

TAMIL NADU ELECTRICITY REGULATORY COMMISSION
(Constituted under section 82 (1) of the Electricity Act, 2003)
(Central Act 36 of 2003)

PRESENT:

Thiru. S.Akshayakumar - **Chairman**

Thiru. G.Rajagopal - **Member**

and

Dr.T.Prabhakara Rao - **Member**

M.A.P.No. 3 of 2014

In the matter of : Approval of Capital cost of Bhavani Kattalai Barrage II Hydro Electric Project (2x15 MW) of Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) under sections 62 and 86 (1)(a) of the Electricity Act, 2003 read with Regulation 18 of TNERC (Terms and Conditions of) Tariff Regulations, 2005

Tamil Nadu Generation and Distribution Corporation Limited
Represented by Chief Engineer/Civil Designs
144, Anna Salai, Chennai – 600 002. : Petitioner

Vs.

Nil : Respondent

Dates of hearing : 26.12.2014, 27.04.2015, 09.09.2016

Date of Order : 31.01.2017

Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) which is in the business of generation and distribution of electricity in the State of Tamil Nadu has filed a petition for approval of the Capital cost of Bhavani Kattalai Barrage II Hydro Electric Project (2x15MW) under sections 62 and 86 (1)(a) of the Electricity Act, 2003 read with regulation 18 of TNERC (Terms and Conditions of) Tariff Regulations, 2005. The above petition was heard on 26.12.2014, 27.04.2015 and 09.09.2016. The said M.A.P. No. 3 of 2014 came up for final hearing on 09.09.2016. The Commission upon perusing the above petition and

connected records and after hearing the submissions of the petitioner hereby makes the following:

ORDER

1. Prayer of the petitioner in M.A.P.No.3 of 2014:-

The prayer of the petitioner in M.A.P.No.3 of 2014 is to –

- (i) approve the Capital cost for Bhavani Kattalai Barrage II Hydro Project (2x15MW) upto the date of commercial operation; and
- (ii) permit to claim the cost of the above hydro station in the Aggregate Revenue Requirement (ARR) of TANGEDCO as per the petition till the time the petition is closed.

2. Facts of the case:-

Through the petition and other additional submissions of the petitioner, the following are stated:

2.1 Bhavani Kattalai Barrage II (2x15 MW) Hydro Electric Project Station is located at Vendipalayam Village, Erode District. The project proposed includes construction of barrage of 9 m height across the River Cauvery for power generation utilizing the irrigation discharge let down from Mettur dam through Bhavani Kattalai Barrage Power House I.

2.2. Approval of the Government of TamilNadu was accorded for executing Bhavani Kattalai Barrage II HEP (2x15 MW) at Rs.99.15 crores as per DPR estimate at 1996-97 price level vide G.O.Ms.128 Energy (A2) Department dated 11.6.99. Board's administrative approval was accorded for Rs.99.15 crores. (1996-97 Price level) vide B.P.(FB) No.66 dated 12.04.2000.

2.3. The Board of erstwhile TNEB accorded revised Administrative approval for Rs.400.59 crores at 2006-07 Price Level vide B.P.(FB) No.80 (Tech.Br.) dated 13.04.2007 including IDC component of Rs.64.40 crores

2.4. Re-revised Administrative approval was accorded for Rs.497.46 crores at 2010-11 Price level vide Per (FB) TANGEDCO Proceeding No.16 dated 10.12.2010 including IDC component of Rs.121.84 crores. based on the actual expenditure, balance works to be done, additional works such as Flood Protection walls at various locations to avoid submergence of structures, buildings, temples, graveyards etc., river training works, roads, Transmission and Distribution works.

2.5. The petitioner has sought approval of the Capital cost of Rs.497.22 crores as on COD against the DPR cost of Rs.99.15 crores.

2.6. The project component involves construction of the following works:

- (a) Land acquisition
- (b) Barrage works
- (c) Power House Sub-structure works
- (d) Power House Superstructure to house two units of 15 MW each.
- (e) Electro Mechanical works which included Turbine & Generator.

