Reg. No. 18/14570/1993/ dt. 26-7-1993

Jamkhandi Sugars Ltd.,
ಜಮಖಂಡಿ ಶುಗರ್ಸ್ ನಿ. ಜಮಖಂಡಿ

M.D. : 254160, OFF : 254162, 254163, STD : 08353
TELE FAX : 08353 - 254081

June 30, 2006

To,

The Manager
CDM Section
UNFCCC, Bonn
Germany

Subject: Reference: Request for review for: "Bagasse based power project at Jamkhandi Sugars Limited, Bagalkot, Karnataka " (0282)

Dear Sir

Jamkhandi Sugars Limited (JSL) would like to thank the CDM executive board and the secretariat for giving us the opportunity to clarify on the four requests made on our project design document of our 6.3 MW bagasse based cogeneration project. We would like to assure you that we have been transparent in providing all the relevant information with regard to the queries raised.

We clarify and give our responses to each of your requests:

Request for review no. 1:

1. No verifiable information is available on to which extent CDM was seriously taken into account at early starting date (October 2003). The DOE has paid no attention to this.

JSL Response: JSL during the conceptualizing of the project was aware of the CDM and necessary documents evidencing the same were given to the DOE during the site visit. An internal memo dated 24/11/2000 from the Asst. Finance manager to the chairman highlighting the consideration of the CDM benefits and subsequent Extract of Minutes of the board resolution on 25/01/2001 are enclosed as **Annexure-1** for kind reference.

2. Considering the starting date of the project activity (October 2003) it is unclear why the vintage of 2003-04 has not been used for establishment of the applicable baseline EF.

JSL Response: The emission factors for the year 2001-02, 2002-2003 and 2003-2004 were calculated and in order to be conservative, the emission factor for the year 2001 was considered as it was the least. The baseline calculation sheet for the same has been enclosed as **Annexure-2** for your kind reference.

However, as the per the request of the executive board, the latest data for the year 2004-2005 has been considered and the baseline emission factor for the year 2004-2005 has been calculated and the PDD has been accordingly revised and is enclosed as **Annexure-3 and** the baseline file is enclosed as **Annexure-4.**

Request for review no. 2:

1. No verifiable information is available on to which extent CDM was seriously taken into account at early starting date (October 2003). The DOE has paid no attention to this.

JSL Response: JSL during the conceptualizing of the project was aware of the CDM and necessary documents evidencing the same were given to the DOE during the site visit. An internal memo dated 24/11/2000 from the Asst. Finance manager to the chairman highlighting the consideration of the CDM benefits and subsequent Extract of Minutes of the board resolution on 25/01/2001 are enclosed as **Annexure-1** for kind reference.

2. Considering the starting date of the project activity (October 2003) it is unclear why the vintage of 2003-04 has not been used for establishment of the applicable baseline EF. Annex 3,p 48 of the PDD calculates the Baseline Emission Factor as 1.089tCO2/MWh. However, this would apply to the Southern Grid and would not be appropriate to use for the Karnataka Grid(the one suggested to be used), whose factor was mentioned as 0.814tCO2/MWh. Annex 3does not provide a calculation to derive the 0.814 tCO2/MWh representing the Karnataka Grid.

JSL Response: The emission factors for the year 2001-02, 2002-2003 and 2003-2004 were calculated and in order to be conservative, the emission factor for the year 2001 was considered as it was the least. The baseline calculation sheet for the same has been enclosed as **Annexure-2** for your kind reference.

However, as the per the request of the executive board, the latest data for the year 2004-2005 has been considered and the baseline emission factor for the year 2004-2005 has been calculated and the PDD has been accordingly revised and is enclosed as **Annexure-3 and** the baseline file is enclosed as **Annexure-4.**

As it has been rightly mentioned that the Annex 3 in the PDD, details the calculation of the emission factor for the southern grid of 1.089 t CO_2/MWh. The baseline calculations for the emission factor of the Karnataka Grid of 0.814 t CO_2/MWh had been given to the DOE along with the PDD during the validation and is enclosed as **Annexure-2** for your kind reference.

Request for review no. 3

1.The DOE does not provide any further comment whether it believes that the project developer provided evidence that the incentives from CDM were taken seriously into account and were considered in the decision by the project developer to proceed with CDM. Since the project wants to claim CERs starting in year 2003, such evidence would be necessary to be confirmed through the DOE.

JSL Response: JSL during the conceptualizing of the project was aware of the CDM and necessary documents evidencing the same were given to the DOE during the site visit. An internal memo dated 24/11/2000 from the Asst. Finance manager to the chairman highlighting the consideration of the CDM benefits and subsequent Extract of Minutes of the board resolution on 25/01/2001 are enclosed as **Annexure-1** for kind reference.

2. For calculating the Combined Margin emission factor, the latest available vintages should be used. It was not clear why the vintage 2004-05 was not used for establishing the applicable baseline emission factor. This vintage should be used for establishing the applicable baseline emission factor. This vintage should be used for CM emission factor calculation instead of the vintage 2001-02.

JSL Response: During the preparation of the PDD, the data of the Karnataka Grid from the Karnataka Power Transmission Corporation Limited (KPTCL) was not available for the year 2004-05 and hence it was not considered. However, as the data is now available, the emission factor for the latest year of 2004-05 has been calculated and the PDD has been accordingly revised. The revised PDD and the baseline calculations are enclosed as **Annexure-3** and **Annexure-4** respectively for your kind reference.

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M.D. : 254160, OFF : 254162, 254163, STD : 08353
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Request for review no.4

1. No verifiable information is available on to which extent CDM was seriously taken into account at early starting date (October 2003). The DOE has paid no attention to this. Considering the starting date of the Project activity (October 2003) it is unclear why the vintage of 2003-04 has not been used for establishment of the applicable baseline EF.

JSL Response: JSL during the conceptualizing of the project was aware of the CDM and necessary documents evidencing the same were given to the validator during the site visit. An internal memo dated 24/11/2000 from the Asst. Finance manager to the chairman highlighting the consideration of the CDM benefits and subsequent Extract of Minutes of the board resolution on 25/01/2001 are enclosed as **Annexure-1** for kind reference.

During the preparation of the PDD, it was of the opinion that emission factor has to be conservative. The emission factors for the year 2001-02, 2002-2003 and 2003-2004 were calculated and in order to be conservative, the emission factor for the year 2001 was considered as it was the least. The baseline calculation sheet for the same has been enclosed as **Annexure-2** for your kind reference.

However, as the per the request of the executive board, the latest data for the year 2004-2005 has been considered and the baseline emission factor for the year 2004-2005 has been calculated and the PDD has been accordingly revised and is enclosed as **Annexure-3 and** the baseline file is enclosed as **Annexure-4.**

We hope the above clarifications are in line with your requirements and we sincerely look forward to the registration of our project activity.

Warm Regards

Mr. Srinivasan
Managing Director
Jamkhandi Sugars Limited.

AT : HIREPADASALAGI POST : NAGANUR - 587 301. Tq. Jamkhandi Dist. : Bagalkot State Karnataka

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EXTRACT FROM THE MINUTES OF THE MEETING OF BOARD OF DIRECTORS OF JAMKHANDI SUGARS LIMITED HELD ON 25th JANUARY 2001, 1.00 P.M. AT COMPANY'S WORKS, HIREPADASALGI

Managing Director, Shri. B.S. Gurumurthy brought to the notice of the Board of Directors the status of the financing for the 6.3 MW project.

The Managing Director informed the Board that the bank has sanctioned the loan and the Board decided to go ahead with issuing purchase order for the equipment of the project. The Board also indicated that the project should be commissioned at the earliest.

The Managing Director also informed that the co-generation project is eligible for carbon financing benefits as it is a renewable energy project and the revenues could be considered and necessary action to avail the benefits could be initiated at an appropriate time.

Certified True Copy

For Jamkhandi Sugars Ltd.

S.B. Nyamagouda
Chairman

Date: 24/11/2000

INTERNAL MEMO

From : Rajneesh Verma, Asst. Manager (Finance & Accounts)

To : Shri S. B. Nyamagouda, Chairman

Respected Sir,

This is to bring to your kind notice on the discussions I had with the bank on securing finance for the 6.3 MW cogeneration plant.

I had a very detailed discussion with the Shri Ramesh, Assistant General Manager, State Bank of India, Commercial Branch, Hubli. I ensured him that if funds are made available to us at the earliest, we can start the plant by August 2002 and utilize the crushing season.

But, they have not agreed to sanction the loan due to non-exposure of the release of the same.

We have an information from some sources that IREDA, New Delhi has financing for co-generation. Further we have approached Shri K.B.K Reddy, Manager (PTS) for the same and they have agreed in principle for sanction of the same.

Further during the discussion with IREDA I informed that it has to come to his knowledge from other sugar mills in the region, that the co-generation power plant is a renewable energy project and hence it will qualify for carbon benefits. It has come to knowledge that the plant would generate about 15000 tons of carbon dioxide per annum which would generate revenues of about $2 per ton. These revenues could also be available in the future. However, as there is still uncertainty on the issue, a firm commitment on the revenues cannot be ascertained.

R. Verma
Asst. Manager (Finance & Accounts)

CALCULATION OF BASELINE EMISSION FACTORS AND EMISSION REDUCTIONS OF JSL PROJECT						
Reference : AMS ID with Combined Margin Approach						
Year of offer	2001-02		2002-03		2003-04	
Generation Mix						
Sector	MU	%	MU	%	MU	%
Thermal Coal Based-State	8175.10	29.59	9391.10	33.26	10415.27	36.69
Thermal Coal Based-Central	6106.70	22.11	7571.21	26.81	6949.04	24.48
IPP-Coal Based	0.00	0.00	0.00	0.00	0.00	0.00
IPP-Gas (Naphtha) Based	943.57	3.42	1178.18	4.17	866.37	3.05
IPP-Diesel Based	720.13	2.61	418.75	1.48	277.13	0.98
VVNL-Diesel Based(State)	745.97	2.70	684.98	2.43	523.78	1.85
Hydro-State	9119.70	33.01	7062.54	25.01	7364.49	25.94
IPP-Mini Hydel	154.54	0.56	185.55	0.66	158.09	0.56
VVNL-Hydro (State)	215.75	0.78	250.23	0.89	191.35	0.67
Hydro - TB Dam	29.65	0.11	14.75	0.05	6.91	0.02
Nuclear Based-Central	1058.26	3.83	1010.73	3.58	926.72	3.26
IPP-Co-Generation	317.38	1.15	330.32	1.17	383.36	1.35
IPP-Biomass	25.34	0.09	45.33	0.16	52.98	0.19
IPP-Wind	12.09	0.04	94.74	0.34	269.63	0.95
Total	27624.18	100.00	28238.41	100.00	28385.12	100.00
Total generation excluding Low-cost power generation	16691.47		19244.22		19031.59	
Generation by Coal out of Total Generation excluding Low-cost power generation	14281.80	85.56	16962.31	88.14	17364.31	91.24
Generation by Gas (Naphtha) out of Total Generation excluding Low-cost power generation	943.57	5.65	1178.18	6.12	866.37	4.55
Generation by Diesel out of Total Generation eexcluding Low-cost power generation	1466.10	8.78	1103.73	5.74	800.91	4.21
Imports from others						
Imports from NTPC-NVVN, PTCIL & PGCIL	379.92	1.38	487.81	1.73	2337.28	8.23
Imports from WREB	57.32	0.21	16.16	0.06	0.00	0.00
Imports from SREB	2.52	0.01	12.56	0.04	0.00	0.00
Estimation od Baseline Emission Factor (tCO_2/MU)						

Simple Operating Margin						
Fuel 1 : Coal						
Avg. Efficiency of power generation with coal as a fuel, %		35.327		35.450		35.450
Avg. Calorific Value of Coal used (kcal/kg)		3877		4171		4171
Estimated Coal consumption (tons/yr)		8967585		9865550		10099359
Emission Factor for Coal-IPCC standard value (tonne CO2/TJ)		96.1		96.1		96.1
Oxidation Factor of Coal-IPCC standard value		0.98		0.98		0.98
COEF of Coal (tonneCO2/ton of coal)		1.526		1.642		1.642
Fuel 2 : Gas (Naphtha)						
Avg. Efficiency of power generation with gas as a fuel, %		45		45		45
Avg. Calorific Value of Gas used (kcal/kg)		10750		10750		10750
Estimated Gas consumption (tons/yr)		167739		209445		154015
Emission Factor for Gas- IPCC standard value(tonne CO2/TJ)		73.3		73.3		73.3
Oxidation Factor of Gas-IPCC standard value		0.995		0.995		0.995
COEF of Gas(tonneCO2/ton of gas)		3.277		3.277		3.277
Fuel 3 : Diesel						
Avg. Efficiency of power generation with diesel as a fuel, %		41.707		41.707		41.707
Avg. Calorific Value of Diesel used (kcal/kg)		9760		9760		9760
Estimated Diesel consumption (tons/yr)		309744		233185		169209
Emission Factor for Diesel-IPCC standard value (tonne CO2/TJ)		74.1		74.1		74.1
Oxidation Factor of Diesel-IPCC standard value		0.99		0.99		0.99
COEF of Diesel (tonneCO2/ton of diesel)		2.992		2.992		2.992
EF (OM Simple, excluding imports from other grids), tCO2/MU		908.23		913.47		924.24
EF (National Grid), tCO2/MU		872.00		865.00		845.00
EF (WREB), tCO2/MU		932.00		910.00		910.00
EF (SREB), tCO2/MU		752.00		769.00		757.00
EF (OM Simple), tCO2/MU		**907.49**		**912.18**		**915.58**
Considering 20% of Gross Generation						
Sector	**MU**	**%**	**MU**	**%**	**MU**	**%**
Thermal Coal Based-State	0.00	0.00	0.00	0.00	1504.33	29.37
Thermal Coal Based-Central	2851.25	54.18	3882.02	60.28	1859.49	36.30
IPP-Coal Based	0	0.00	0	0.00	0.00	0.00
IPP-Gas (Naphtha) Based	943.57	17.93	1178.18	18.29	866.37	16.91
IPP-Diesel Based	720.13	13.68	418.75	6.50	0.00	0.00
VVNL-Diesel Based(State)	0	0.00	0	0.00	0.00	0.00
Hydro-State	683.07	12.98	722.09	11.21	455.83	8.90
IPP-Mini Hydel	23.3	0.44	83.74	1.30	68.29	1.33
VVNL-Hydro (State)	0	0.00	0	0.00	0.00	0.00
Hydro - TB Dam	0	0.00	0	0.00	0.00	0.00
Nuclear Based-Central	0	0.00	0	0.00	0.00	0.00
IPP-Co-Generation	4.45	0.08	42.16	0.65	45.49	0.89
IPP-Biomass	25.34	0.48	45.33	0.70	52.98	1.03
IPP-Wind	11.2	0.21	68.08	1.06	269.63	5.26
Total	5262.31	100.00	6440.35	100.00	5122.41	100.00
Generation by Coal out of Total Generation	2851.25	54.18	3882.02	60.28	3363.82	65.67
Generation by Gas out of Total Generation	943.57	17.93	1178.18	18.29	866.37	16.91
Generation by Diesel out of Total Generation	720.13	13.68	418.75	6.50	0.00	0.00
Imports from others		85.80		85.07		82.58
Imports from NTPC-NVVN, PTCIL & PGCIL	379.92	7.22	487.81	7.57	1517.62	29.63
Imports from WREB	0				0.00	0.00
Imports from SREB	0				0.00	0.00

Built Margin						
Fuel 1 : Coal						
Avg. efficiency of power generation with coal as a fuel, %		35.450		35.450		35.450
Avg. calorific value of coal used in KPCL, kcal/kg		4171		4171		4171
Estimated coal consumption, tons/yr		1658332		2257845		1956451
Emission factor for Coal (IPCC),tonne CO2/TJ		96.1		96.1		96.1
Oxidation factor of coal (IPCC standard value)		0.98		0.98		0.98
COEF of coal (tonneCO2/ton of coal)		1.642		1.642		1.642
Fuel 2 : Gas (Naptha)						
Avg. efficiency of power generation with gas as a fuel, %		45		45		45
Avg. calorific value of gas used, kcal/kg		10750		10750		10750
Estimated gas consumption, tons/yr		167739		209445		154015
Emission factor for Gas (as per standard IPCC value)		73.3		73.3		73.3
Oxidation factor of gas (IPCC standard value)		0.995		0.995		0.995
COEF of gas(tonneCO2/ton of gas)		3.277		3.277		3.277
Fuel 3 : Diesel						
Avg. efficiency of power generation with diesel as a fuel, %		41.707		41.707		41.707
Avg. calorific value of diesel used, kcal/kg		9760		9760		9760
Estimated diesel consumption, tons/yr		152142		88470		0
Emission factor for Diesel (as per standard IPCC value)		74.1		74.1		74.1
Oxidation factor of Diesel (IPCC standard value)		0.99		0.99		0.99
COEF of diesel tonneCO2/ton of diesel		2.992		2.992		2.992
EF (BM , excluding imports) (tCO2/MU)		**708.27**		**723.16**		**725.50**
EF (National Grid), tCO2/MU		845.00		845.00		845.00
EF (WREB), tCO2/MU		910.00		910.00		910.00
EF (SREB), tCO2/MU		757.00		757.00		757.00
EF (BM), tCO2/MU		**717.47**		**731.74**		**752.81**
Combined Margin Factor (Avg of OM & BM)		**814.61**		**821.74**		**832.28**
Baseline Emissions Factor (tCO2/MU)		**814.61**		**821.74**		**832.28**

CALCULATION OF BASELINE EMISSION FACTORS AND EMISSION REDUCTIONS OF JSL PROJECT						
Reference : AMS ID with Combined Margin Approach						
Year of offer	2002-03		2003-04		2004-05	
Generation Mix						
Sector	MU	%	MU	%	MU	
Thermal Coal Based-State	9391.10	33.26	10415.27	36.69	9799.11	32.53
Thermal Coal Based-Central	7571.21	26.81	6949.04	24.48	8081.35	26.83
IPP-Coal Based	0.00	0.00	0.00	0.00	0.00	0.00
IPP-Gas (Naphtha) Based	1178.18	4.17	866.37	3.05	630.27	2.09
IPP-Diesel Based	418.75	1.48	277.13	0.98	277.35	0.92
VVNL-Diesel Based(State)	684.98	2.43	523.78	1.85	573.53	1.90
Hydro-State	7062.54	25.01	7364.49	25.94	8152.98	27.07
IPP-Mini Hydel	185.55	0.66	158.09	0.56	315.74	1.05
VVNL-Hydro (State)	250.23	0.89	191.35	0.67	209.52	0.70
Hydro - TB Dam	14.75	0.05	6.91	0.02	28.01	0.09
Nuclear Based-Central	1010.73	3.58	926.72	3.26	871.14	2.89
IPP-Co-Generation	330.32	1.17	383.36	1.35	515.00	1.71
IPP-Biomass	45.33	0.16	52.98	0.19	176.39	0.59
IPP-Wind	94.74	0.34	269.63	0.95	489.53	1.63
Total	28238.41	100.00	28385.12	100.00	30119.92	100.00
Total generation excluding Low-cost power generation	19244.22		19031.59		19361.61	
Generation by Coal out of Total Generation excluding Low-cost power generation	16962.31	88.14	17364.31	91.24	17880.46	92.35
Generation by Gas (Naphtha) out of Total Generation excluding Low-cost power generation	1178.18	6.12	866.37	4.55	630.27	3.26
Generation by Diesel out of Total Generation eexcluding Low-cost power generation	1103.73	5.74	800.91	4.21	850.88	4.39
Imports from others						
Imports from NTPC-NVVN, PTCIL & PGCIL	487.81	1.73	2337.28	8.23	2493.91	8.28
Imports from WREB	16.16	0.06	0.00	0.00	0.00	0.00
Imports from SREB	12.56	0.04	0.00	0.00	0.00	0.00
Estimation od Baseline Emission Factor (tCO_2/MU)						

Simple Operating Margin						
Fuel 1 : Coal						
Avg. Efficiency of power generation with coal as a fuel, %		35.450		35.450		35.450
Avg. Calorific Value of Coal used (kcal/kg)		4171		4171		4171
Estimated Coal consumption (tons/yr)		9865550		10099359		10399560
Emission Factor for Coal-IPCC standard value (tonne CO2/TJ)		96.1		96.1		96.1
Oxidation Factor of Coal-IPCC standard value		0.98		0.98		0.98
COEF of Coal (tonneCO2/ton of coal)		1.642		1.642		1.642
Fuel 2 : Gas (Naphtha)						
Avg. Efficiency of power generation with gas as a fuel, %		45		45		45
Avg. Calorific Value of Gas used (kcal/kg)		10750		10750		10750
Estimated Gas consumption (tons/yr)		209445		154015		112043
Emission Factor for Gas- IPCC standard value(tonne CO2/TJ)		73.3		73.3		73.3
Oxidation Factor of Gas-IPCC standard value		0.995		0.995		0.995
COEF of Gas(tonneCO2/ton of gas)		3.277		3.277		3.277
Fuel 3 : Diesel						
Avg. Efficiency of power generation with diesel as a fuel, %		41.707		41.707		41.707
Avg. Calorific Value of Diesel used (kcal/kg)		9760		9760		9760
Estimated Diesel consumption (tons/yr)		233185		169209		179766
Emission Factor for Diesel-IPCC standard value (tonne CO2/TJ)		74.1		74.1		74.1
Oxidation Factor of Diesel-IPCC standard value		0.99		0.99		0.99
COEF of Diesel (tonneCO2/ton of diesel)		2.992		2.992		2.992
EF (OM Simple, excluding imports from other grids), tCO2/MU		913.47		924.24		928.47
EF (National Grid), tCO2/MU		865.00		845.00		845.00
EF (WREB), tCO2/MU		910.00		910.00		910.00
EF (SREB), tCO2/MU		769.00		757.00		757.00
EF (OM Simple), tCO2/MU		**912.18**		**915.58**		**918.95**
Considering 20% of Gross Generation						
Sector						
Thermal Coal Based-State					1365.99	26.64
Thermal Coal Based-Central					2818.04	54.96
IPP-Coal Based					0.00	0.00
IPP-Gas (Naphtha) Based					0.00	0.00
IPP-Diesel Based					0.00	0.00
VVNL-Diesel Based(State)					0.00	0.00
Hydro-State					136.24	2.66
IPP-Mini Hydel					54.43	1.06
VVNL-Hydro (State)					0.00	0.00
Hydro - TB Dam					0.00	0.00
Nuclear Based-Central					0.00	0.00
IPP-Co-Generation					240.75	4.70
IPP-Biomass					147.66	2.88
IPP-Wind					364.25	7.10
Total					5127.36	100.00
Generation by Coal out of Total Generation					4184.03	81.60
Generation by Gas out of Total Generation					0.00	0.00
Generation by Diesel out of Total Generation					0.00	0.00
Imports from others						81.60
Imports from NTPC-NVVN, PTCIL & PGCIL					2217.42	43.25
Imports from WREB					0.00	0.00
Imports from SREB					0.00	0.00

Built Margin						
Fuel 1 : Coal						
Avg. efficiency of power generation with coal as a fuel, %						35.450
Avg. calorific value of coal used in KPCL, kcal/kg						4171
Estimated coal consumption, tons/yr						2433498
Emission factor for Coal (IPCC),tonne CO2/TJ						96.1
Oxidation factor of coal (IPCC standard value)						0.98
COEF of coal (tonneCO2/ton of coal)						1.642
Fuel 2 : Gas (Naptha)						
Avg. efficiency of power generation with gas as a fuel, %						45
Avg. calorific value of gas used, kcal/kg						10750
Estimated gas consumption, tons/yr						0
Emission factor for Gas (as per standard IPCC value)						73.3
Oxidation factor of gas (IPCC standard value)						0.995
COEF of gas(tonneCO2/ton of gas)						3.277
Fuel 3 : Diesel						
Avg. efficiency of power generation with diesel as a fuel, %						41.707
Avg. calorific value of diesel used, kcal/kg						9760
Estimated diesel consumption, tons/yr						0
Emission factor for Diesel (as per standard IPCC value)						74.1
Oxidation factor of Diesel (IPCC standard value)						0.99
COEF of diesel tonneCO2/ton of diesel						2.992
EF (BM , excluding imports) (tCO2/MU)						**779.11**
EF (National Grid), tCO2/MU						845.00
EF (WREB), tCO2/MU						910.00
EF (SREB), tCO2/MU						757.00
EF (BM), tCO2/MU						**799.00**
Combined Margin Factor (Avg of OM & BM)						**857.29**
Baseline Emissions Factor (tCO2/MU)						**857.29**

BASELINE DATA FOR EMISSION REDUCTIONS CALCULATIONS :

SL.No.	Name of Power Plant	Fuel	Year of Commissioning	2001-2002 (MU)	2002-2003 (MU)	2003-2004 (MU)	2004-05 (MU)
A.	**State Sector-Hydro (Purchase from KPCL)**						
1	Sharavathy	Hydel	1964-67	4155.68	2827.11	3261.49	3814.51
2	Chakra	Hydel	2002-2003	0	412.46	455.38	0
3	Linganamakki	Hydel	1979-80	175.77	111.23	126.93	191.3
4	Nagajhari	Hydel	1979-84	2393.18	1782.86	1700.84	1696.92
5	Supa	Hydel	1985	387.9	250.31	234.5	289.25
6	Ghataprabha	Hydel	1992-93	72.47	57.79	63.01	95.2
7	Varahi	Hydel	1989-90	870.85	822.53	696.84	952.05
8	Mani	Hydel	1992-93	19.41	17.46	10.62	22.33
9	Bhadra	Hydel	1962-63	23.67	8.76	4.73	18.54
10	Kadra	Hydel	1997-99	282.55	228.69	214.73	228.22
11	Kalmala	Hydel		0.13	0.05	0.12	0.08
12	Sirwar	Hydel		0.22	0.78	0.17	0.04
13	Ganekal	Hydel		0.49	0.14	0.07	0.05
14	Mallapur	Hydel		28.34	0.76	8.46	21.28
15	Kodasali	Hydel	1999	274.82	213.63	212	216.47
16	Gerusoppa	Hydel	2000-01	408.25	309.63	355.38	435.25
17	Bhadra Right Bank	Hydel	1998	20.66	7.49	3.79	20.63
18	Kappadagudda	Hydel		5.31	10.86	14.98	14.62
19	Almatti Dam Power House	Hydel	2003-2004	0	0	0.45	136.24
	Total			**9119.7**	**7062.54**	**7364.49**	**8152.98**
B.	**State Sector-Thermal (Purchase from KPCL)**						
1	RTPS-I to IV	Coal	1991-1994(Unit-3 &4)	5922.03	6079.33	5911.48	5593.4
2	RTPS-V & VI	Coal	1985-99	2253.07	3036.22	2999.46	2839.72
3	RTPS-VII	Coal	2003	0	275.55	1504.33	1365.99
	Total			**8175.1**	**9391.1**	**10415.27**	**9799.11**
C.	**Central Sector-Thermal**						
1	NTPC-SR	Coal	Before 1999	3255.45	3689.19	3006.56	3069.68
2	NTPC-ER	Coal	2001-2002	846.52	1616.36	571.23	268.16
3	NTPC-NVVN	Coal	2003-2004	0	0	112.88	5.64
4	NTPC-Talcher 2&3	Coal	2003	0	0	835.85	1972.91

5	NLC	Lignite	Before 1999	2004.73	2265.66	2082.99	1925.47
6	NLC Expansion-I	Lignite	2003-2004	0	0	452.41	749.36
7	PTCIL		2001-2002	379.92	190.57	819.66	276.49
8	PGCIL-SREB		2002-2003	0	297.24	1404.74	2211.78
9	NTPC SR VII		2004-2005			6949.04	95.77
	Total			**6486.62**	**8059.02**	**9286.32**	**10575.26**
D.	**Central Sector-Nuclear**						
1	Madras Atomic Power Station (MAPS)		Before 1999	431.09	158.63	96.9	92.42
2	KAIGA Generating Station		Before 1999	627.17	852.1	829.82	778.72
	Total			**1058.26**	**1010.73**	**926.72**	**871.14**
E.	**From Neighbouring States**						
	SREB						
1	KSEB			0	0	0	0
2	APTRANSCO			2.52	12.56	0	0
3	TNEB			0	0	0	0
	Total			2.52	12.56	0	0
	WREB						
1	MSEB			0.59	4.19	0	0
2	Goa			0	1.18	0	0
3	CSEB			0	0.14	0	0
4	MPEB			0	7.12	0	0
5	GEB			0	3.53	0	0
6	WREB			56.73	0	0	0
	Total			57.32	16.16	0	0
	Hydro-T.B. Dam						
1	T.B.H.E		1957-64	29.65	14.75	6.91	28.01
	Total			**89.49**	**43.47**	**6.91**	**28.01**
F.	**VVNL**						
1	Power Prchase from VVNL	Hydro	Before 1999	215.749	250.234	191.347	209.520
2	Power Prchase from VVNL	Diesel	1992-93	745.971	684.976	523.783	573.530
	Total			**961.72**	**935.21**	**715.13**	**783.05**
G.	**IPPs-Major**						
1	Rayalseema Alkalies	Diesel	2000-2001	189.08	61.8	41.63	40.01
2	TATA Electric Company	Diesel	2000-2001	531.05	356.95	235.5	237.34
3	Taneer Bhavi Power Company	Gas (Naptha)	2001-2002	943.57	1178.18	866.37	630.27
4	JTPCL	Corex Gas		984	902.97	780.17	496.45

	Total			**1663.7**	**1596.93**	**1143.5**	**907.62**
H.	**IPPs-Co-Generation**						
1	Ugar Sugar Ltd.		Before 1999	69.9	51.66	55.48	46.46
2	Shamanur Sugars Ltd.		Before 1999	100.02	98.31	111.9	80.87
3	Shree Renuka Sugars Ltd.		Before 1999	34.61	26.33	45.96	32.29
4	Bannari Amman Sugars Ltd.		Before 1999	57.71	73.82	76.27	35.28
5	ICL Sugars Ltd.		Before 1999	13.54	17.17	14.19	4.56
6	Prabhulingeshwara Sugars		Before 1999	33.66	38.34	34.07	10.64
7	Dandeli Ferro Alloys Limited		2001-2002	4.45	3.57	0	0
8	Jamkhandi Sugars Limited		2001-2002	0.62	7.14	13.47	5.26
9	GEM Sugars		2002-2003	0	8.29	27.59	8.95
10	Godavari Sugars Ltd.		2002-2003	0	17.47	96.09	49.39
11	Ryatsara Sahakari S.K.N		2001-2002	2.87	5.69	2.76	0.55
12	Devengare Sugar Co. Ltd.		2003-2004	0	0	1.67	105.12
13	Doodganga K SSk		2004-2005	0	0	0	27.12
14	SCM Sugars		2004-2005	0	0	0	99.8
15	Bannari Amman Sugars Ltd.-2		2004-2005	0	0	0	8.71
	Total			**317.38**	**330.32**	**383.36**	**515**
I.	**IPPs-Mini Hydel**						
1	ITPL		Before 1999	2.37	1.38	0.66	0.45
2	EDCL		Before 1999	24.48	22.87	20.76	23.12
3	Murudeshwar Power Corporation Ltd.		Before 1999	48.54	37.91	37.17	42.28
4	Bhoruka Power Corporation Ltd.		Before 1999	27	27.3	23.59	32.96
5	Bhoruka Power (Shahapur)		Before 1999	0	0	2.86	3.73
6	S.M.I.O.R.E		Before 1999	28.46	11.98	4.45	30.04
7	Thungabhadra Steel Products		Before 1999	0.39	0.37	0.31	1.62
8	Amogha Power Projects		2001-2002	1.96	2.8	1.81	3.55
9	Atria Power Corporation Ltd.		2001-2002	21.34	79.29	54.46	78.99
10	Vijaylakshmi Hydro Power Ltd.		2002-2003	23.3	1.33	1.83	3.25
11	Moodatyagil Power Pvt. Ltd.		2002-2003	0	0.32	0.52	0.86
12	Subhash Kabini power Corporation Ltd.		2003-2004	0	0	28.12	40.46
13	Maruthi Power (Kabini)		2003-2004	0	0	1.65	6.21
14	Maruthi Power (Hemabhathi)		2003-2004	0	0	0.5	4.63
15	Kalson Power Tech Ltd.		2003-2004	0	0	2.89	2.97
16	Graphite India Ltd.		2003-2004	0	0	1.31	2.82
17	Intrernational Power Corpn. Ltd.		2003-2004	0	0	3.32	32.55
18	SLS		2004-2005	0	0	0	1.57

19	NCL Energy Ltd.		2004-2005	0	0	0	1.75
20	Saispurthi Power Co.		2004-2005	0	0	0	1.61
21	Sahayadri Power Co		2004-2005	0	0	0	0.32
	Total			**177.84**	**185.55**	**158.09**	**315.74**
J.	**IPPs-Bio Mass**						
1	Mallavali Power Plant		2001-2002	13.11	21.78	26.47	18.91
2	South India Paper Mills		2001-2002	12.23	23.55	13.11	9.82
3	Bhagarampur Solvets		2003-2004	0	0	3.22	5.07
4	R.K.Powergen		2003-2004	0	0	9.75	102.37
5	Samson Distillisers		2003-2004	0	0	0.43	0.28
6	Sri Indra Power Co		2004-2005	0	0	0	12.99
7	Poweronics ltd		2004-2005	0	0	0	20.08
8	Venkateshwara poer project		2004-2005	0	0	0	1.85
9	Koppal Green Power		2004-2005	0	0	0	5.02
	Total			**25.34**	**45.33**	**52.98**	**176.39**
K.	**IPPs-Wind**						
1	Nuziveddu Wind Energy (1.9MW)		2003-2004			16.94	**5.8**
2	Nuziveddu Wind Energy (10.5MW)		2003-2004			26.34	**30.33**
3	Nuziveddu Wind Energy (6.75MW)		2001-2002	8.16	8.59	2.76	**20.37**
4	Cepco Wind Farm		2001-2002	7.35	20.27	23.57	22.28
5	Topaz Wind Farm		2001-2002	0.93	1.86	2	2.08
6	Enercon Wind Farm		2001-2002	2.92	23.21	26.95	26.14
7	Prabhat Agri biotech Ltd.		2002-2003	11.2	1.08	1.05	1.25
8	Panarna Business Centre		2003-2004	0	0	1.24	1.27
9	Panarna Credit & Capital		2003-2004	0		0.66	1.35
10	Texmo Precision and Castings		2003-2004	0	0	2.87	2.84
11	Siddaganga Oil Extractions		2003-2004	0	0	2.86	2.83
12	Fiza Developers and Inner Trade		2002-2003	0	0.01	2.83	2.87
13	Suttatti Enterprise		2003-2004	0	0	2.48	2.53
14	Raja Magnetics Ltd.		2003-2004	0	0	1.11	1.09
15	VXL Systems-II		2003-2004	0	0	0.77	0.74
16	VXL Systems-I		2003-2004	0	0	0.77	0.72
17	Kamal Trading Company		2003-2004	0	0	0.72	0.73
18	Jindal Alluminium-1.9MW		2003-2004	0	0	3.23	4.2
19	Mayura Steels		2003-2004	0	0	0.75	0.74
20	Shilpa Medicare		2003-2004	0	0	0.64	1.36
21	Patel Shanti Steels		2003-2004	0	0	0.71	0.72

22	Balasaheb IJ Limited		2003-2004	0	0	0.69	1.47
23	Friends Associate Power Projects		2003-2004	0	0	0.74	0.74
24	Sharp Pumps (P) Ltd.		2003-2004	0	0	0.73	0.72
25	Rajnikanth Foundation		2003-2004	0	0	0.71	0.71
26	RSM Autokast Ltd.		2003-2004	0	0	1.49	1.5
27	Indan Energy Ltd.		2003-2004	0	0	1.48	1.91
28	MSPL Ltd. Phase-1		2003-2004	0	0	1.99	2.17
29	Savitha Chemicals		2003-2004	0	0	4.82	7.91
30	Elveety Industries		2003-2004	0	0	0.57	0.69
31	Jindal Alluminium-6.6MW		2002-2003	0	2.57	14.59	14.16
32	Ghodawat Pan Masala (Enercon)		2003-2004	0	0	11.83	11.91
33	Ghodawat Pan Masala-NH		2003-2004	0	0	9.46	9.5
34	Sanjay D. Ghodawat		2003-2004	0	0	1.55	1.57
35	Shriram Transport Finance		2003-2004	0	0	8.73	8.49
36	Shriram City Union Finance		2003-2004	0	0	3.89	3.87
37	Shriram Investments		2003-2004	0	0	8.03	7.83
38	Texmo Industries EP2		2003-2004	0	0	4.51	4.4
39	Enercon-Karnataka		2003-2004	0	0	46.08	58.38
40	Lovely Fragrances		2003-2004	0	0	1.83	1.87
41	J.N.Investments		2003-2004	0	0	0.81	1.56
42	Reliance Energy Ltd.		2001-2002	0.89	19.08	20.08	19.73
43	Topaz Investments-1.2MW		2003-2004	0	0	2.14	1.92
44	Cepco Industries-0.6MW		2003-2004	0	0	1.2	1.24
45	Shilpa Medicare-0.46MW		2003-2004	0	0	1.5	1.32
46	Mohite & Mohita		2003-2004	0	0	4.06	4.07
47	NEG Mican		2003-2004	0	0	6.99	7.76
48	Pallavi Green Power		2003-2004	0	0	0.56	1.79
49	Supreme Power Company		2003-2004	0	0	1.46	1.45
50	Dee Dee Enterprises		2003-2004	0	0	1.4	1.93
51	Royal Energy Company		2003-2004	0	0	1.08	1.04
52	Rangad minerals and Mining Ltd.		2003-2004	0	0	1.15	3.81
53	MSPL Ltd. Phase-II		2003-2004	0	0	3.61	12.13
54	Mansukmal Investments		2003-2004	0	0	0.29	2
55	Reliance-BSES		2003-2004	0	0	3.06	4.35
56	Encon Services Ltd.		2003-2004	0	0	4.34	5.53
57	Mahe Ltd.		2003-2004	0	0	12.17	7.44
58	Prime Lables Ltd.		2003-2004	0	0	0.36	0.55

59	Savita Chemicals (Encon Group)		2003-2004	0	0	2.37	1.45
60	Sanjay D. Ghodawat (I & II)		2003-2004	0	0	0.01	2.75
61	BS Charnabasappa & Sons		2003-2004	0	0	0.01	1.74
62	Associated Autotex Ancilliaries Ltd.		2003-2004	0	0	0	2.41
63	Good Luck Syndicate		2003-2004	0	0	0.01	1.46
64	Ghodawat Pan Masala (VVS)		2003-2004	0	0	0.02	9.88
65	Star Flexi Pack Industries		2003-2004	0	0	0.01	1.33
66	Shreya Laxmi Properties		2003-2004	0	0	0	1.24
67	Shraddha Constructions		2003-2004	0	0	0	13.09
68	VXL Systems 0.6MW (VVS)		2003-2004	0	0	0	1.35
69	Cepco Industries-1.2MW(VVS)		2003-2004	0	0	0	2.71
70	Dee Dee Enterprises (Enercon)		2003-2004	0	0	2.01	0
71	Miscellaneous IPPs		2004-2005	0	26.66	0	0
72	Nuziveedu		2004-2005	0	0	0	13.69
73	Enercon Karnataka		2004-2005	0	0	0	0.72
74	Dee Dee Enterprises (nh)		2004-2005	0	0	0	1.42
75	MSPL 4		2004-2005	0	0	0	5.06
76	MSPL 5		2004-2005	0	0	0	6.52
77	MSPL 6		2004-2005	0	0	0	5.43
78	MSPL 7		2004-2005	0	0	0	4.19
79	MSPL 8		2004-2005	0	0	0	3.31
80	Rangad minerals and Mining Ltd.-2		2004-2005	0	0	0	1.59
81	Ishwari Garments		2004-2005	0	0	0	3.02
82	Ishwari Knitting works		2004-2005	0	0	0	5.79
83	Iswari Textiles		2004-2005	0	0	0	5.26
84	Victes Associates		2004-2005	0	0	0	3.11
85	Suresh Productions		2004-2005	0	0	0	1.36
86	Sangvi Movers Ltd.		2004-2005	0	0	0	1.03
87	Karinagar Iron Steel Pvt. Ltd.		2004-2005	0	0	0	1.43
88	Prime Lables Ltd.-2		2004-2005	0	0	0	1.34
89	BSC Textiles		2004-2005	0	0	0	1.27
90	Other IPPs		2004-2005	0	0	0	32.92
	Total			**23.29**	**94.74**	**269.63**	**489.53**
	Total Power Generation			**28098.44**	**28754.94**	**30722.4**	**32613.83**
	20% of Total Power Generation			**5619.688**	**5750.988**	**6144.48**	**6522.766**

Source: Karnataka Power Corporation Limited

Calculation of Built Margin				
Sr.No.	Power plant name / location	Year	Fuel Type	Generation of the Unit in 2004-2005 (MU)
1	Alamati DPH	2004-2005	Hydro	136.24
2	NTPC SR-VII	2004-2005	Coal	95.77
3	IPP-Wind	2004-2005	Wind	98.46
4	IPP-Co-generation	2004-2005	Co-generation	135.63
5	IPP-Biomass	2004-2005	Biomass	39.94
6	IPP-Mini Hydel	2004-2005	Hydro	5.25
7	RTPS-VII	2003-004	Coal	1365.99
8	NTPC-NVVN	2003-2004	National Generation Mix	5.64
9	IPP-Wind	2003-2004	Wind	265.79
10	IPP-Mini Hydel	2003-2004	Hydro	49.18
11	IPP-Co-generation	2003-2004	Cogeneration	105.12
12	IPP-Biomass	2003-2004	Biomass	107.72
13	NLC Expansion-I	2003-2004	Lignite	749.36
14	NTPC-Talcher 2&3	2003-2004	Coal	1972.91
15	PGCIL-SREB	2002-2003	National Generation Mix	2211.78
Total				**7344.78**
20% of Gross Generation				**6522.766**
			Coal(State)	1365.99
			Coal(Central)	2818.04
			Diesel	0
			Naptha	0
			Hydel(State)	136.24
			IPP-Mini-Hydel	54.43
			IPP-Wind	364.25
			IPP-Co-generation	240.75
			IPP Biomass	147.66
			Imports from National Generation Mix	2217.42