracy and within the desired time limits as may be specified by the Commission at a later point in time, for effective and timely implementation of such framework at the intra-State level.

APML-T being a transmission licensee, which is a part of the Maharashtra intra-State transmission system, should collect and collate necessary technical data so as to prepare itself to comply with adequate data requirement to be sought by STU/designated agency to develop POC based transmission pricing methodology in Maharashtra.

6 DIRECTIONS FOR FILING MYT PETITION OVER THE CONTROL PERIOD

Through this Business Plan Order, APML-T is hereby directed to comply with the following directives while filing the MYT Petition for the second Control Period:

a. APML-T shall submit the Capital Cost of the Transmission Project for prudence check along with the audited financial statements for completed Capital Cost upto COD at the time of approval/finalisation of the MYT Petition to be filed by APML-T for the second Control Period.
b. APML-T while filing the MYT Petition for the second Control Period should also clearly specify the additional impact on capital cost attributable to delay caused by APML-G if any.
c. As regards Capital Cost components of the Transmission project, APML-T should set off the escalation towards completion cost and Contingency cost, which were included in the initial estimates to take care of the unforeseen increases in the cost, against the actual increase in the capital cost as a whole.
d. APML-T should provide details of the actual date of commissioning of its Transmission Project as part of the MYT Petition and should only consider pro rata recovery of ARR during the year of Commissioning of the project.
e. In line with the direction given under para 3.5.2, APML-T should devise a Special Protection System in consultation and with approval of STU and submit the same for approval along with its MYT application.
f. As outlined under para 4.4 of this Order, APML-T should give due consideration to change in risk profile of transmission business upon commissioning of transmission system, which should get reflected in the interest costs and the same should form basis for projection of interest costs under its MYT Petition.
g. Under its MYT Petition, APML-T should clearly address the observations made by Commission on some of key risk factors such as construction risk (as outlined under para 3.5.1), operation risk (as outlined under para 3.5.2) and capacity offtake risk (as outlined under para 3.5.3) and should provide adequate justification for its stand for sharing of risks and passing on costs thereof to transmission system users through its MYT petition.

The current approved Business Plan of APML-T shall form the basis for framing the MYT Petition for the second Control Period. Further, APML-T should submit the MYT Petition along with Audited Statements and Completed Cost of the transmission project on CoD. APML-T shall submit the MYT Petition within 30 days from the date of issuance of this Business Plan Order.

With the above, APML-T's Petition in Case No. 60 of 2011 stands disposed off.

-sd-	-sd-
(Vijay L. Sonavane)	(V. P. Raja)
Member	Chairman

Appendix-1

List of individuals who attended the Technical Validation held on May 12, 2011

Sr. No.	Name	Institution
1	Shri. Kartik Kumar	Adani Power Maharashtra Limited
2	Shri. Kandarp Patel	Adani Power Maharashtra Limited
3	Shri. Mehul Rupera	Adani Power Maharashtra Limited
4	Shri Dipesh Bhandane	Adani Power Maharashtra Limited

Appendix-2

List of individuals who attended the Public Hearing held on December 1, 2011

Sr. No.	Name	Institution
1	Shri. Jignesh Langalia	Adani Power Maharashtra Limited
2	Shri. R K Madan	Adani Power Maharashtra Limited
3	Shri. Abhijit	Adani Power Maharashtra Limited
4	Shri Kandarp Patel	Adani Power Maharashtra Limited