2.7. The Electrical & Mechanical works have been executed by M/s.Litostroj, Slovenia in consortium with M/s.Koncar Inzenjering, Croatia under Engineering, Procurement and Construction basis. The other works viz Weir and allied works, Power House Sub-structure and Power House Super structure have been executed by various contractors.

2.8. The predominant factors contributing to the increase in capital cost of the project are as follows:

(i) **Barrage Works:**

- (a) Hard rock at deeper levels
- (b) Increase in depth of foundation for piers.
- (c) Upstream and Downstream easing works.
- (d) Additional grip rods
- (e) Retaining walls (Right flank barrage approach road, Left flank wing wall)
- (f) Increase in cement grouting
- (g) Increase in quantity of PCC & RCC in weir
- (h) Increase in quantity of Plum concrete in piers.

(ii) **Power House works:**

- (a) Increase in road width
- (b) Increase in intake length
- (c) Increase in machine hall floor length
- (d) Increase in height of intake structure
- (e) Increase in removal of rock outcrop
- (f) Increase in river training works
- (g) Extension of tailrace channel
- (h) Increase in approach road
- (i) Miscellaneous works such as flood Protection walls at various locations to avoid submergence of structures, buildings, temples, graveyards etc.
- (j) Provision of IDC component.

2.9. The date of commercial operation of this Hydro power station -

Unit I – 10.10.2011 and Unit II – 14.10.2011.

2.10 The project is executed with funding from Power Finance Corporation under Loan No.36102009 for a loan amount of Rs.378.53 crores.

2.11. Interest During Construction has been worked as follows by the petitioner:-

**TABLE
INTEREST DURING CONSTRUCTION**

Sl.No.	Description	Rs. in Lakhs
1	Capital Cost of the Project	37562.03
2	Phasing of Expenditure	
	1 st Year 2005-06	96.00
	2 nd Year 2006-07	2430.00
	3 rd Year 2007-08	3621.00
	4 th Year 2008-09	2923.56
	5 th Year 2009-10	19269.04

	6 th Year 2010-11	8342.37
	7 th Year 2011-12	880.06
	Total	37562.03
3	Interest During Construction @ 12%	
	1 st Year 2006-07	5.76
	2 nd Year 2007-08	157.32
	3 rd Year 2008-09	520.38
	4 th Year 2009-10	913.05
	5 th Year 2010-11	2244.61
	6 th Year 2010-11	3901.29
	7 th Year 2011-12	4454.64
	Total	12197.05

2.12. The detailed break up of original estimated project cost and revised projects cost along with reasons for variation are as follows:

TABLE
BREAK UP OF PROJECT COST
(Rs. in Lakhs)

Sl. No	Head of works	Original cost (*)	Cost on COD (*)	Variation	Reasons for variation
1	Infrastructure works- Land, Building, maintenance etc.	491	765	274	Original approved cost was based on Price level 1996-97 and the works were awarded during 2006.
2	Major civil works – Dam, power plant civil works	3218	13031	9813	
3	Plant & equipment	5064	17930	12866	
4	Taxes & Duties	--	3563	3563	
5	Construction and precommissioning expenses	Included in the respective Civil and E&M works			
6	Overheads – establishment, Audit & accounts, cost of Tr. &Dist.	1142	2251	1109	
7	Project cost excluding Fin.charges & IDC	9915	37540	27625	

8	Financing charges and IDC	-	12184	12184	PFC is funding the project cost.
9	Capital cost	9915	49724	39809	
	Cost per MW	330.5	1657.4		

(*) corrected for arithmetic errors of the petitioner

3. The Commission in order to carry out the prudence check of the Capital cost and to address the data gaps, directed the petitioner to submit additional details with respect to actual expenditure incurred upto and after COD, split up of taxes and duties, actual taxes and duties paid, detailed statement of completion of various works of the project viz Weir, radial gates, PH sub-structure, PH super structure, Electrical & Mechanical works, specific reasons for delay in completion of the project.

