# BEFORE THE KERALA STATE ELECTRICITY REGULATORY COMMISSION

IN THE MATTER OF: Proposals to introduce Fuel Price Adjustment

Charges on all consumers including Bulk Consumers/ Other Licensees to recover the additional financial liability incurred over approved level on Generation and Power Purchase during the period from April-2010 to

September-2010

**PETITIONER:** Kerala State Electricity Board

Vydyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004

The petitioner named above respectfully submits as under:

1. Hon'ble Commission vide the order dated 17<sup>th</sup> May-2010 on petition No. TP 70 of 2010 in the matter of ARR&ERC of KSEB for the year 2010-11 has approved the Generation and Power Purchase for the year 2010-11 as Rs 3702.73 crore. However, there was substantial increase in the variable cost of generation and power purchase over the approved level on account of the increase in price of coal/ lignite and liquid fuels LSHS and Naphtha. A comparison of the variable cost approved and the actuals are given in the Table below.

Table-1. Comparison of variable cost approved and Actuls.

		-	Vai	riable Cos	t		
	Approved			Actuals (F	Rs/ kWh)		
Source	(Rs/kWh)	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10
NTPC-RSTPS	1.40	1.50	1.37	1.56	1.57	1.93	1.68
Talcher Stage-II	1.08	1.48	1.52	1.90	1.81	1.76	1.68
NLC-Stage-1	1.21	1.21	1.21	1.21	1.21	1.21	1.21
NLC-Stage-II	1.21	1.21	1.21	1.21	1.21	1.21	1.21
NLC Expansion	1.14	1.66	1.60	1.62	1.72	1.70	1.70
KYCCP	7.34	7.41	7.51	7.02	6.89	6.87	6.92
BSES	7.16	7.81	8.04	8.04	8.04	8.04	8.04
KPCL	7.26	7.80	7.98	7.63	7.57	7.64	7.61
BDPP	7.10	7.19	7.40	7.26	7.56	7.99	7.70
KDPP	7.07	7.09	7.29	6.92	7.47	7.11	7.22

The increase in variable cost has resulted into additional financial liability of Rs 123.84 crore for generation and power purchase from the approved sources during the period from Apri-2010 to September-2010.

- 2. Hon'ble Commission vide the notification No. KSERC/2009/XVII dated 8<sup>th</sup> January 2010 had notified the KSERC (Fuel surcharge formula) Regulations, 2009. As per the regulation, KSEB is eligible to recover the additional liability on account of the fuel cost variation over the approved level through fuel surcharge as approved by the Hon'ble Commission from consumers during the year 2010-11 itself. This petition is being prepared based on the provisions in the said regulations. However, there was some delay in filing the petition from the part of KSEB, but this was not due to any deliberate action or negligence from the part of the Board. The reasons for the delay are submitted herewith for kind consideration and to condone of the delay.
- 3. In the order on ARR&ERC for the year 2010-11, Hon'ble Commission has approved the annual generation and power purchase from different sources, but not approved the month wise targets from each source, which was essential for filing the petition on Fuel Price Adjustment as per the regulation dated 8<sup>th</sup> Janualry-2010. However, in the order dated 17-05-2010, Hon'ble Commission had directed KSEB to submit the month wise generation and power purchase plan based on the approved figures within one month from the date of the order. But the actual power procurement for the year 2010-11 necessitated substantial revision due to delay in commissioning of NLC-II- Expansion-stage-2, Kudamkulam Nuclear power plant and NTPC's Simhadri plant. This matter was brought to the attention of the Hon'ble Commission vide the letter dated 19-06-2010. KSEB had submitted the revised generation and power Further, procurement plan for the year 2010-11 before the Hon'ble Commission vide the letter dated 13-08-2010. Also, in the order on ARR&ERC for the year 2010-11, Hon'ble Commission had not stated any methodology for apportioning the approved generation and power purchase on monthly basis. So, KSEB was uncertain on how to apportion the approved figures into monthly basis. Moreover, about two month was already over while receiving the order dated 17-05-2010 on ARR&ERC by KSEB. However, vide the order dated 7<sup>th</sup> October-2010, Hon'ble Commission has stated the methodology on apportioning the same into monthly basis. Accordingly, KSEB vide the letter dated 06-11-2010 had submitted the month wise generation and power purchase plan based on the approved figures for the year 2010-11, in accordance with the KSERC (Fuel Surcharge Formula) Regulations, 2009. This petition is prepared based on the month wise generation and power purchase plan as per the letter dated 06-11-2010. Considering the reasons as detailed above, Hon'ble Commission may kindly condone the delay in filing the petition.
- 4. As detailed under para-1 above, the variable cost of energy from NTPC's Talcher-II and Ramgundam plants had considerable increase over the approved level during the current financial year. Further, Hon'ble CERC

vide the order dated 31-08-2010 on petition No. 230/2009 has approved the fixed cost and variable cost of NLC-TPS-I Expansion for the period from April-2009. Based on the order of Hon'ble CERC, M/s NLC had raised the revised invoices for fixed charge and energy charges from April-2009 onwards. KSEB vide the letter dated 29-10-2010 had brought this matter before the Hon'ble Commission. Further, there was substantial increase on the variable cost of generation of the various liquid fuel stations. The additional liability incurred for procuring energy from the approved sources as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 is detailed below.

#### (a) NTPC- Talcher-II STPS

5. The variable cost of Talcher-II STPS has increased up to Rs 1.90 per unit against the approved rate of Rs 1.08 per unit. The additional liability incurred for procuring power from Talcher-II STPS is detailed below.

Table-2. Details of additional liability from Talcher-II STPS

	Power Pure	chase (at	Generator end)	Ra	ate	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	246.33	282.34	246.33	1.08	1.48	11.33	9.88
May-10	254.54	274.90	254.54	1.08	1.52	12.19	11.29
Jun-10	246.33	235.43	235.43	1.08	1.90	19.40	19.40
Jul-10	254.54	217.89	217.89	1.08	1.81	15.97	15.97
Aug-10	254.54	208.54	208.54	1.08	1.76	14.12	14.12
Sep-10	246.33	270.17	246.33	1.08	1.68	16.28	14.85
Total	1502.59	1489.27	1409.05			89.29	85.51

#### (i) NTPC- Ramagundam-STPS

6. KSEB had incurred an additional liability Rs 21.90 crore for procuring power from Ramagundam- STPS during the period from April-10 to September-2010. The details are given below.

