

**KARNATAKA ELECTRICITY REGULATORY COMMISSION  
BANGALORE**

**Case No: S/09/1  
ORDER DATED 29.03.2012**

**DETERMINATION OF CAPITAL COST IN RESPECT OF CO-GENERATION PROJECTS  
PURSUANT TO HON'BLE ATE'S ORDER IN APPEAL NO. 148 OF 2010**

**QUORAM:**

- 1. Sri. M.R. Sreenivasa Murthy, Chairman**
- 2. Sri. Vishvanath Hiremath, Member**
- 3. Sri. K. Srinivasa Rao, Member**

**Between**

South Indian Sugar Mills Association, Bangalore, Karnataka

**VS**

1. KPTCL, Bangalore, Karnataka
2. BESCOM, Bangalore, Karnataka
3. MESCOM, Mangalore, Karnataka
4. CESC, Mysore, Karnataka
5. HESCOM, Hubli, Karnataka
6. GESCOM, Gulburga, Karnataka

1. The Karnataka Electricity Regulatory Commission, hereinafter referred to as the Commission, issued an order on 11<sup>th</sup> December 2009 determining the tariff for various renewable energy sources namely Wind, Hydro, Co-generation and Biomass projects. In the said Order, the Commission had approved the following year-wise generic tariff for Bagasse based Co-generation plants:

<b>Year</b>	<b>Tariff (Rs./unit)</b>
1 <sup>st</sup> Year	3.59
2 <sup>nd</sup> Year	3.63
3 <sup>rd</sup> Year	3.67
4 <sup>th</sup> Year	3.72
5 <sup>th</sup> Year	3.77
6 <sup>th</sup> Year	3.83
7 <sup>th</sup> Year	3.90
8 <sup>th</sup> Year	3.97
9 <sup>th</sup> Year	4.05
10 <sup>th</sup> Year	4.14

In arriving at the above tariff the Commission had considered the following parameters for the Co-Generation Plants:

	<b>Co-Gen</b>
Debt: Equity	70:30
Interest on Term loan	11.75%
RoE	16%
Depreciation	7% SLM
MAT	Pass through as per actuals tax rate allowed on ROE
Capital Cost [CC] including Transmission Line upto Sub-station- lakhs	365 lakhs per MW
PLF	60%
O & M	3.0 % of CC
O & M escalation P.A.	5%
IWC	13.25% on 2-months' bills
Auxiliary	8%
Fuel Price-Rs/MT	1025 with 5% escalation p.a.
Fuel Consp- kg/unit	1.60
CDM Sharing	As per CERC Regulations

2. Against this order, the South India Sugar Mills Association (SISMA) had filed an Appeal No. 148/2010 before the Hon'ble Appellate Tribunal for Electricity which was disposed of by an order of the Hon'ble Tribunal dated 05.04.2011 and the matter was remanded to the Commission for re-examination on the issue relating to the capital cost of projects upon consideration of the relevant materials as would be placed before the Commission by M/s SISMA. The relevant portion of the order of the Hon'ble ATE is as follows:

*...”Taking a total view of the matter it appears to us that the State Commission has not gone into the depth of the matter; and instead fixed project cost by percentile increase having due regard to its own determination for the year 2004-05 which was almost similar to Andhra Pradesh and Kerala. It is for the State Commission to again consider whether the said percentile increase was after taking into consideration of all the materials placed by the appellant. Regulation 35 of the CERC Regulations 2009 provides in detail capital cost indexation mechanism in the case of biomass power project for adjustment in capital cost over*

*the control period with the changes in wholesale price index for steel and electrical machinery.*

*The State Commission's impugned order is too cryptic to give berth to all the materials and evidence as were produced before the Commission. The Commission opined that its fixation at Rs. 3.65 crores per mega watt is reasonable, but no reason has been assigned to show how its order on this count is, according to the Commission, reasonable.*

*In the circumstances we are of the view that the matter needs a review, re-look and revisit with regard to such material and others as might be placed before the Commission once again when we remit the matter to it for such reconsideration.".....*

-----"34. In view of what we have said above it is but necessary for the Tribunal to remit the matter to the commission for whom it would be necessary to re-examine the following issue as is canvassed before us on the basis of the material as would be available before the Commission so that a reasoned analysis is rendered:

(a) Project cost,

We do not interfere with the findings of the Commission on

(b) Plant Load Factor

(c) Fuel Price.

(d) Fuel Consumption.

3. The petitioner SISMA has filed a memo on 18.08.2011 requesting the Commission to hear them in the matter of project cost as per the orders of the Hon'ble ATE and re-examine the Project Cost.
4. As per the orders of the Hon'ble ATE, the Commission held a public hearing on 29.09.2011 duly notifying the same in the News Papers to hear the petitioner and other interested persons.
5. Counsel for SISMA Smt. Poonam Patil placed the capital cost of the following projects as below:

<b>Project Name</b>	<b>Project Cost in Rs. Crores per MW</b>
Vijayanagar Sugars Pvt. Ltd.,	4.98
NSL Sugars	5.39
Chamundeshwari Sugars Ltd.,	5.025
GMR Industries	4.62
Bannariamman Sugars, Tamil Nadu	4.57
Alagawadi Beereshwar	5.38
CERC	4.45
MERC Order Representation of Co-generation Association of India dated 11.11.2010	4.50
Rajashri Sugars	5.00
Tamil Nadu Electricity Regulatory Commission	4.67
Andhra Pradesh Electricity Regulatory Commission	3.25
Kerala Electricity Regulatory Commission	3.00

Relying on the above data, the counsel for SISMA pleaded to consider the capital cost at Rs.5.00 Crores per MW. Justifying its stand it was submitted on behalf of SISMA that the cost of land, cement, steel, major equipments, conductor, cable, transport, interest charges and O &M have all gone up in the recent years which has pushed up the project cost of cogeneration units.

Further, SISMA has besides the above information on the project cost of seven co-gen plants, which varied, from Rs.4.57 Crores. to Rs.5.39 Crores per MW [Average of 6 plants works out to Rs.4.95 Crores] has submitted that the capital cost adopted in Maharashtra Commission is Rs.4.5 Crores, Tamil Nadu Commission is Rs.4.67 Crores, Kerala Commission is Rs.3.00 Crores, and Andhra Commission Rs.3.50 Crores. It also submitted that the CERC has adopted the capital cost at Rs.4.45 Crores.

6. In support of its submissions SISMA has furnished Chartered Accountant certified capital cost for six plants which is indicated below:

<b>Company Name</b>	<b>Amount in Rs. lakhs</b>	<b>MW Capacity</b>	<b>Cost per MW (Amount in lakhs)</b>
M/s Bannari Amman Sugars, Tamil Nadu as per reply dated 23.01.2012	13410.60	28.8	465.64
Chamundeshwari Sugars Ltd. Reply dated 09.01.2012	13065.65	26	502.53
Madras Sugars Pvt. Ltd., Tamil Nadu reply dated 09.01.2012	12477.84	25	499.11
NSL Sugars, reply dated 09.01.2012	15118.75	28	539.96
Vijayanagar Sugar Pvt. Ltd.,	1570.60	31.5	498.00
GMR Industries Ltd	1109.60	24.0	462.00

Further, as requested by the Commission, the Balance sheets of some of the companies viz., M/s Bannari Amman Sugars Ltd., M/s Vijayanagar Sugar Pvt Ltd., M/s Sri Chamundeshwari Sugars Ltd., and M/s Parrys Sugar Industries Ltd., are furnished by SISMA on 09.01.2012, 13.01.2012 and 23.01.2012 respectively. The Annual Accounts submitted are as indicated below:

<b>Company Name</b>	<b>Year for which Annual Accounts are submitted</b>
Vijayanagar Steels	2011
Parrys Sugar Industries Ltd.,	2011
Chamundeshwari Sugars	2008-2009

These balance sheets, however, do not give the break up of the actual project cost while commissioning the project.

- From the material placed before the Commission it is observed that, out of the six plants for which, SISMA has furnished auditor's certified Cost, the NSL Sugars is yet to be Commissioned. The other plant namely Vijayanagar Sugar Pvt. Ltd was commissioned in 2010 i.e after the issue of the Commissions order dated 11.12.2009. Thus, the cost pertaining to these two plants were not available when the Commission passed its order on 11.12.2009.

8. It was further submitted on behalf of SISMA that the cost of Cogen projects of M/s Bannariamman Sugars, Tamil Nadu and the capital cost adopted by CERC are not inclusive of evacuation cost and the Evacuation cost works out to about Rs.44.00 lakhs per MW. As per CERC the cost of the project excluding evacuation is Rs.4.45 Crores/MW. As such the project cost including evacuation would be Rs. 4.89 Crores. Further, it is stated that there are 33 plants operating in the State with a capacity of 766 MW and more than 60% of these plants are under Open Access. Further 20 plants are in the pipeline and fixation of a reasonable Tariff would encourage the developers to sell their power to the utilities in the State.
9. Regarding the evacuation cost, it was further clarified by Sri P.R. Raheja, project consultant for SISMA that the cost varies with the voltage level of evacuation and the length of the line in KMs. However based on the projects which are commissioned, the average cost of evacuation works out to Rs. 25.00 lakhs per MW. Considering the network augmentation charges of Rs. 5 lakhs/MW collected by KPTCL, the total cost works out to Rs.4.75 Crores per MW if the capital cost adopted by CERC is considered. Making allowance for inflation, Rs.5.00 Crores per MW is justified. Further it was informed on behalf of SISMA that all the new plants are adopting new technologies with higher steam pressure and temperatures and as such the cost has increased consequent to adopting the latest technology with greater efficiency.
10. Sri Prithviraj, representing M/s Chamundeshwari Sugars informed that the cost of land, civil works, transport and equipments have gone up substantially and the same need to be considered by the Commission while determining the capital cost.
11. Sri Vaibhav Kalkute, representing M/s Renuka Sugars made written submissions to the Commission and requested the Commission to increase the capital cost to Rs.5.00 Crores per MW. He stated that the capital cost of Rs. 4.45 crores considered by CERC excludes

evacuation cost, which is about Rs. 35-40 lakhs per MW. Further, he informed that the tariff specified by MERC is Rs.4.76 per unit.

In support of its submission M/s Renuka Sugars, have furnished the capital cost of the following projects.

Sl.No.	Name of the Company	Capital Cost (Rs.MW)
1	NSL Sugars	5.39
2	Chamundeshwari Sugars Ltd.	5.00
3	Vijayanagar Sugars Pvt. Ltd.	4.98

12. The Karnataka Renewable Energy Development Ltd., (KREDL), represented by Sri Manjunath, Technical Officer, informed that as per the project reports submitted to them by various developers, the cost of Co-generation plants varies from Rs.4.00 Crores to Rs.4.50 Crores. Further, he stated that the developers are opting for open access citing low tariff as the reason. The Commission directed KREDL to furnish the DPRs available with KREDL from 2009 onwards, including the DPRs of projects mentioned at para 4(ii) if available for its consideration.

13. KREDL vide its letter dated 28.02.2012 has furnished details of capital cost of the projects commissioned during the period FY07 to FY12. The details of the projects commissioned as received from KREDL has been summarized in the following table.

Company Name	Amount in Rs. lakhs	MW Capacity	Cost per MW (Amount in lakhs)	Remarks	Commissioned Year
Kedarnath Sugar & Agro Chemicals Ltd.,	5450	18	303	87 kgf/cm <sup>2</sup> 2500 TCD	2009-10
NSL Sugars (Tungabhadra) (Formerly Shiraguppa Sugars & Chemicals Ltd.)	15119	28	540		2011-12
Renuka Sugars Ltd., Gulbarga	9748	25	390	-	2009-10
Core Green Sugars & Fuels	12000	24	500	-	2011-12

Private Ltd.,					
Vijayanagar Sugars Pvt. Ltd.,	15700	35.5	442	-	2009-10
<b>TOTAL</b>	<b>58015</b>	<b>130.50</b>	<b>445</b>		

14. Bangalore Electricity Supply Co. submitted that the capital cost and tariff as fixed by the Commission in its order dated 11.12.2009 is sufficient and any increase in capital cost has to be allowed only after considering the improved efficiency and increase in PLF of the cogeneration units.

**15. COMMISSION'S ANALYSIS AND DECISION:**

The Commission has considered entire material placed before it and also the views expressed by all the Stakeholders during the course of hearing.

16. The Commission in its order dated 11<sup>th</sup> December 2009 approved the capital Cost for Co-generation projects at Rs.3.65 Crores/MW, considering the annual inflation rate over the cost/MW of Rs.3.00 Crores approved by the Commission in 2005. The inflation rate was arrived at by considering the year-wise WPI and CPI for the period 2005 to 2009 with a weightage of 60% to WPI and 40% to CPI [the weights are the same as considered by CERC notifications dated 30.9.2009 & 11.11.2009 on escalation factors & other parameters]. The CPI & WPI were also adopted from the above notifications of CERC.

17. While passing the above order, the Capital Cost [CC] considered by APERC, TNERC & KSERC of Rs.3.25 Crores., Rs4.67 Crores. & Rs.3.50 Crores respectively was considered though the Stakeholders had proposed the project cost in the range of Rs.4.45 Crores to Rs. 5.25 Crores.

18. The capital cost data of the projects commissioned during 2007 to 2012, as submitted by KREDL it is noted that the average capital cost per MW comes to Rs.4.45 Crores / MW.

19. As per CERC's Order dated 16.09.2009 the capital cost for Co-generation units is determined as Rs. 4.45 Crores/MW [including

evacuation up to interconnection point which is defined as the line isolator on outgoing feeder on HV side of generator transformer] for the base year FY10. For subsequent years the CC is indexed to WPI for steel & Electrical machinery. [Stakeholder submissions before CERC: Green Fuel Pvt. Ltd., Rs.5.45 Crores, IREDA: Rs.4.33-5Crores]

In the explanation furnished to the draft regulations, CERC has furnished two approaches: Pooled cost/regulatory approach & Actual project cost approach. The capital cost as indicated in CERC's explanation is as under:

CERC CC for Co-Gen -2009 discussion paper								
Methodology	FY04	FY05	FY06	FY07	FY08	FY09	CAGR	FY10 Est.
Pooled Cost	3.25	3.35	3.14	3.70	3.76	3.65	2%	3.74
Project cost								
UNFCCC		3.46	3.62	3.29			-2%	3.05
IREDA		3.00	2.75	3.63	4.25		12%	5.36
Average of UNFCC & IREDA		3.23	3.19	3.46			3%	3.84

Note: CAGR, FY10 Estimate and average of Proj. Cost worked out by KERC.

CERC in the explanatory note has stated as under:

*"The comparison of capital cost variation in actual project cost approach with the pooled cost approach clearly indicates that the pooled regulated capital cost norm derived under regulatory approach (Rs 3.76 Cr/MW for FY 2007-08) is lower than the average capital cost norm (Rs 4.25 Cr/MW for FY 2007-08) derived under actual project database approach.*

*It may be argued that the capital cost disclosures for loan sanction or CDM project registration purposes could have an element of over-estimation, however, it may be noted that the project cost information has already been scrutinized for accuracy and representation at the institutional level."*

The explanation of CERC also furnishes the details of calculation wherein the capital cost determined by APERC, HERC, KERC, MERC, TNERC & UPERC is escalated for WPI and the cost for FY09 is arrived at. As per this analysis the cost estimated for Karnataka is Rs.3.63 Crores/MW and for India as Rs.4.30 Crores/MW.

In the concluding Para, CERC has stated as under:

*"The Capital Cost for FY 2008-09 under various approaches has varied from Rs 3.65 Cr/MW under 'Pooled Cost' to Rs 4.30 Cr/MW with escalation factors whereas the capital cost based on the proposed formulation suggests a norm of Rs 4.18 Cr/MW. Accordingly, the normative capital cost of **Rs.445 Lakh/MW** has been proposed for the first year of the Control Period."*

Thus, even though CERC arrived at a capital cost of Rs.4.18 Crores/MW, it approved Rs.4.45 Crores/ MW as the norm for Co-Gen Plants.

In its Order dated 26.04.2010, CERC based on indexation has estimated the Capital Cost for CO-Gen as Rs.3.98 Crores/MW for FY11 and vide its order-dated 09.11.2010, Rs.4.21 Crores/MW for FY12. As such the average of the capital cost for the year FY10, FY11 and FY12 is Rs.4.21 Crores / MW.

The TERI report submitted to CERC indicates the Capital Cost in the range of Rs. 3.00 –3.75 Crores/ MW.

20. SISMA in its earlier filing dated 30.04.2009, had furnished the break up of cost for one plant namely Alagawadi Bireswer Sugars Pvt. Ltd., Subsequently SISMA in their submission dated 09.11.2009 had requested the Commission to consider the capital cost of Rs.525 lakhs per MW. While passing the order dated 11.12.2009 the Commission had stated that the project cost of a single plant couldn't be considered for determining generic tariff. However, in the present proceedings SISMA has furnished the cost break up for six plants. Out of them, NSL has not clearly shown the break up of land cost, buildings etc. As such details of other five plants along with the details of Alagawadi plant is indicated below:

Cost break up	Alagawadi-25 MW		GMR Plant UK District 24 MW		Chamundeswari-26 MW		Vijayanagar-31.5MW		Bannari Amman-28.8 MW TN Plant		Madras Sugar-25 MW TN Plant	
	RS-Lakh	Rs.lakh/MW	RS-Lakh	Rs.lakh/MW	RS-Lakh	Rs.lakh/MW	RS-Lakh	Rs.lakh/MW	RS-Lakh	Rs.lakh/MW	RS-Lakh	Rs.lakh/MW
Land	115.5	4.62	906	37.75	228	8.77	2080.9	66.06	147.79	5.13	247.1	9.88
Building	400	16			1042	40.08		0.00	1880.8	65.31	2485.38	99.42
Plant & Machinery	11702	468.08	7717	321.54	11795	453.65	11849.67	376.18	10493	364.32	8863.79	354.55
Others including evacuation costs	1121.75	44.87	2473	103.04	0	0.00	1493.23	47.40	889.48	30.88	881.57	35.26
<b>Total</b>	<b>13339.30</b>	<b>533.57</b>	<b>11096</b>	<b>462.33</b>	<b>13065</b>	<b>502.50</b>	<b>15423.8</b>	<b>489.64</b>	<b>13411</b>	<b>465.65</b>	<b>12477.84</b>	<b>499.11</b>

The details of Alagawadi plant was furnished during the earlier submission while issuing the tariff order dated 11.12.2009. In the same submissions the break up cost given in the write up is different. It is also stated by SISMA that the Alagawadi plant is a green field project. The Commission notes that regarding the cost of Bannari Amman plant, SISMA had furnished the cost of Rs.13183.48 Crores. However in the present submission before the Commission they have furnished the project cost of Rs.13410.60 Crores. The latest costs submitted are considered for analysis.

Considering only the plants [Chamundeswari Sugars Ltd. & GMR Industries Ltd.], which were commissioned before the Commission order dated 11.12.2009 was issued, the cost/MW which works out to Rs. 4.83 Crores/ MW will not be proper. Therefore the Commission is determining a generic tariff and the cost data should therefore be based on a representative sample.

21. From the details as furnished by SISMA the total cost per MW varies from Rs.4.62 Crores to Rs.5.39 Crores. The huge variation may be due to the variation in the technology adopted by different units with implications for efficiency in operation. However the broad component wise analysis of costs can be made as under and adopted to determine the capital cost.

a) Land & Building cost:

It is noted that the land and Building cost varies from Rs.21.62 lakhs/ MW to Rs.109.29 lakhs / MW. The median value for land and building cost works out to Rs.48.85 lakhs / MW.

b) Plant & Machinery:

As far as cost of plant and machinery is concerned it varies from Rs.355.00 lakhs / MW to Rs.468.00 lakhs / MW. The plants adopting advanced technology are likely to have higher equipment costs and the parameters such as efficiency will also be different. The capacity of power generated increases with increase in temperature and pressure accompanied by a corresponding increase in capital cost. This indicates that any increase in the capital cost due to adoption of better technology cannot be viewed in isolation without considering the improved performance. CERC in its Explanatory memorandum for draft Terms & Conditions for determination of tariff for RE Sources, CERC, November 2011, has proposed a heat rate of 3600 kcal/kWh and for fixing the benchmark capital cost has considered sugar mills of 2500 TCD with 66 bar/480° C. Thus for any sugar mill adopting a higher pressure and temperature, the heat rate should correspondingly reduce due to better efficiency. This means that the increase in capital cost would be partly compensated by reduced fuel cost. Further plant and machinery cost varies from Rs.3.22 Crores to Rs.4.68 Crores / MW. The median value works out to Rs.3.64 Crores / MW.

Thus the total of the land cost, building cost and plant and machinery works out to the Rs.413.00 lakhs / MW.

c) Other Costs:

Further, it is noted that, the weighted average cost of other allied expenditure including evacuation cost is at 8.8% which works out to Rs.33.88 lakhs.

22. From the above the total cost per MW works out to Rs.447.00 lakhs / MW.

23. In order to ascertain the capital cost of some more projects, the Commission requested the Commissioner for Cane Development and Director, Sugar to make available the Detail Project Reports (DPRs) of

Co-generation projects submitted to his office during the period 01.04.2008 to 31.03.2011. In response, the said authority made available DPRs of nine co-generation projects vide his letter dated 22.03.2012. Out of the nine projects details are not available for one of the projects i.e Parry Sugar Industries Ltd., and in other case of Naranja Sahakaari Sakkare Kharkane, it was only up-gradation to cogeneration and not a new plant. Therefore the Commission has considered the cost data of only seven projects out of the nine DPRs received. From the details obtained from Director Sugar the total cost per MW of co-generation plants varies from Rs.3.75 Crores to Rs.4.88 Crores. The broad component wise analysis of costs is as under and adopted to determine the capital costs stated above.

### COST COMPARISON OF CO-GENERATION PLANTS

**(DPRs furnished by Commissioner for Cane development and Director of Sugar)**

Cost break up	Chamundeswari Sugar Unit II, Hassan 18 MW		NSL Sugar Unit II, Gulbarga, 34 MW		Malaprabha SSK, Belgaum 30 MW		Mallikarjuna Sugar, Mysore 16 MW		Core Green & Fuel, Gulbarga 24 MW		Belgaum Sugars, Bijapur, 25 MW		Laila Sugar Pvt. Ltd., Khanapur 25 MW	
	Rs.Lakh	Rs. Crores / MW	Rs.Lakh	Rs. Crores/ MW	Rs.Lakh	Rs.Crores/ MW	Rs .Lakh	Rs. Crores/ MW	Rs.Lakh	Rs. Crores/ MW	Rs. Lakh	Rs. Crores/ MW	Rs. Lakh	Rs. Crores/ MW
Land	25.00	0.33	175.00	0.47	100.00	0.47	475.00	0.30	150.00	0.23	200.00	0.32	1510.00	0.60
Building	574.00		1435.00		1318.00		390.00		602.00					
Plant & Machinery	6924.00	3.85	10500.00	3.09	10630.00	3.54	5370.00	3.35	8200.00	3.42	6761.00	2.70	9655.00	3.86
Others including evacuation costs	1205.00	0.67	2074.00	0.61	1952.00	0.65	935.00	0.58	1152.25	0.48	1804.00	0.72	1026.79	0.41

a) Land & Building cost:

It is noted that the land and Building cost varies from Rs.22.50 lakhs/ MW to Rs.60.00 lakhs / MW. The median value works out to Rs.33 lakhs / MW.

b) Plant & Machinery:

As far as cost of plant and machinery is concerned it varies from Rs.270 lakhs / MW to Rs.386 lakhs / MW. The median value works out to Rs. 342 lakhs / MW.

Thus the total of the land cost, building cost and plant and machinery works out to the Rs.375.00 lakhs / MW.

c) Other Costs:

Further, it is noted that, the weighted average cost of other allied expenditure including evacuation cost works out to Rs.54.00 lakhs.

24. Thus the total cost per MW of the co-generation plants obtained from Commissioner for Cane development and Director of Sugar in Karnataka works out to Rs.429 lakhs / MW.

25. The Commission after considering all the above material has decided to adopt Rs.4.30 Crores / MW including evacuation cost as the benchmark capital cost for the purpose of determining the tariff per unit.

26. Adopting a capital cost of Rs.4.30 Crores / MW, the tariff for electricity generated by co-generation plants is re-fixed as below and ESCOMs shall adopt the same while executing PPAs, hereafter.

<b>Year</b>	<b>Tariff (Rs./unit) (tariff as determined vide order dated 11.11.2009)</b>	<b>Tariff as determined in this order Rs./unit</b>
1 <sup>st</sup> Year	3.59	3.90
2 <sup>nd</sup> Year	3.63	3.93
3 <sup>rd</sup> Year	3.67	3.96
4 <sup>th</sup> Year	3.72	4.00
5 <sup>th</sup> Year	3.77	4.05
6 <sup>th</sup> Year	3.83	4.10
7 <sup>th</sup> Year	3.90	4.16
8 <sup>th</sup> Year	3.97	4.22
9 <sup>th</sup> Year	4.05	4.29
10 <sup>th</sup> Year	4.14	4.37

Ordered accordingly.

Sd/-

**M.R. Sreenivasa Murthy**  
Chairman

Sd/-

**Vishvanath Hiremath**  
Member

Sd/-

**K.Srinivasa Rao**  
Member