4. Contentions of the Petitioner:-

Pursuant to the above, the petitioner submitted the details as called for by the Commission. The contents of the petition and the additional details in brief are as follows:-

4.1 The petitioner has enclosed a report of Chartered Accountant certifying that,-

- (1) TANGEDCO has computed the cost in the currency of expenditure viz. Indian Rupees under each head approved by the Board of TANGEDCO;
- (2) Cost incurred by the Company are as per Agreements entered into with Financial Institutions/Banks and as per contracts entered into with Non EPC contractors and other parties wherever applicable;
- (3) The project has commenced Commercial Operation for Unit I on 10.10.2011 & Unit II on 14.10.2011 which is the commercial operation date of the project also;

(4) The project cost excludes margin money on working capital provided by the company.

4.2. The project cost as per the original administrative approval of the Board of the erstwhile TNEB accorded in the year 2000 is Rs.99.15 crores. Work was taken up during 2006 with the revised approval for Rs.400.49 crores. Subsequently based on the actual expenditure, balance works to be done and certain additional works, the cost escalated to Rs.497.22 crores is inclusive of IDC component of Rs.121.84 crores.

4.3. The factors contributing to the increase in capital cost of the power station are as follows:-

4.3.1 The rates adopted in Detailed Project Report were based on 1996-97 price level. The work was taken up during 2006-07. Thus due to cost escalation, there was a hike in the cost of the project.

4.3.2 **Barrage Works**

The rock strata was found at deeper levels and based on that, the depth of the foundation for Weir, Pier were increased. Barrage works included works such as, providing river training works for free flow of water to accommodate flood discharge in the Upstream side, construction of wing walls at left Abutment, retaining wall to Barrage Approach Road on right flank side including supply of barrage gate. While executing the said works, the quantity of PCC and RCC increased and the quantity of Plum concrete in piers was increased hence the cost of barrage works also increased from Rs.1683 lakhs to Rs.6549 Lakhs.

4.3.3 Power House works

During the preparation of Detailed Project Report, the dimensions of the Power House was taken in the absence of machine suppliers requirements. However, during execution as per requirement of machinery supplier, Power House was constructed. As per model study conducted by Anna University to avoid backing up of water in the tail race, the length of tail race channel was increased. The length of approach road, size of Transformer yard area were increased during execution. Hence the cost of Project under power house structure involving works such as Power House Sub-structure, Super-structure, Head race, Tail race, Draft tube gate, Intake gate, Trash rack have been increased from Rs.1395.00 Lakhs to Rs.5488.00 lakhs.

4.3.4 Miscellaneous works:-

In the DPR, an amount of Rs.140 Lakhs was provided under the head of miscellaneous works. During execution, construction of Protection wall, construction of flood Protection wall and other miscellaneous works were executed. Hence, the miscellaneous works escalated from Rs.140 Lakhs to Rs.994 Lakhs due to increase in cost of materials and labour.

4.3.5 Generating Equipment:-

The original provision made in the DPR for Generating Machineries & Equipment was Rs.5064 lakhs based on the budgetary offer. But, during execution of work, the cost was increased to Rs.21493 lakhs.

4.3.6 IDC Component:-

Originally no IDC component was provided in the sanctioned estimate as provided in DPR. Now, IDC has been included for an amount of Rs.121.84 crores for a period of seven years in the Revised Capital cost.