Table-3. Details of additional liability from Ramagundam- STPS

	Po	wer Purc	chase	Ra	ate	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	182.20	208.93	182.20	1.40	1.50	2.07	1.80
May-10	188.28	213.58	188.28	1.40	1.37	-0.55	-0.48
Jun-10	182.20	194.34	182.20	1.40	1.56	3.07	2.88
Jul-10	188.28	203.23	188.28	1.40	1.57	3.52	3.26
Aug-10	188.28	175.49	175.49	1.40	1.93	9.33	9.33
Sep-10	182.20	197.52	182.20	1.40	1.68	5.54	5.11
Total	1111.43	1193.10	1098.65			22.98	21.90

#### (ii) NLC-TPS-1 Expansion

7. As discussed under para-4 above, KSEB vide the letter dated 29-10-2010 had submitted the additional liability for procuring power from NLC-TPS-1 Expansion as per the Hon'ble CERC order dated 31-08-2010. The additional liability admissible for the period from April-2010 to September-2010 as per the KSERC (Fuel Surcharge Formula) regulations, 2009 is detailed below.

Table-4. Details of additional liability admissible from NLC-TPS-1 Expansion

	Pov	ver Purc	hase	Ra	ite	Addl L	iability
Month	Approved	Actuals	Admissible for FPA	Approved Actuals		Actual	Admissible
	(MU)		(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	30.65	18.45	18.45	1.14	1.66	0.95	0.95
May-10	31.67	33.89	31.67	1.14	1.60	1.55	1.45
Jun-10	30.65	36.19	30.65	1.14	1.62	1.72	1.46
Jul-10	31.67	32.57	31.67	1.14	1.72	1.87	1.82
Aug-10	31.67	29.68	29.68	1.14	1.70	1.67	1.67
Sep-10	30.65	37.16	30.65	1.14	1.70	2.08	1.72
Total	186.97	187.94	172.78			9.85	9.07

## (iii) NTPC- RGCCPP- Kayamkulam

8. While approving the ARR, Hon'ble Commission had approved the variable cost of RGCCPP- Kayamkulam as Rs 7.34 per unit considering the trend of variable cost for the year 2009-10. However, the actual variable cost of marginally less than the approval. Further, KSEB has made all efforts to reduce the schedule from the high cost RGCCPP plant. Accordingly, there was a net savings of Rs 5.49 crore as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 for the period from April to September-2010. The details are given below.

Table-5. Details of additional liability from RGCCPP- Kayamkulam plant

	Power Purc	hase		Rate		Addl Liabil	ity
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)		(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	99.34	101.46	99.34	7.34	7.41	0.67	0.66
May-10	99.68	103.61	99.68	7.34	7.51	1.73	1.67
Jun-10	90.00	95.54	90.00	7.34	7.02	-3.01	-2.84
Jul-10	0.00	56.76	0.00	7.34	6.89	-2.57	0.00
Aug-10	93.00	56.89	56.89	7.34	6.87	-2.70	-2.70
Sep-10	84.77	54.00	54.00	7.34	6.92	-2.28	-2.28
Total	466.79	468.27	399.91			-8.16	-5.49

#### (iv) BSES-Kochi

9. As directed by the Hon'ble Commission and also considering the exorbitant variable cost, KSEB had not scheduled energy from BSES since 20<sup>th</sup> May-2010. However, due to the excessive demand KSEB was constrained to schedule energy from BSES plant during April-2010 and May-2010 (up to 19<sup>th</sup> May-2010). The additional liability incurred for scheduling energy from BSES is detailed below.

Table-6. Details of additional liability from BSES plant

	Po	ower Pu	rchase	Ra	ite	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh) (Rs/kWh) (Rs.		(Rs. Cr)	(Rs. Cr)
Apr-10	76.73	76.73	76.73	7.16	7.81	4.96	4.96
May-10	44.28	44.28	44.28	7.16	8.04	3.90	3.90
Jun-10	0.00	0.00	0.00	7.16		0.00	0.00
Jul-10	0.00	0.00	0.00	7.16		0.00	0.00
Aug-10	0.00	0.00	0.00	7.16		0.00	0.00
Sep-10	0.00	0.00	0.00	7.16		0.00	0.00
Total	121.01	121.01	121.01			8.85	8.85

## (v) KPCL plant and Ksargod

10. The additional liability incurred for procuring power from KPCL plant during the period from April to September-2010 is detailed below.

Table-7. Details of additional liability from KPCL plant

	Power Purcha	se		Rate		Addl Liabil	ity
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	J) (MU) (Rs/kWh) (Rs/kWh) (		(Rs. Cr)	(Rs. Cr)	
Apr-10	5.33	5.33	5.33	7.26	7.80	0.29	0.29
May-10	6.46	6.46	6.46	7.26	7.98	0.46	0.46
Jun-10	2.95	2.95	2.95	7.26	7.63	0.11	0.11
Jul-10	1.08	1.08	1.08	7.26	7.57	0.03	0.03
Aug-10	0.88	0.88	0.88	7.26	7.64	0.03	0.03
Sep-10	1.43	1.43	1.43	7.26	7.61	0.05	0.05
Total	18.12	18.12	18.12			0.98	0.98

#### (vi) BDDP plant at Brahmapuram.

11. Due to the high variable cost, since June-2010 KSEB has been scheduling power from BDPP for peak load assistance only. The additional liability incurred for scheduling energy from BDPP is detailed below.