4.4 Major specific reasons furnished by the petitioner for the delay in completion of the project are as follows:-

(i) Construction of flood Protection wall and Cable duct and Trash rack with second stage concrete by working in restricted work space. Work held up due to unexpected flood in Cauvery on 21.07.2007 and 09.08.2007 and the work could not be carried out from 21.07.2007 to 14.09.2007;

(ii) Clearing of huge volume of silt deposited in Gate grooves;

iii) Regarding E&M works, overall delay of 465 days in execution of civil works due to additional river training works entrusted to the civil contractor. Also delay in handing over of civil fronts by the civil contractor for E&M works;

(iv) Further Barrage water level could not be raised upto Full Reservoir Level (FRL) required for testing and commissioning due to submergence of Railway pump house and delay in eviction of houses in the submergence area at Palliapalayam and non-availability of required flow in the river during the non-irrigation period from 28th January to 11th June every year. There was also delay due to work involved in shifting of Railway Pump House.

5. Findings of the Commission:-

5.1 Before going into the details of the issue, we would like to see the provisions in Tariff Policy, 2016 and TNERC Regulations relating to the capital cost approval.

5.1.1. The relevant extracts in National Tariff Policy, 2016 is reproduced below:

“5.11 (a) Return on Investment

*.....
While allowing the total capital cost of the project, the Appropriate Commission would ensure that these are reasonable and to achieve this objective, requisite benchmarks on capital costs should be evolved by the Regulatory Commission.”*

5.1.2 TNERC's Terms and conditions for determination of tariff Regulations, 2005

with respect to the Capital Cost states as follows:

“ Chapter III – General Principles of computing cost and return

18. Capital cost

- (1) Accurate computation of cost of service including return on investment is essential for determination of cost plus tariff. The Commission shall be guided by the following principles to compute the cost and return.*
- (2) Investments made prior to the notification of these regulations by the Generating Company and licensees shall be accepted on the basis of audited accounts.*
- (3) The actual capital expenditure on the date of commercial operation for the original scope of work based on audited accounts of the company/licensee limited to original cost may be considered subject to prudence check by the Commission*
- (4) Wherever Power Purchase Agreement or Agreement for transmission/wheeling provided for a ceiling of capital cost, the capital cost to be considered shall not exceed such ceiling.*
- (5) The capital cost shall include capitalized initial spares subject to the following ceiling norms:*
 - (i)*
 - (ii)*
 - (iii) In case of Hydro generating stations – 1.5% of the original project cost as on cut off date;*
- (6) Scrutiny of the project cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction stage, use of efficient technology and such other matters, for determination of tariff.*

19. Additional Capitalisation

(1) The capital expenditure within the original scope of work actually incurred in respect of the following items after the date of commencement of operation and upto the cut off date may be admitted by the Commission, subject to prudence check.

- (i) deferred liabilities*
- (ii) Works deferred for execution*
- (iii) Procurement of initial spares subject to the ceiling specified in Regulations 18.5*
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court*
- (v) On account of change of law*

- (vi) *Any additional work/services which have become necessary for efficient and successful operation of the Generating Station, but not included in the original project cost*

Note: The list is illustrative and not exhaustive.

(2) Any expenditure on minor items/assets like normal tools and tackles, personal computers, furniture, air conditioners etc., bought after the cut off date shall not be considered for additional capitalization for determination of tariff.

(3) The impact of additional capitalization in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after the cut off date.

.....

20. Revenue /Charges during trial stage (prior to COD)

- (1) The cost incurred during trial upto COD shall be treated as capital cost.*
- (2) The revenue earned from sale of power (infirm power) shall be treated as reduction in capital cost.*
- (3)*

Chapter V – Hydro Power Generating Stations - 51. Capital cost and sale of infirm power

- 1) The capital cost of Hydro Power Generating Station, including the complete hydro power generating facility covering all components such as dam intake, water conducting system, power generating station and generating units of the scheme as apportioned to power generation, shall be determined in accordance with Chapter III of these Regulations.*

- 2) Any revenue earned by the Generating company from sale of infirm power, shall be taken as reduction in capital cost of the Generating station and shall not be treated as revenue. The rate for infirm power shall be same as the energy rate of the Generating Stations.”*

5.1.3 TNERC’s Power Procurement from New and renewable Sources of Energy

Regulations, 2008 with respect to determination of tariff is reproduced below:

“4. Determination of tariff

- (1)*
- (2) While deciding the tariff for power purchase by distribution licensee from new and renewable sources based generators, the Commission shall, as far as possible, be guided by the principles and methodologies specified by:*

- (a) Central Electricity Regulatory Commission
- (b) National Electricity Policy
- (c) Tariff Policy issued by the Government of India
- (d) Rural electrification Policy
- (e) Forum of Regulators
- (f) Central and State Governments

(3) The Commission shall by a general or specific order, determine the tariff for the purchase of power from each kind of new and renewable sources based generators by the distribution licensee. In case of small hydro projects with a capacity of more than 5 MW but not exceeding 25 MW capacities, Commission decide the tariff on case to case basis.

Provided where the tariff has been determined by following transparent process of bidding in accordance with the guidelines issued by the Central Government, as provided under section 63 of the Act, the Commission shall adopt such tariff.

5.2 In respect of Bhavani Kattalai Barrage II project of the petitioner, the milestone activities are detailed below:

- Detailed project report prepared during August 1997 at 1996-97 price level.
- G.O issued during June 1999.
- Administrative approval of the Board accorded during April 2000.
- Revised administrative approval based on 2006-07 Price Level accorded by the Board during April 2007.
- Works were awarded during 2006-07.
- Re-revised Administrative approval based on 2010-11 Price level accorded by the Board during December 2010.
- COD of both the units (2x15 MW) achieved on – Unit I - 10.10.2011, Unit II - 14.10.2011

5.3 The details of completion of the civil, mechanical, E&M works are as follows:

TABLE

Name of work	Award letter date	Period of completion	Date of start of work	Schedule date of completion	Actual date of completion
Construction PH sub-structure and super structure, head race and Tail race	03.02.2006	30 Months	24.02.2006	23.08.2008	30.06.2011

Construction of weirs, piers prestressed concrete bridge and gates	12.04.2007	30 months	27.04.2007	26.10.2009	10.05.2011
E&M works	15.11.2006	30 months	27.11.2006	26.05.2009	29.09.2011

5.4 The award cost of all the major packages viz Power house sub-structure and super structure works, weir and allied works and E&M works have increased manifold from the DPR cost increasing the capital cost of the project from Rs.99.15 crores to Rs.497.24 crores.

5.5 Before going into analysis of the capital cost, the Commission desires to dwell into various provisions with respect to the capacity of the hydro project:

5.5.1 As per the Commission's Power Procurement from New & Renewable Sources of Energy Regulations, 2008, the Commission shall by a general or specific order, determine the tariff for the purchase of power from each kind of new and renewable sources based generators by the distribution licensee. In case of small hydro projects with a capacity of more than 5 MW but not exceeding 25 MW capacities, Commission shall decide the tariff on case to case basis.

5.5.2 CERC (Terms & Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009, also define 'Small Hydro' as Hydro Power Projects with a Station capacity upto and including 25 MW and as per the Eligibility Criteria for a generating station or a unit thereof based on renewable sources of energy, where tariff is to be determined by the Commission under section 62 read with section 79 of the Act, Small Hydro project means project located at the sites

approved by State Nodal Agency/ State Government using new plant and machinery, and installed power plant capacity to be lower than or equal to 25 MW at single location.

5.5.3 The Station capacity of Bhavani Kattalai Barrage II as on COD is 30 MW. It is comprehended from petition details that the petitioner has taken up the Scheme with the approval of the Government of Tamil Nadu vide G.O Ms.128 Energy (A2) department dated 11.06.1999 categorizing this project under Small Hydro project. Hence, the Commission also proposes to treat Bhavani Kattalai Barrage II of 2x15 MW project as Small Hydro project and accordingly proceeds further with the approval of the capital cost of the project.