Table-8. Details of additional liability from BDPP

	Generation			Rate		Addl Liabil	ity
Month	Approved	Actuals for FPA		Approved	Actuals	Actual	Admissible
			(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	22.71	22.71	22.71	7.10	7.19	0.21	0.21
May-10	19.05	19.05	19.05	7.10	7.40	0.56	0.56
Jun-10	7.20	7.20	7.20	7.10	7.26	0.12	0.12
Jul-10	3.78	3.78	3.78	7.10	7.56	0.17	0.17
Aug-10	4.21	4.21	4.21	7.10	7.99	0.37	0.37
Sep-10	3.99	3.99	3.99	7.10	7.70	0.24	0.24
Total	60.93	60.93	60.93			1.68	1.68

#### (vii) KDPP Plant at Kozhikode

12. Considering the energy demand in the Northern part of the State, KSEB is constrained to schedule power from KDPP plant situated at Kozhikode. The additional liability incurred for scheduling power from KDPP plant is detailed below.

Table-9. Details of additional liability from KDPP

	(	Generati	on	Ra	te	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Approved Actuals		Admissible
	(MU)	(MU)	(MU)	(MU) (Rs/kWh) (Rs/kWh)		(Rs. Cr)	(Rs. Cr)
Apr-10	27.37	37.37	27.37	7.07	7.09	0.09	0.07
May-10	38.63	38.63	38.63	7.07	7.29	0.85	0.85
Jun-10	11.73	15.32	11.73	7.07	6.92	-0.22	-0.17
Jul-10	9.87	9.87	9.87	7.07	7.47	0.39	0.39
Aug-10	11.12	11.12	11.12	7.07	7.11	0.04	0.04
Sep-10	10.39	10.39	10.39	7.07	7.22	0.16	0.16
Total	109.10	122.69	109.10			1.31	1.34

# (viii) Energy procurement from short term markets (UI, Energy Exchange and through traders).

13. The Kudamkulam Nuclear Power Plant, NLC- Exp- Stage-II and NTPC's Simhadri STPS were expected to start commercial operation during the year 2010-11. Accordingly, Hon'ble Commission had approved 262.86MU @ Rs 3.10 per unit from Kudamkulam plant and 221.36MU @ Rs 2.15 per unit from NLC-Exp-Statge-II during the period from April-2010 to September-2010. But these plants are yet to be commissioned and are likely to be further delayed. KSEB vide the letter dated 21-06-2010 had taken up this matter before the Hon'ble Commission. The month wise details of energy approved from Kudamkulam and NLC plant for the period from April to September-2010 is detailed below.

Table-10. Month wise details of energy approved from Kudamkulam and NLC plant

	1				• • • • • • • • • • • • • • • • • • • •				
	Kuda	amkulam P	lant	N	LC-II-Exp-	II		Total	
Month	Quantity	Rate	Amount	Quantity	Rate	Amount	Quantity	Amount	Rate
	(MU)	(Rs/kWh)	(Rs.Cr)	(MU)	(Rs/kWh)	(Rs.Cr)	(MU)	(Rs.Cr)	(Rs/kWh)
Apr-10	0.00			36.29	2.15	7.82	36.29	7.82	2.15
May-10	0.00			37.50	2.15	8.08	37.50	8.08	2.15
Jun-10	64.64	3.10	20.02	36.29	2.15	7.82	100.93	27.84	2.76
Jul-10	66.79	3.10	20.69	37.50	2.15	8.08	104.29	28.77	2.76
Aug-10	66.79	3.10	20.69	37.50	2.15	8.08	104.29	28.77	2.76
Sep-10	64.64	3.10	20.02	36.29	2.15	7.82	100.93	27.84	2.76
	262.86		81.42	221.36		47.70	484.22	129.12	2.67

- 14. The total quantum of energy approved from Kudamkulam and NLC-Exp-Stage-II was 484.22MU at an average rate of Rs 2.67 per unit. KSEB has met the shorfall by procuring energy through UI, energy exchange and traders. But the average rate of power procurement was Rs 3.29 per unit instead of Rs 2.67 per unit allowed from Kudamkulam and NLC-Exp- put together. Further, as directed by the Hon'ble Commission, KSEB has Rs 3.29 per unit against the weighted average rate Rs 2.67 per unit for Kudamkulam and NLC plant. Further as directed by the Hon'ble Commission, KSEB has been procuring energy through short-term market for optimizing the cost of generation and power purchase for the year 2010-11 as follows.
  - (i) By reducing the cost of power purchase by limiting the energy procurement from liquid fuel stations and other costlier sources.
  - (ii) To conserve more water in the KSEB reservoirs for the use of summer months , thus can reduce the cost of power procurement during summer months to a greater extent.

The month wise details of energy procurement through short-term market including the marginal surplus sale during the period from April-2010 to September-2010 is detailed below.

Table-11. Month wise details of energy procurement through short-term market

	L	II		IE	X		<u> </u>		ΚIL		Tra	ders		Total	
		, i	Purc	hase	Sa	ale	Purc	hase	Sa	ale	IIdi	ueis		Total	
Month	Quantity	Amount	Avg. rate												
	(MU)	(Rs.Cr)	(Rs / kWh)												
Apr	-1.83	-4.07	5.08	2.86	14.93	15.38	6.66	4.36	4.26	3.87	59.41	44.38	50.13	28.28	5.64
Мау	76.45	7.33	7.24	3.40	0.69	0.69	5.92	2.82			67.88	50.70	156.80	63.56	4.05
Jun	70.49	12.84	15.88	6.82	0.50	0.18	14.42	5.93					100.29	25.41	2.53
Jul	86.80	13.83	21.15	9.64			18.04	7.67			2.70	1.20	128.69	32.34	2.51
Aug	55.04	9.91	50.51	22.51			40.33	17.38			50.75	23.51	196.63	73.31	3.73
Sep	106.09	18.68	41.06	14.36			42.43	14.83					189.58	47.87	2.53
Total	393.04	58.52	140.92	59.59			127.80	52.99			180.74	119.79	822.12	270.77	3.29

15. However, the KSERC (Fuel Surcharge Formula) Regulations, 2009 does not permit to claim the additional liability incurred for procuring energy through short term markets as above.

Summary of the Additional financial liability incurred during the period from April-2010 to September-2010.

16. The summary of the additional financial liability incurred for procuring energy from different sources for the period from April-2010 to September-2010 is given below.

	Ener	gy procur	ement	Per ur	nit cost	Ado	l liability
Source	Approved quantity Actua		Admissible as per regulation	Approved	Actual	Actual	Admissible as per regulation
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Talcher-II	1502.59	1489.27	1409.05	1.08	1.68	89.29	85.51
Ramagundam- II&III	1111.43	1193.10	1098.65	1.40	1.59	22.98	21.90
NLC-II-Exp	186.97	187.94	172.78	1.14	1.66	9.85	9.07
RGCCPP- Kayamkulam	466.79	468.27	399.91	7.34	7.17	-8.16	-5.49
BSES	121.01	121.01	121.01	7.16	7.89	8.85	8.85
KPCL	18.12	18.12	18.12	7.26	7.80	0.98	0.98
BDPP	60.93	60.93	60.93	7.10	7.38	1.68	1.68
KDPP	109.10	122.69	109.10	7.07	7.18	1.31	1.34
Total	3576.95	3661.33	3389.55			126.79	123.84

17. KSEB may kindly request before the Hon'ble Commission to kindly approve the additional liability admissible as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 during the period from April-2010 to September-2010 as detailed above and allowed to recover the same from all consumers including bulk consumers.

#### Prayer

KSEB humbly prayed before the Hon'ble Commission that,

- (a) The fuel surcharge for the period from April-2010 to September-2010 for procuring/ generating energy from various thermal sources as detailed in the petition may kindly be approved.
- (b) The fuel surcharge approved may be allowed to recover from consumers including bulk consumers as per the KSERC(Fuel Surcharge Formula) Regulations, 2009 with immediate effect.

Chief Engineer (Commercial & Tariff)

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The increase in variable cost has resulted into additional financial liability of Rs 123.84 crore for generation and power purchase from the approved sources during the period from Apri-2010 to September-2010.

- 2. Hon'ble Commission vide the notification No. KSERC/2009/XVII dated 8<sup>th</sup> January 2010 had notified the KSERC (Fuel surcharge formula) Regulations, 2009. As per the regulation, KSEB is eligible to recover the additional liability on account of the fuel cost variation over the approved level through fuel surcharge as approved by the Hon'ble Commission from consumers during the year 2010-11 itself. This petition is being prepared based on the provisions in the said regulations. However, there was some delay in filing the petition from the part of KSEB, but this was not due to any deliberate action or negligence from the part of the Board. The reasons for the delay are submitted herewith for kind consideration and to condone of the delay.
- 3. In the order on ARR&ERC for the year 2010-11, Hon'ble Commission has approved the annual generation and power purchase from different sources, but not approved the month wise targets from each source, which was essential for filing the petition on Fuel Price Adjustment as per the regulation dated 8<sup>th</sup> Janualry-2010. However, in the order dated 17-05-2010, Hon'ble Commission had directed KSEB to submit the month wise generation and power purchase plan based on the approved figures within one month from the date of the order. But the actual power procurement for the year 2010-11 necessitated substantial revision due to delay in commissioning of NLC-II- Expansion-stage-2, Kudamkulam Nuclear power plant and NTPC's Simhadri plant. This matter was brought to the attention of the Hon'ble Commission vide the letter dated 19-06-2010. KSEB had submitted the revised generation and power Further, procurement plan for the year 2010-11 before the Hon'ble Commission vide the letter dated 13-08-2010. Also, in the order on ARR&ERC for the year 2010-11, Hon'ble Commission had not stated any methodology for apportioning the approved generation and power purchase on monthly basis. So, KSEB was uncertain on how to apportion the approved figures into monthly basis. Moreover, about two month was already over while receiving the order dated 17-05-2010 on ARR&ERC by KSEB. However, vide the order dated 7<sup>th</sup> October-2010, Hon'ble Commission has stated the methodology on apportioning the same into monthly basis. Accordingly, KSEB vide the letter dated 06-11-2010 had submitted the month wise generation and power purchase plan based on the approved figures for the year 2010-11, in accordance with the KSERC (Fuel Surcharge Formula) Regulations, 2009. This petition is prepared based on the month wise generation and power purchase plan as per the letter dated 06-11-2010. Considering the reasons as detailed above, Hon'ble Commission may kindly condone the delay in filing the petition.
- 4. As detailed under para-1 above, the variable cost of energy from NTPC's Talcher-II and Ramgundam plants had considerable increase over the approved level during the current financial year. Further, Hon'ble CERC

vide the order dated 31-08-2010 on petition No. 230/2009 has approved the fixed cost and variable cost of NLC-TPS-I Expansion for the period from April-2009. Based on the order of Hon'ble CERC, M/s NLC had raised the revised invoices for fixed charge and energy charges from April-2009 onwards. KSEB vide the letter dated 29-10-2010 had brought this matter before the Hon'ble Commission. Further, there was substantial increase on the variable cost of generation of the various liquid fuel stations. The additional liability incurred for procuring energy from the approved sources as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 is detailed below.

#### (a) NTPC- Talcher-II STPS

5. The variable cost of Talcher-II STPS has increased up to Rs 1.90 per unit against the approved rate of Rs 1.08 per unit. The additional liability incurred for procuring power from Talcher-II STPS is detailed below.

Table-2. Details of additional liability from Talcher-II STPS

	Power Pure	chase (at	Generator end)	Ra	ate	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	246.33	282.34	246.33	1.08	1.48	11.33	9.88
May-10	254.54	274.90	254.54	1.08	1.52	12.19	11.29
Jun-10	246.33	235.43	235.43	1.08	1.90	19.40	19.40
Jul-10	254.54	217.89	217.89	1.08	1.81	15.97	15.97
Aug-10	254.54	208.54	208.54	1.08	1.76	14.12	14.12
Sep-10	246.33	270.17	246.33	1.08	1.68	16.28	14.85
Total	1502.59	1489.27	1409.05			89.29	85.51

#### (i) NTPC- Ramagundam-STPS

6. KSEB had incurred an additional liability Rs 21.90 crore for procuring power from Ramagundam- STPS during the period from April-10 to September-2010. The details are given below.

Table-3. Details of additional liability from Ramagundam- STPS

	Po	wer Purc	chase	Ra	ate	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	182.20	208.93	182.20	1.40	1.50	2.07	1.80
May-10	188.28	213.58	188.28	1.40	1.37	-0.55	-0.48
Jun-10	182.20	194.34	182.20	1.40	1.56	3.07	2.88
Jul-10	188.28	203.23	188.28	1.40	1.57	3.52	3.26
Aug-10	188.28	175.49	175.49	1.40	1.93	9.33	9.33
Sep-10	182.20	197.52	182.20	1.40	1.68	5.54	5.11
Total	1111.43	1193.10	1098.65			22.98	21.90

#### (ii) NLC-TPS-1 Expansion

7. As discussed under para-4 above, KSEB vide the letter dated 29-10-2010 had submitted the additional liability for procuring power from NLC-TPS-1 Expansion as per the Hon'ble CERC order dated 31-08-2010. The additional liability admissible for the period from April-2010 to September-2010 as per the KSERC (Fuel Surcharge Formula) regulations, 2009 is detailed below.

Table-4. Details of additional liability admissible from NLC-TPS-1 Expansion

	Pov	ver Purc	hase	Ra	ite	Addl L	iability
Month	Approved	Actuals	Admissible for FPA	Approved Actuals		Actual	Admissible
	(MU)		(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	30.65	18.45	18.45	1.14	1.66	0.95	0.95
May-10	31.67	33.89	31.67	1.14	1.60	1.55	1.45
Jun-10	30.65	36.19	30.65	1.14	1.62	1.72	1.46
Jul-10	31.67	32.57	31.67	1.14	1.72	1.87	1.82
Aug-10	31.67	29.68	29.68	1.14	1.70	1.67	1.67
Sep-10	30.65	37.16	30.65	1.14	1.70	2.08	1.72
Total	186.97	187.94	172.78			9.85	9.07

## (iii) NTPC- RGCCPP- Kayamkulam

8. While approving the ARR, Hon'ble Commission had approved the variable cost of RGCCPP- Kayamkulam as Rs 7.34 per unit considering the trend of variable cost for the year 2009-10. However, the actual variable cost of marginally less than the approval. Further, KSEB has made all efforts to reduce the schedule from the high cost RGCCPP plant. Accordingly, there was a net savings of Rs 5.49 crore as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 for the period from April to September-2010. The details are given below.

Table-5. Details of additional liability from RGCCPP- Kayamkulam plant

	Power Purc	hase		Rate		Addl Liabil	ity
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)		(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	99.34	101.46	99.34	7.34	7.41	0.67	0.66
May-10	99.68	103.61	99.68	7.34	7.51	1.73	1.67
Jun-10	90.00	95.54	90.00	7.34	7.02	-3.01	-2.84
Jul-10	0.00	56.76	0.00	7.34	6.89	-2.57	0.00
Aug-10	93.00	56.89	56.89	7.34	6.87	-2.70	-2.70
Sep-10	84.77	54.00	54.00	7.34	6.92	-2.28	-2.28
Total	466.79	468.27	399.91			-8.16	-5.49

#### (iv) BSES-Kochi

9. As directed by the Hon'ble Commission and also considering the exorbitant variable cost, KSEB had not scheduled energy from BSES since 20<sup>th</sup> May-2010. However, due to the excessive demand KSEB was constrained to schedule energy from BSES plant during April-2010 and May-2010 (up to 19<sup>th</sup> May-2010). The additional liability incurred for scheduling energy from BSES is detailed below.

Table-6. Details of additional liability from BSES plant

	Po	ower Pu	rchase	Ra	ite	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	(MU)	(Rs/kWh) (Rs/kWh) (Rs.		(Rs. Cr)	(Rs. Cr)
Apr-10	76.73	76.73	76.73	7.16	7.81	4.96	4.96
May-10	44.28	44.28	44.28	7.16	8.04	3.90	3.90
Jun-10	0.00	0.00	0.00	7.16		0.00	0.00
Jul-10	0.00	0.00	0.00	7.16		0.00	0.00
Aug-10	0.00	0.00	0.00	7.16		0.00	0.00
Sep-10	0.00	0.00	0.00	7.16		0.00	0.00
Total	121.01	121.01	121.01			8.85	8.85

## (v) KPCL plant and Ksargod

10. The additional liability incurred for procuring power from KPCL plant during the period from April to September-2010 is detailed below.

Table-7. Details of additional liability from KPCL plant

	Power Purcha	se		Rate		Addl Liabil	ity
Month	Approved	Actuals	Admissible for FPA	Approved	Actuals	Actual	Admissible
	(MU)	(MU)	J) (MU) (Rs/kWh) (Rs/kWh) (		(Rs. Cr)	(Rs. Cr)	
Apr-10	5.33	5.33	5.33	7.26	7.80	0.29	0.29
May-10	6.46	6.46	6.46	7.26	7.98	0.46	0.46
Jun-10	2.95	2.95	2.95	7.26	7.63	0.11	0.11
Jul-10	1.08	1.08	1.08	7.26	7.57	0.03	0.03
Aug-10	0.88	0.88	0.88	7.26	7.64	0.03	0.03
Sep-10	1.43	1.43	1.43	7.26	7.61	0.05	0.05
Total	18.12	18.12	18.12			0.98	0.98

#### (vi) BDDP plant at Brahmapuram.

11. Due to the high variable cost, since June-2010 KSEB has been scheduling power from BDPP for peak load assistance only. The additional liability incurred for scheduling energy from BDPP is detailed below.

Table-8. Details of additional liability from BDPP

	Generation			Rate		Addl Liabil	ity
Month	Approved	Actuals for FPA		Approved	Actuals	Actual	Admissible
			(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Apr-10	22.71	22.71	22.71	7.10	7.19	0.21	0.21
May-10	19.05	19.05	19.05	7.10	7.40	0.56	0.56
Jun-10	7.20	7.20	7.20	7.10	7.26	0.12	0.12
Jul-10	3.78	3.78	3.78	7.10	7.56	0.17	0.17
Aug-10	4.21	4.21	4.21	7.10	7.99	0.37	0.37
Sep-10	3.99	3.99	3.99	7.10	7.70	0.24	0.24
Total	60.93	60.93	60.93			1.68	1.68

#### (vii) KDPP Plant at Kozhikode

12. Considering the energy demand in the Northern part of the State, KSEB is constrained to schedule power from KDPP plant situated at Kozhikode. The additional liability incurred for scheduling power from KDPP plant is detailed below.

Table-9. Details of additional liability from KDPP

	(	Generati	on	Ra	te	Addl	Liability
Month	Approved	Actuals	Admissible for FPA	Approved	Approved Actuals		Admissible
	(MU)	(MU)	(MU)	(MU) (Rs/kWh) (Rs/kWh)		(Rs. Cr)	(Rs. Cr)
Apr-10	27.37	37.37	27.37	7.07	7.09	0.09	0.07
May-10	38.63	38.63	38.63	7.07	7.29	0.85	0.85
Jun-10	11.73	15.32	11.73	7.07	6.92	-0.22	-0.17
Jul-10	9.87	9.87	9.87	7.07	7.47	0.39	0.39
Aug-10	11.12	11.12	11.12	7.07	7.11	0.04	0.04
Sep-10	10.39	10.39	10.39	7.07	7.22	0.16	0.16
Total	109.10	122.69	109.10			1.31	1.34

# (viii) Energy procurement from short term markets (UI, Energy Exchange and through traders).

13. The Kudamkulam Nuclear Power Plant, NLC- Exp- Stage-II and NTPC's Simhadri STPS were expected to start commercial operation during the year 2010-11. Accordingly, Hon'ble Commission had approved 262.86MU @ Rs 3.10 per unit from Kudamkulam plant and 221.36MU @ Rs 2.15 per unit from NLC-Exp-Statge-II during the period from April-2010 to September-2010. But these plants are yet to be commissioned and are likely to be further delayed. KSEB vide the letter dated 21-06-2010 had taken up this matter before the Hon'ble Commission. The month wise details of energy approved from Kudamkulam and NLC plant for the period from April to September-2010 is detailed below.

Table-10. Month wise details of energy approved from Kudamkulam and NLC plant

	1				• • • • • • • • • • • • • • • • • • • •				
	Kuda	amkulam P	lant	N	LC-II-Exp-	II		Total	
Month	Quantity	Rate	Amount	Quantity	Rate	Amount	Quantity	Amount	Rate
	(MU)	(Rs/kWh)	(Rs.Cr)	(MU)	(Rs/kWh)	(Rs.Cr)	(MU)	(Rs.Cr)	(Rs/kWh)
Apr-10	0.00			36.29	2.15	7.82	36.29	7.82	2.15
May-10	0.00			37.50	2.15	8.08	37.50	8.08	2.15
Jun-10	64.64	3.10	20.02	36.29	2.15	7.82	100.93	27.84	2.76
Jul-10	66.79	3.10	20.69	37.50	2.15	8.08	104.29	28.77	2.76
Aug-10	66.79	3.10	20.69	37.50	2.15	8.08	104.29	28.77	2.76
Sep-10	64.64	3.10	20.02	36.29	2.15	7.82	100.93	27.84	2.76
	262.86		81.42	221.36		47.70	484.22	129.12	2.67

- 14. The total quantum of energy approved from Kudamkulam and NLC-Exp-Stage-II was 484.22MU at an average rate of Rs 2.67 per unit. KSEB has met the shorfall by procuring energy through UI, energy exchange and traders. But the average rate of power procurement was Rs 3.29 per unit instead of Rs 2.67 per unit allowed from Kudamkulam and NLC-Exp- put together. Further, as directed by the Hon'ble Commission, KSEB has Rs 3.29 per unit against the weighted average rate Rs 2.67 per unit for Kudamkulam and NLC plant. Further as directed by the Hon'ble Commission, KSEB has been procuring energy through short-term market for optimizing the cost of generation and power purchase for the year 2010-11 as follows.
  - (i) By reducing the cost of power purchase by limiting the energy procurement from liquid fuel stations and other costlier sources.
  - (ii) To conserve more water in the KSEB reservoirs for the use of summer months , thus can reduce the cost of power procurement during summer months to a greater extent.

The month wise details of energy procurement through short-term market including the marginal surplus sale during the period from April-2010 to September-2010 is detailed below.

Table-11. Month wise details of energy procurement through short-term market

	L	II		IE	X		<u> </u>		ΚIL		Tra	ders		Total	
		, i	Purc	hase	Sa	ale	Purc	hase	Sa	ale	IIdi	ueis		Total	
Month	Quantity	Amount	Avg. rate												
	(MU)	(Rs.Cr)	(Rs / kWh)												
Apr	-1.83	-4.07	5.08	2.86	14.93	15.38	6.66	4.36	4.26	3.87	59.41	44.38	50.13	28.28	5.64
Мау	76.45	7.33	7.24	3.40	0.69	0.69	5.92	2.82			67.88	50.70	156.80	63.56	4.05
Jun	70.49	12.84	15.88	6.82	0.50	0.18	14.42	5.93					100.29	25.41	2.53
Jul	86.80	13.83	21.15	9.64			18.04	7.67			2.70	1.20	128.69	32.34	2.51
Aug	55.04	9.91	50.51	22.51			40.33	17.38			50.75	23.51	196.63	73.31	3.73
Sep	106.09	18.68	41.06	14.36			42.43	14.83					189.58	47.87	2.53
Total	393.04	58.52	140.92	59.59			127.80	52.99			180.74	119.79	822.12	270.77	3.29

15. However, the KSERC (Fuel Surcharge Formula) Regulations, 2009 does not permit to claim the additional liability incurred for procuring energy through short term markets as above.

Summary of the Additional financial liability incurred during the period from April-2010 to September-2010.

16. The summary of the additional financial liability incurred for procuring energy from different sources for the period from April-2010 to September-2010 is given below.

	Ener	gy procur	ement	Per ur	nit cost	Ado	l liability
Source	Approved quantity Actua		Admissible as per regulation	Approved	Actual	Actual	Admissible as per regulation
	(MU)	(MU)	(MU)	(Rs/kWh)	(Rs/kWh)	(Rs. Cr)	(Rs. Cr)
Talcher-II	1502.59	1489.27	1409.05	1.08	1.68	89.29	85.51
Ramagundam- II&III	1111.43	1193.10	1098.65	1.40	1.59	22.98	21.90
NLC-II-Exp	186.97	187.94	172.78	1.14	1.66	9.85	9.07
RGCCPP- Kayamkulam	466.79	468.27	399.91	7.34	7.17	-8.16	-5.49
BSES	121.01	121.01	121.01	7.16	7.89	8.85	8.85
KPCL	18.12	18.12	18.12	7.26	7.80	0.98	0.98
BDPP	60.93	60.93	60.93	7.10	7.38	1.68	1.68
KDPP	109.10	122.69	109.10	7.07	7.18	1.31	1.34
Total	3576.95	3661.33	3389.55			126.79	123.84

17. KSEB may kindly request before the Hon'ble Commission to kindly approve the additional liability admissible as per the KSERC (Fuel Surcharge Formula) Regulations, 2009 during the period from April-2010 to September-2010 as detailed above and allowed to recover the same from all consumers including bulk consumers.

#### Prayer

KSEB humbly prayed before the Hon'ble Commission that,

- (a) The fuel surcharge for the period from April-2010 to September-2010 for procuring/ generating energy from various thermal sources as detailed in the petition may kindly be approved.
- (b) The fuel surcharge approved may be allowed to recover from consumers including bulk consumers as per the KSERC(Fuel Surcharge Formula) Regulations, 2009 with immediate effect.

Chief Engineer (Commercial & Tariff)

Format-1

Details of Energy Billed for retail sale from April-2010 to September-2010 (Provisional)

1	Energy sales with in the State	Actuals
	Total energy sales to LT, HT and EHT consumers (excl.	
(a)	sales to bulk consumers/ other Licensees) (MU)	7030.59
(b)	Sale to bulk consumers/ other licensees (MU)	203.41
(c)	Total energy sales (MU)	7234.00
2	Energy Input (Excluding External losses) (MU)	8698
3	T & D Losses (Internal) (%)	16.83

Format- 2 (a)
Monthwise Details of Generation from BDPP & KDPP

Month	Energy Generation	Aux. Consumption	Net Generation	Station Heat Rate	Calorific value of	Quntity of fue	el used		Price of fuel			
	(MU)	(MU)	(MU)	LSHS	LSHS	Diesel (litre)	LSHS (MT)	Lube Oil	Diesel (Rs/Litre)	LSHS (Rs/MT)	Lube Oil	
Apr-10												
BDPP	22.71	0.86	21.85	2001.19	10025.00	219956.00	4369.74	26009.00	31.73	33732.41	108.52	
KDPP	37.37	0.89	36.48	2005.19	9710.57	3684.00	7715.70	20243.39	28.99	33282.78	93.12	
May-10												
BDPP	19.05	0.78	18.27	1977.33	10025.00	280045.00	3550.97	24428.00	31.73	34797.84	108.52	
KDPP	38.63	0.94	37.70	2008.15	9710.57	4087.00 7990.91 6274.00 32		32.01	34296.99	93.13		
Jun-10												
BDPP	7.20	0.32	6.88	2011.72	10025.00	164979.00	1320.23	11866.00	31.73	32908.17	110.42	
KDPP	15.32	0.50	14.82	2011.53	9729.00	00 17112.70 3167.92 9014.14		32.01	31947.01	94.89		
Jul-10												
BDPP	3.78	0.22	3.55	2040.29	10025.00	156665.00	655.54	3394.00	33.46	32376.97	110.42	
KDPP	9.87	0.41	9.47	2018.44	9729.00	00 12149.30 2048.32 23975.00		30.82	33218.11	94.93		
Aug-10												
BDPP	4.21	0.23	3.98	1963.60	10025.00	199990.00	731.19	4754.00	33.46	33620.97	110.42	
KDPP	11.23	0.43	10.80	1996.67	9729.00	19147.00	2305.34	9784.00	32.24	32640.30	94.74	
Sep-10												
BDPP	3.99	0.21	3.78	1959.19	10025.00	160812.00	674.04	14106.00	33.46	32853.14	110.42	
KDPP	10.39	0.38	10.01	2033.53	9729.00	14880.00	2171.69	4902.86	33.74	32869.26	94.97	

Format- 2(b)
Month wise details of Genertaion from Liquid Fuel Stations- IPPs

Month	Source	Net Energy Input	t (MU)	Variable cost (Rs/kWh)				
		Actual	Approved	Actual	Ápproved			
	RGCCPP- Kayamkulam	101.46	99.34	7.41	7.34			
April-2010	BSES- Kochi	76.43	76.43	7.81	7.16			
	KPCL- Kasargod	5.33	5.33	7.80	7.26			
	RGCCPP- Kayamkulam	103.61	99.68	7.51	7.34			
May-2010	BSES- Kochi	44.28	44.28	8.04	7.16			
	KPCL- Kasargod	6.46	6.46	7.98				
	RGCCPP- Kayamkulam	95.54	90.00	7.02	7.34			
June-2010	BSES- Kochi				7.16			
	KPCL- Kasargod	2.95	2.95	7.63	7.26			
	RGCCPP- Kayamkulam	56.76	0.00	6.89	7.34			
Jul-2010	BSES- Kochi				7.16			
	KPCL- Kasargod	1.08	1.08	7.57	7.26			
	RGCCPP- Kayamkulam	56.89	93.00	6.87	7.34			
August-2010	BSES- Kochi				7.16			
	KPCL- Kasargod	0.88	0.88	7.64	7.26			
	RGCCPP- Kayamkulam	54.00	84.77	6.92	7.34			
September-2010	BSES- Kochi				7.16			
	KPCL- Kasargod	1.43	1.43	7.61	7.26			