5.6 Now, coming to the analysis of the capital cost, there is no requisite benchmark arrived by the Commission for prudence check of the capital cost. However, Central Electricity Regulatory Commission has notified CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009 with effect from 16.09.2009 for renewable sources including small hydro. The relevant Regulation with respect to capital cost is reproduced below:

“12. Capital Cost

The norms for the Capital cost as specified in the subsequent technology specific chapters shall be inclusive of all capital work including plant and machinery, civil work, erection and commissioning, financing and interest during construction, and evacuation infrastructure upto inter-connection point.

28. Capital Cost:

(1) The normative capital cost for small hydro projects during first year of Control Period (FY 2009-10) shall be as follows:

<i>Region</i>	<i>Project size</i>	<i>Capital Cost (Rs.Lakh/MW)</i>
<i>Himachal Pradesh, Uttarakhand</i>	<i>Below 5 MW</i>	<i>700</i>

<i>and North Eastern states</i>	<i>5 MW to 25 MW</i>	<i>630</i>
<i>Other States</i>	<i>Below 5 MW</i>	<i>550</i>
	<i>5 MW to 25 MW</i>	<i>500</i>

(2) The capital cost for subsequent years shall be determined on the basis of indexation formula as outlined under Regulation 29.”

Based on the above RE Regulation, the CERC proceeded with the determination of generic tariff of the RE Projects for the first year of the control period (i.e. FY 2009-10) through its order dated 03.12.09 and based on the Indexation formula specified in the said regulation for the subsequent years.

5.7 In this context, it is noteworthy to recall the Hon’ble Appellate Tribunal for Electricity ‘s Judgment dated 18.09.2009 in Appeal No. 50 and 65 of 2008 filed by a developer of Small Hydro Power, on the order of the Himachal Pradesh Electricity Regulatory Commission on “Small Hydro Power Projects, Tariff and other issues” dated 12.08.2007 wherein it had been observed that:

“The consensus that emerged during arguments is that capital cost of Rs.6.5 crs./MW should be accepted as the normative capital cost which can be adopted by the promoter of hydel energy and the Board, but the promoter or the Board shall be entitled to apply for a site specific fixation of capital cost in case either of them find the normative capital cost to be unsuitable for the project.”

The Hon’ble APTEL in the said order has also ordered that,

“The Capital cost of Rs.6.5 crs/MW shall be treated as normative capital cost in all such cases as are found suitable by all parties. The promoters of hydel power in the State of Himachal Pradesh as well as the Himachal Pradesh State Electricity Board shall be entitled to apply to the Commission for fixing project specific capital cost for any project in case the normative capital cost is not suitable to either of them. Similarly, if”

5.8. The petitioner was asked for project specific issues if any for consideration. From the details furnished by the petitioner, we have found that the working season had been for only 5 ½ Months i.e. during non-irrigation period and in this period only, work has been taken up by forming earthen bunds for

effectively diverting the water. During work execution, flood has occurred during 2007 & 2008 which had also hampered the work. After floods, complete desilting has been carried out and the earthen bunds were formed again which has taken a lot of time. There has been delay in execution of E&M works.

5.9. Generally, the Commission observes that there has been delay in all fronts in completion of the project. This has resulted in increase in the project cost per MW as per DPR @ Rs.3.3 crores arrived at the price level of 1996-97 to Rs.11.21 crores per MW considering the Price level of 2006-07 to Rs.12.52 crores per MW at 2010-11 Price level. This delay has consequentially increased the cost of generation per unit from Rs.2.51 to Rs.8.55.

5.10 As no site specific project issues has been put forth by the petitioner for determining the site specific project cost, the Commission, as a result for admitting the capital cost, proposes to consider the Normative Capital cost determined by CERC for the FY 2009-10 even though the COD of the Unit I and Unit II of the project have been achieved during 2011.