Format-3
Month Wise Details of Purchase of Energy

Month wise Details of Fulchase of Lifergy										
Energy Purcl	nase (MU)	Variable C (Rs/kWh)		Total variable cost (Rs.Cr)						
Actual	Approved	Actual	Approved	Actual	Approved					
282.34	246.33	1.48	1.08	41.79	26.60					
208.93	182.20	1.50	1.40	31.34	25.51					
18.45	30.65	1.66		3.06	0.00					
274.90	254.54	1.52	1.08	41.78	27.49					
213.58	188.28	1.37	1.40	29.26	26.36					
33.89	31.67	1.60		5.42	0.00					
235.43	246.33	1.90	1.08	44.73	26.60					
194.34	182.20	1.56	1.40	30.32	25.51					
36.19	30.65	1.62		5.86	0.00					
217.89	254.54	1.81	1.08	39.44						
203.23	188.28	1.57	1.40	31.91	26.36					
32.57	31.67	1.72		5.60	0.00					
208.54	254.54	1.76	1.08	36.70	27.49					
175.49	188.28	1.93	1.40	33.87	26.36					
29.68	31.67	1.70		5.05	0.00					
270.17	246.33	1.68	1.08	45.39	26.60					
197.52	182.20	1.68	1.40	33.18	25.51					
37.16	30.65	1.70		6.32	0.00					
	Energy Purch Actual  282.34 208.93 18.45  274.90 213.58 33.89  235.43 194.34 36.19  217.89 203.23 32.57  208.54 175.49 29.68  270.17 197.52	Energy Purchase (MU)  Actual Approved  282.34 246.33 208.93 182.20 18.45 30.65  274.90 254.54 213.58 188.28 33.89 31.67  235.43 246.33 194.34 182.20 36.19 30.65  217.89 254.54 203.23 188.28 32.57 31.67  208.54 254.54 175.49 188.28 29.68 31.67  270.17 246.33 197.52 182.20	Energy Purchase (MU)	Energy Purchase (MU) Variable Cost (Rs/kWh)  Actual Approved Actual Approved  282.34 246.33 1.48 1.08  208.93 182.20 1.50 1.40  18.45 30.65 1.66  274.90 254.54 1.52 1.08  213.58 188.28 1.37 1.40  33.89 31.67 1.60  235.43 246.33 1.90 1.08  194.34 182.20 1.56 1.40  36.19 30.65 1.62  217.89 254.54 1.81 1.08  203.23 188.28 1.57 1.40  32.57 31.67 1.72  208.54 254.54 1.76 1.08  175.49 188.28 1.93 1.40  29.68 31.67 1.70  270.17 246.33 1.68 1.08  197.52 182.20 1.68 1.40	Energy Purchase (MU)					

Format-4
Sourcewise Energy Input from April-10 to September-2010

		Apr-10		May-1	10	Jun-1	Jun-10		Jul-10		Aug-10		Sep-10	
			KSERC											
SI				Actual		Actual	order	Actual		Actual	order		order	
	Particulars	(MU)												
1	Hydro													
	(a) Gross Gen	574.85		571.08		557.00		594.37	570.48	600.61	587.45		612.54	
	(b) Less Aux consumption	2.87	3.56			2.79			2.85					
	(c) Net Hydro Gen	571.98	707.84	568.22	727.47	554.22	508.81	591.40	567.63	597.61	584.51	547.42	609.48	
2	KSEB thermal													
	(a) BDPP	22.71	22.71	19.05	19.05	7.20	7.20		3.78	4.21	4.21	3.99		
	(b) KDPP	37.37	27.37	38.63	38.63	15.32	11.73	9.87	9.87	11.12	11.12	10.39	10.39	
	(c) Subtotal	60.08	50.08	57.68	57.68	22.52	18.93			15.33				
	(d) Less Aux consumption	1.50	1.25	1.44	1.44	0.56	0.47	0.34	0.34	0.38	0.38	0.36	0.36	
	(e) Net BDPP+KDPP	58.58	48.83	56.24	56.24	21.96	18.46	13.31	13.31	14.95	14.95	14.02	14.02	
3	CGS (Import)	634.46	615.50	629.43	636.02	577.41	680.14	564.18	702.81	522.92	702.81	610.33	680.14	
4	UI	-1.83	0.00	76.45	0.00	70.49	0.00	86.80	0.00	55.04	0.00	106.09	0.00	
5	IPPs													
	(a) KYCCP	101.46	99.34	103.61	99.68	95.54	90.00	56.76	0.00	56.89	93.00	54.00	84.77	
	(b) BSES	76.73	76.73	44.28	44.28	0.00		0.00		0.00		0.00	0.00	
	(c) KPCL	5.33	5.33	6.46	6.46	2.95	2.95	1.08	1.08	0.88	0.88	1.43	1.43	
	(d) Wind	1.70	1.06	6.30	5.00	10.55	10.58	11.10	10.58	10.51	10.58	7.22	10.58	
	(e) Ullumkal	1.48	2.89	1.57	2.85	2.63	2.44	3.17	3.05	2.91	3.14	2.10	3.70	
	(f)MP Steel	2.70	3.40	3.66	3.40	2.69	3.40	3.11	3.40	2.99	3.40	3.26	3.40	
	(g) Subtotal	189.40	188.74	165.88	161.66	114.36	109.36	75.22	18.10	74.18	111.00	68.01	103.88	
	Purchase through traders/													
6 excahnge (net)		51.96		80.35		29.80		41.89		141.59		83.49		
7 Surplus			55.48		34.47		-88.27		-58.81		-52.53		-16.78	
7	Total	1504.55	1505.44	1576.57	1546.92	1368.23	1405.04	1372.79	1360.66	1406.28	1465.80	1429.36	1424.29	