5.11 CERC Norms for project size of 5 MW to 25 MW for the year 2009-10 is given in the Table below:

TABLE

Description	Rs in Lakhs per MW
CERC's Normative capital cost the first year of the Control period (FY 2009-10)	500 (with IDC)
	450 (without IDC)

5.12 PROJECT COST OF THE PETITIONER:-

The capital cost and cost per MW of Bhavani Kattalai Barrage II (2x15 MW) is compared with the CERC norms for 2009-10 in the Table given below:

TABLE

Rs. in Crores

Description	Capital cost		Per MW cost		
	As per Original estimate	As on COD	As per Original estimate	As on COD	CERC Norms 2009-10
Total cost excluding IDC	99.15	375.40	3.31	12.51	4.50
IDC	-	121.84	-	4.06	0.50
Total Cost	99.15	497.24	3.31	16.57	5.00

5.13. It is seen that the Petitioner's project cost per MW as on COD for which approval has been sought for is very much on the higher side. This Commission therefore intends to restrict the capital cost to the CERC's normative capital cost of Rs.4.50 crores per MW without IDC. Thus the capital cost of Bhavani Kattalai Barrage II of 2x15 MW capacity works out to Rs.135 crores as against Rs.375.38 crores indicated in the petition as on COD without IDC and the same is only allowed.

5.14 Regarding IDC, an amount of Rs.121.97 crores has been worked out as on COD. However, as per CERC norms, an amount of Rs.0.50 crores per MW is allowable as IDC for small hydro projects. Accordingly, Rs.15 crores (Rs 0.50 crores per MW x 30 MW) is only allowable for Bhavani Kattalai Barrage II project of capacity 2x15 MW.

5.15 The actual expenditure Statement of the petitioner as on COD and beyond COD is however, as detailed below:

TABLE

Rs. in Crores.

COD Unit I – 10.10.2011 Unit II – 14.10.2011	Expenditure against work	Expenditure in Revenue Expenses Account	Expenditure against IDC	Total
Expenditure Upto COD	379.80	7.45	48.51	435.76
After COD (11/2011 to 03/2016)	1.14	---	--	1.14
Total	380.94	7.45	48.51	436.90

The Commission in the preceding paras has already restricted the expenditure incurred by the petitioner upto COD towards project work and IDC in view of the cost overrun of the project. Therefore, the Commission disallows the expenditure incurred by the petitioner beyond COD also.

5.16 Now, prior to approving the project cost of the hydro project, the Commission wishes to state that earlier in its MYT Petition for 2013-14 to 2015-16 alongwith tariff revision for 2013-14 filed before the Commission on 19.02.2013 for Determination of Tariff for Generation and Distribution, the petitioner has indicated a capital cost of Rs.497.46 crores as on COD for the said new hydro project. As the Commission then felt that the proposed capital cost was extremely high compared to industry norms and inspite of repeated directions, as TANGEDCO has not filed any petition for approval of the capital cost of the new hydro station, the Commission in its related Tariff Order dated 20.06.2013 allowed

the capital cost only to the extent considering the capital cost of Rs.5.50 crores/MW for small hydro plants in accordance with CERC RE tariff Regulations.

5.17 In the light of the foregoing, the Commission admits the Capital cost of the Bhavani Kattalai Barrage II Hydro Project of capacity 2x15 MW as on COD as per the details given below:

TABLE
CAPITAL COST APPROVAL OF BHAVANI KATTALAI BARRAGE II
HYDRO PROJECT (2x15 MW) AS ON COD

Rs. in Crores

Description	Cost on COD		Cost approved as on COD	
	Total cost	Cost per MW	Total cost	Cost per MW
Capital cost of the project without IDC	375.40	12.51	135.00	4.50
IDC proposed	121.84	4.06	15.00	0.50
Total Capital cost including IDC	497.24	16.57	150.00	5.00

5. 18 In the result, the Commission allows a capital cost of Rs.150 crores against Rs.497.24 corers including IDC sought by the petitioner for Bhavani Kattalai Barrage II Hydro project of capacity 2x15 MW.

6. APPEAL:-

An Appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd)
(Dr.T.Prabhakara Rao)
Member

(Sd.....)
(G.Rajagopal)
Member

(Sd.....)
(S.Akshayakumar)
Chairman

/ True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission