

**Accompaniment to the letter Ref No. MERC/Case No. 18 of 2003/FAC/2005/0798
dated April 13, 2006**

**Re: Vetting of the Fuel Adjustment Cost (FAC) charges claimed by Reliance
Energy Ltd (REL) for October – December 2005**

REL, vide its submission dated 14th Feb' 2006, has worked out the FAC for the month of October-December 2005 as per the Tariff Order passed by the Commission on 1st July 2004 and detailed methodology and the rules made applicable by Hon'ble Commission while granting approval of FAC for the month of July 2004 vide its letter dated 19th January 2005.

1. Approved FAC Formula

The FAC formula approved by the Commission for levying FAC charges for any variation in fuel and variable cost of power purchase including FAC charged by TPC vis-à-vis the fuel and power purchase costs approved by the Commission in the Tariff Order for BSES – FY 2003-04 and FY 2004-05 (Case No. 18 of 2003) is as follows:

*FAC = C + I + B where,
FAC = Total Fuel Cost Adjustment
C = Change in cost of own generation and power purchase
due to variation in the fuel cost.
I = Interest on Working Capital
B = Adjustment Factor for over-recovery/under-recovery*

The calculation of FAC to be charged for the month 'j', will be

$$A_{j-2} = C_{j-2} + I_{j-2} + B_{j-2}$$

The subscript 'j-2' shows that the FAC would be applicable from the month after the month in which the additional costs are calculated. Thus, increase in costs in May (month j-2) would be calculated at the end of the month of June (month j-1) and would be included in the FAC applicable for the month of July (month j).

The Change in costs 'C' would include change in the following expenses heads:

*C = Avc,gen + Avc,pp, where
Avc,gen = Variation in fuel cost of own generation
Avc,pp = Variation in fuel cost of power purchase*

including FAC of TPC

The change in variable cost of own generation and variable cost of power purchase should be considered in FAC computations, subject to operational norms, i.e., Generation, Heat Rate and Auxiliary Consumption approved by the Commission for DTPS, and the generation and power purchase mix in line with the principles approved by the Commission in the Order.

'I' is the Working Capital Interest at actuals and will be allowed only if it is actually incurred and is within the limits specified by the Commission.

The Adjustment for over-recovery/under-recovery 'B', should be calculated as:

$$\begin{aligned} B_{j-2} &= [(A_{j-4} - R_{j-2})], \text{ where} \\ A_{j-4} &= \text{Incremental cost in month } j-4 \\ R_{j-2} &= \text{Incremental cost in month } j-4 \text{ actually recovered in} \\ &\text{Month } j-2. \end{aligned}$$

14.5 Calculation of FAC per unit

The total FAC recoverable, as per the formula discussed above should be recovered from the actual sales in that period in Rs/kWh terms. If the T & D loss of BSES (REL) is higher than the T & D loss level approved by the Commission, then the amount of FAC corresponding to the excess T & D loss in units will be deducted from the total FAC recoverable. The balance FAC amount will be recovered from the consumers in the following manner:

$$\text{FAC}_{\text{kWh}} = \frac{(\text{Total FAC in Rs. Crore}) * 10}{\text{Energy Sales} + \text{Excess T\&D loss}}$$

$$\text{FAC}_{\text{kWh}} = \text{FAC in Rs/kWh}$$

$$\text{Energy Sales} = \text{Actual energy sold in MU}$$

$$\text{Excess T \& D loss} = \text{Excess T \& D loss in MU}$$

$$= \text{Energy Input} - \text{Energy Sales} - (\text{T\&Dapp} * \text{Energy Input}), \text{ where}$$

$$\text{T\&Dapp} = \text{T \& D loss level approved by the Commission in the Tariff Order, in \%}$$

$$\text{Energy Input} = \text{Total energy input, i.e., the sum of total net energy generated and energy purchased}$$

Note: The factor of 10 appears in the formula, on account of the conversion of FAC in Rs.Crore to Rs. Million, to get FAC per unit (FAC_{kWh})

2. Background:

2.1 As per clause 14.4 of the Tariff Order passed on 1st July 2004, REL is required to obtain post facto approval of the Commission on a quarterly basis for the FAC Charged. Accordingly, REL has submitted details of FAC incurred and chargeable from all consumers for each month October 2005 to December 2005 covering third quarter of FY 05-06.

2.2 Comparison of generation and power purchase for the month of October 2005 to December 2005 with the Tariff Order approved by Hon'ble Commission is summarized at Annexure-I.

2.3 REL has submitted affidavit verifying the application.

2.4 REL has submitted independent certification agency's report in support of fuel calorific value as received basis of as fired coal at REL for the month of October 2005 to December 2005.

3. Change in Variable Cost of own generation and power purchase (C):

There is increase in weighted average variable cost of own generation and power purchase by 24.8Paise/kwh, 15.8Paise/kwh and 13.6Paise/kwh for Oct, Nov and Dec 2005 respectively. Normative actual variable cost of generation and power purchase is Rs.1.627/kwh, Rs. 1.537/kwh and Rs. 1.515/kwh for the month of Oct, Nov and Dec 2005 respectively as against Rs.1.379/kwh considered in the tariff order.

REL has considered the variable cost (fuel) for own generation and power purchase as Rs. 1.379/kwh for FY05-06 as against Rs. 1.385/kwh considered in the Tariff Order for FY 2004-05. REL has computed rate for FY05-06 based on the rates considered in the Tariff Order for FY 2004-05 for own generation and power purchase keeping the quantity of power purchase and own generation same. The detailed working is at Annexure-III. The Commission accepts the variable cost of fuel for own generation and power purchase as Rs. 1.379/kwh.

Net Change in variable cost of own generation and power purchase for the month of October 2005 works out to Rs.1869.49 lacs considering generation and power purchase of 754.746 MU. The same works to Rs. 1026.57 lacs considering 650.039 MU for November 2005 and Rs. 869.10 lacs considering 637.376 MU for December 2005. It is computed by multiplying quantum of gross generation and power purchase and change in weighted average variable cost of own generation and power purchase less disallowance of FAC corresponding to excess auxiliary consumption.

3.1 Change in variable Cost of own generation:

Variable cost of own generation is assessed taking into consideration change in fuel mix; actual fuel price and normative heat rate and are Rs.1.207/kwh, Rs. 1.157/kwh and Rs. 1.166/ kwh for Oct, Nov and Dec 2005 respectively as against Rs.1.006/kwh considered in the tariff order.

Thus, there is increase of 20.1 Paise/kwh, 15.1 Paise/kwh & 16.0 Paise/kwh for Oct, Nov & Dec 05 respectively.

The total variable cost of own generation is assessed at Rs.4582.18 lacs, Rs. 4342.97lacs and Rs.4512.55 lacs for Oct, Nov and Dec 2005 respectively.

3.1.1 Change in Fuel Mix:

REL has used blending ratio of raw coal: washed coal: imported coal as 0%: 76.81%: 23.19% during October 2005, 0% : 70.83% : 29.17% during November 2005 and 0% : 74.68% : 25.32% during December 2005 as against ratio of 0%:80%:20% for the FY 2004-05 considered in the Tariff order. The Commission has accepted the change in fuel mix effected by REL for Oct, Nov and Dec 2005.

3.1.2 Actual Fuel Price:

Fuel Price has been assessed at Rs. 520 / Mkcal, Rs. 498/Mkcal and Rs. 502/Mkcal in terms of heat content for Oct, Nov and Dec 2005 respectively as against Rs. 433/ Mkcal of the coal basket considered in the Tariff Order for FY 2004-05. The assessment of fuel price is based on the cost accountant certified statement of fuel cost and verification of the sample invoices and payment advice towards purchase of fuel. The Commission has considered the calorific value as per independent verification agency's certificate.

3.1.3 Coal related expenses:

REL has made payment of Rs. 58.61 lacs to railways for disputed debits, overloading penalty being one of the component in the month of Oct 2005. The total disputed debit is for Rs. 3.13 Crores. REL has submitted payment voucher copy for the month of Oct 2005 and copy of the minutes of the meeting with the Railways. The Commission accepts the coal related

expenses for the month of Oct 2005. However, REL has not submitted the payment voucher of Rs. 244.13 lacs debited in the month of Dec 2005. The expenses related to coal during Dec 2005 would be considered only after submission of necessary payment vouchers and related data. Though REL has submitted minutes with railways and Coal related overloading charges have been allowed to be pass through at this instance, such expenses in future shall be inadmissible atleast by half.

3.1.4 Heat Rate:

While calculating the FAC, normative heat rate (2319kcal/kwh) as approved vide tariff order for FY 2004-05 has been considered for computing variable cost of generation though the actual heat rate (2303kcal/kwh for October 2005, 2280kcal/kwh for November 2005 and 2276kcal/kwh for December 2005) is lower than the normative.

3.1.5 Transit Loss:

REL is considering provisional transit loss as 2.5% as per the agreement. However, the actual loss may be less and subsequent credit would be given after reconciliation of stock with the Washeries. Accordingly after reconciliation, REL has considered transit gain of 5206MT for Oct 2005, transit loss of 2848MT for Nov 2005 and transit gain of 2584MT for Dec 2005. The Commission has considered the REL submissions.

3.2 Disallowance of FAC corresponding to excess auxiliary consumption:

REL has computed disallowance of excess auxiliary consumption as Rs. 2.07 lacs for Oct 2005, Rs.0.43 lacs for Nov 2005 and Rs. 0.27 lacs for Dec 2005. However, Commission has worked out disallowance of FAC for October 2005 due to excess auxiliary consumption at Rs.2.157lacs. The same for Nov 2005 is Rs. 0.488 lacs and for Dec 2005 is Rs. 0.218 lacs. Excess auxiliary consumption is computed based on the norm approved in the tariff order. Fuel Adjustment Cost corresponding to excess auxiliary consumption has been disallowed and is computed by multiplying the excess auxiliary consumption with the increase in variable cost of generation.

3.3 Change in variable cost of power purchase:

Total variable cost of power purchase is Rs. 7697.42 lacs comprising of power purchase tariff of Rs. 6909.36 lacs and FAC of Rs. 788.06 lacs for October 2005. It is Rs. 5649.55 lacs comprising of power purchase tariff of Rs. 5072.54 lacs and FAC of Rs. 577.01 lacs for November 2005. For December 2005, it is Rs. 5146.19 lacs comprising of power purchase tariff of Rs. 4620.59 lacs and FAC of Rs. 525.60 lacs. TPC has charged FAC at 21 Paise /kwh in its invoice for October to December 2005. Invoice of TPC and corresponding payment advice in support of the same has been submitted.

4. Working Capital Interest (I):

REL has not claimed any working capital interest and accordingly the same has not been considered for determining the Fuel Adjustment Cost for October to December 2005.

5. **Adjustment for Over-Recovery/Under Recovery (B):**

REL has considered adjustment for Over Recovery/Under Recovery as Rs.1132.47 lacs, while computing FAC for Oct 2005. REL also vide its email dated 13th March 2006 restated the figure as Rs.1116.13 lacs as adjustment for Over Recovery / Under Recovery. The Commission notes the inconsistency in the data submitted at different times.

It is to be noted that FAC has been assessed only for the months of Oct to Dec 2005. However, cumulative adjustment would be possible only if vetting of FAC pertaining to months prior to October 2005 is also complete.

In view of the above, the Commission has carried out vetting for Oct 2005 & Nov 2005 without considering brought forward FAC from previous months. It has not considered incremental cost allowed to be recovered and actual recovered. The same would be accounted for after vetting the previous month's FAC.

However, for the purpose of vetting FAC for December 2005, the Commission has computed adjustment factor for over recovery / under recovery (B) as Rs. 178.26 lacs, considering vetted FAC allowed to be recovered in month (j-4) October 2005 as Rs. 1794.01 lacs and actually recovered by REL in month (j-2) December 2005 as Rs. 1615.75 lacs.

6. **FAC (Total Fuel Cost and Power Purchase Adjustment):**

The FAC component (C + I + B) works out to Rs.1869.49 lacs, Rs. 1027.49 lacs and Rs. 1047.36lacs for Oct, Nov and Dec 2005 respectively after accounting for disallowance due to excess auxiliary consumption.

7. **Sales for October to December 2005:**

REL has submitted audited figures of sale for the month of October 2005 at 600.005MU, for November 2005 at 562.326 MU, for December 2005 at 535.922MU.

8. **Excess T&D Loss:**

Actual T&D loss for October 2005 is 17.33%, for November 2005 is 9.62% and for December 2005 is 11.97% as against allowable T&D loss at the normative level of 13.90% based on T&D loss considered in the Tariff Order.

FAC disallowed corresponding to excess T&D loss for Oct 2005 is Rs. 74.56 lacs and is worked out by multiplying excess T&D loss (24.925MU) with the FAC kwh rate (29.92 Paise/kwh). However, for November 2005 and December 2005 the T&D loss is within the normative level of 13.9% based on T & D loss considered in the Tariff Order.

9. **FAC per unit:**

REL has worked out FAC per unit without considering cap as 49.76 Paise, 39.69 Paise & 34.41 Paise for Oct, Nov & Dec 2005 respectively.

The Commission has vetted the FAC per unit without considering cap as 29.92 Paise, 18.27 Paise and 19.54 Paise for Oct, Nov and Dec 2005 respectively and which is approved.

10. **FACkwh considering cap on monthly FAC:**

Since FAC for October 05 exceeds cap of 29.90 Paise/kwh and for November and December 2005 is lower than cap considered in the Tariff order for FY 2004-05, FAC considering cap is assessed at 29.90 Paise/kwh, 18.27 Paise/kwh and 19.54 Paise/kwh for October, November and December 2005 respectively.

11. **Adjustment of FAC:**

The assessed FAC to be recovered is Rs.1794.01 lacs and FAC disallowed corresponding to excess T&D loss is Rs.74.56 lacs for the month of October 2005. The carried forward FAC for recovery during future period is Rs.0.916 lacs.

The assessed FAC to be recovered is Rs.1027.49 lacs and FAC disallowed corresponding to excess T&D loss is nil for the month of November 2005. The carried forward FAC for recovery during future period is nil.

The assessed FAC to be recovered is Rs.1047.36 lacs and FAC disallowed corresponding to excess T&D loss is nil for the month of December 2005. The carried forward FAC for recovery during future period is nil.

12. Summary of Results:

The summary of the Total Fuel Cost and Power Purchase Cost Adjustment (FAC), FAC Charge per unit (FACkwh) and FAC to be recovered considering the cap on monthly FAC Charge for October 2005 to December 2005 is given in the Table below:

Parameter	Unit	October 2005		November 2005		December 2005	
		REL	Commission	REL	Commission	REL	Commission
A. Calculation of FAC							
1. Change in variable cost of generation & power purchase	Rs. Lacs	1871.77	1871.65	1027.06	1027.06	1115.41	869.32
2. Disallowance of change in variable cost of generation corresponding to excess aux consumption	Rs. Lacs	2.070	2.157	0.430	0.488	0.270	0.218
3. Change in variable cost of generation and power purchase after accounting for disallowance i.e. Change in Cost (C)	Rs. Lacs	1869.700	1869.49	1026.640	1026.57	1115.13	869.10
4. Working Capital interest (I)	Rs. Lacs	0	0	0	0	0	0
5. Adjustment for (Over Recovery) / Under Recovery (B)	Rs. Lacs	1116.130	0.000	1205.340	0.916	728.89	178.260
6. FAC = C + I+ B	Rs. Lacs	2985.830	1869.49	2231.970	1027.49	1844.020	1047.36
B. Calculation of FACkwh							
1. Sale within Licence Area	MU	600.005	600.005	562.326	562.326	535.922	535.922
2. Excess T & D loss	MU	0.000	24.925	0.000	0.000	0.000	0.000
3. FAC Charge without considering cap on monthly FAC charge	Paise/kwh	49.76	29.92	39.69	18.27	34.41	19.54
4. Cap on monthly FAC Charge	Paise/kwh	29.90	29.90	29.90	29.90	29.90	29.90
5. FAC Charge (FACkwh) considering cap on monthly FAC Charge	Paise/kwh	29.90	29.90	29.90	18.27	29.90	19.54
C. Recovery of FAC							
1. Recovery of FAC considering Cap on Monthly FAC Charge	Rs. Lacs	1794.015	1794.01	1681.35	1027.49	1602.41	1047.36
2. FAC disallowed corresponding to excess T&D loss	Rs. Lacs	74.53	74.56	0.00	0.00	0.00	0.00
3. Carried forward FAC for recovery during future period	Rs. Lacs	1117.29	0.916	550.62	0.000	241.61	0.000

Summary of Operations for Oct 2005 to Dec 2005

Particulars	Unit	As per Tariff order for 04-05 dated 1st July 2004	Actual Oct 05	Actual Nov 05	Actual Dec 05
Generation	MU	4326	379.480	375.274	387.089
PLF	%age	98.77	102.01	104.24	104.06
Auxiliary Consumption	%age	7.34	7.62	7.43	7.38
Heat Rate	Kcal/kwh	2319	2303	2280	2276
Secondary oil consumption	ml/kwh	0.20	0.06	0.13	0.03
T&D loss	%age	13.90	17.33	9.62	11.97
Product Mix:					
Raw Coal	%age	0	0	0	0
Washed Coal	%age	80	76.81	70.83	74.68
Imported Coal	%age	20	23.19	29.17	25.32
Landed Price of Coal					
Raw Coal	Rs./MT		0	0	0
Washed Coal	Rs./MT		2077.47	2095.48	2106.80
Imported Coal	Rs./MT		2345.94	2326.53	2401.53
Coal basket Price	Rs/Mkcal	433	520	498	530
Landed price of LDO	Rs./KL		25863.64	25516.13	25416.67
Landed price of HFO	Rs./KL		0.00	21812.50	0.00
Secondary Oil basket price	Rs/Mkcal	1566	2647	2468	2652
All Fuel Price	Rs./Mkcal	434	521	499	530
Power purchases from TPC					
at 22/33kV	MU	3067	288.81	226.157	205.959
at 220kV	MU	334	86.456	48.608	44.328
Total Power Purchases from TPC	MU	3401	375.266	274.765	250.287
Energy Sales metered consumption	MU	6323	596.166	557.891	531.066
Estimated consumption of unmetered	MU	57	3.839	4.435	4.856
Total Energy Sales	MU	6380	600.005	562.326	535.922

MONTH: OCTOBER 2005

A) Cost of Coal basket and Secondary Oil basket

Coal Basket					
Particulars	Unit	Raw Coal	Washed Coal	Imported Coal	Total
Consumption	MT	0	161054	48612	209666
Blending Ratio	%	0	76.81	23.19	100
Consumption of coal	Mkcal	0	630134	243592	873726
Calorific Value	kcal/kg		3913	5011	4167
Landed Price of Coal	Rs/MT	0	2077.47	2345.94	2167.67
Total consumption of coal	Rs. Lacs	0	3404.46	1140.41	4544.87
Landed Price of Coal	Rs/Mkcal	0	540	468	520

Secondary Oil Basket					
Particular	Unit	LDO	HFO		Total
Total Oil consumption	KL	22	0		22
Total Oil consumption	Mkcal	215	0		215
Calorific Value of Oil	kcal/ltrs	9773	0		9773
Specific Consumption of Oil	ml/kwh	0.06	0		0.06
Landed Price of Secondary Oil	Rs/KL	25863.64	0		25863.64
Total consumption of Sec Oil	Rs lacs	5.69	0		5.69
Landed Price of Secondary Oil	Rs/Mkcal	2647	0		2647

Total fuel Cost					Total
Total consumption of fuel	Mkcal				873941
Total cost of fuel	Rs lacs				4550.56
Landed Price of fuel	Rs/Mkcal				521

B) Fuel Calorific Value & Price

Fuel	Tariff Order (FY 2004-05)		Oct-05	
	Calorific Value	Price	Calorific Value	Price
		Rs/Mkcal		Rs/Mkcal
Coal basket (kcal/ kg)	4500	433	4167	520
Secondary Oil basket (kcal/L)	10619	1566	9773	2647
All fuels		434		521

C) Heat Rate and Auxiliary Consumption:

	Heat Rate			Auxiliary Consumption	
	Order (FY 2004-05)	Actual REL Oct 2005	Considered for FAC (Oct 05)	Order (FY 2004-05)	Actual REL Oct 2005
DTPS (kcal/kwh)	2319	2303	2319	7.34%	7.62%

D) Variable Cost of Generation & Power Purchase for October 2005

Source	Tariff Order (FY 2004-05)			Assessment for FAC		
	Var Cost	Generation	VC	Var Cost	Generation	VC
	Rs/kwh	MU	Rs lacs	Rs/kwh	MU	Rs lacs
Gross Generation from DTSP (A)	1.006	4326	43539.00	1.207	379.480	4582.18
Power Purchase from TPC (B)	1.853	3401	63038.00	2.051	375.266	7697.42
Variable cost of gen & power purchase (A+B)	1.379	7727	106577.00	1.627	754.746	12279.60

a) Change in Vcgen disallowable is Rs. 0.201/kwh (Rs.1.207-Rs.1.006)

b) Change in VCgen & VCpp is Rs. 0.248/kwh (Rs.1.627-Rs.1.379)

E) Disallowance of FAC corresponding to excess Auxiliary consumption for October 2005:

Station	Excess Aux Consumption	Rate of Change in VC for disallowance	Disallowance of change in VC
	MU	Rs/kwh	Rs lacs
DTSP	1.073	0.201	2.157

F) Change in Variable Cost of Generation and Power Purchase for October 2005:

Parameter	Unit	Value
Variable cost of gen & power purchase considered in Tariff Order for Oct 2005	Rs./kwh	1.379
Variable cost of gen & power purchase as assessed for computation of FAC for Oct 2005	Rs./kwh	1.627
Change in variable cost of generation and power purchase (on per unit basis) for Oct 2005	Rs./kwh	0.248
Gross generation and power purchase for Oct 2005	MU	754.746
Change in variable cost of generation and power purchase for Oct 2005	Rs Lacs	1871.65
Disallowance of FAC corresponding to excess auxiliary consumption for Oct 2005	Rs Lacs	2.157
Net change in variable cost of generation and power purchase for Oct 2005	Rs Lacs	1869.49

MONTH: NOVEMBER 2005

A) Cost of Coal basket and Secondary Oil basket

Coal Basket					
Particulars	Unit	Raw Coal	Washed Coal	Imported Coal	Total
Consumption	MT	0	139432	57409	196841
Blending Ratio	%	0	70.83	29.17	100
Consumption of coal	Mkcal	0	558733	296430	855163
Calorific Value	kcal/kg		4007	5163	4345
Landed Price of Coal	Rs/MT	0	2095.49	2326.53	2163.44
Total consumption of coal	Rs. Lacs	0	2922.89	1335.64	4258.53
Landed Price of Coal	Rs/Mkcal	0	523	451	498

Secondary Oil Basket					
Particular	Unit	LDO	HFO		Total
Total Oil consumption	KL	31	16		47
Total Oil consumption	Mkcal	299	163		462
Calorific Value of Oil	kcal/ltrs	9645	10188		9830
Specific Consumption of Oil	ml/kwh	0.08	0.04		0.13
Landed Price of Secondary Oil	Rs/KL	25516.13	21812.50		24255.32
Total consumption of Sec Oil	Rs lacs	7.91	3.49		11.40
Landed Price of Secondary Oil	Rs/Mkcal	2645	2141		2468

Total fuel Cost					
Total consumption of fuel	Mkcal				855625
Total cost of fuel	Rs lacs				4269.93
Landed Price of fuel	Rs/Mkcal				499

B) Fuel Calorific Value & Price

Fuel	Tariff Order (FY 2004-05)		Nov-05	
	Calorific Value	Price	Calorific Value	Price
		Rs/Mkcal		Rs/Mkcal
Coal basket (kcal/ kg)	4500	433	4345	498
Secondary Oil basket (kcal/L)	10619	1566	9830	2468
All fuels		434		499

C) Heat Rate and Auxiliary Consumption:

	Heat Rate			Auxiliary Consumption	
	Order (FY 2004-05)	Actual REL Nov 2005	Considered for FAC (Nov 05)	Order (FY 2004-05)	Actual REL Nov 2005
DTPS (kcal/kwh)	2319	2280	2319	7.34%	7.43%

D) Variable Cost of Generation & Power Purchase for November 2005

Source	Tariff Order (FY 2004-05)			Assessment for FAC		
	Var Cost	Generation	VC	Var Cost	Generation	VC
	Rs/kwh	MU	Rs lacs	Rs/kwh	MU	Rs lacs
Gross Generation from DTPS (A)	1.006	4326	43539.00	1.157	375.274	4342.97
Power Purchase from TPC (B)	1.853	3401	63038.00	2.056	274.765	5649.55
Variable cost of gen & power purchase (A+B)	1.379	7727	106577.00	1.537	650.039	9992.52

a) Change in Vcgen disallowable due to excess aux. Consumption is Rs. 0.151/kwh (Rs.1.157-Rs.1.006)

b) Change in VCgen & VCpp is Rs. 0.158/kwh (Rs.1.537-Rs.1.379)

E) Disallowance of FAC corresponding to excess Auxiliary consumption for November 2005:

Station	Excess Aux Consumption	Rate of Change in VC for disallowance	Disallowance of change in VC
	MU	Rs/kwh	Rs lacs
DTPS	0.323	0.151	0.488

F) Change in Variable Cost of Generation and Power Purchase for November 2005:

Parameter	Unit	Value
Variable cost of gen & power purchase considered in Tariff Order for Nov 2005	Rs./kwh	1.379
Variable cost of gen & power purchase as assessed for computation of FAC for Nov 2005	Rs./kwh	1.537
Change in variable cost of generation and power purchase (on per unit basis) for Nov 2005	Rs./kwh	0.158
Gross generation and power purchase for Nov 2005	MU	650.039
Change in variable cost of generation and power purchase for Nov 2005	Rs Lacs	1027.06
Disallowance of FAC corresponding to excess auxiliary consumption for Nov 2005	Rs Lacs	0.488
Net change in variable cost of generation and power purchase for Nov 2005	Rs Lacs	1026.57

MONTH: DECEMBER 2005**A) Cost of Coal basket and Secondary Oil basket**

Coal Basket					
Particulars	Unit	Raw Coal	Washed Coal	Imported Coal	Total
Consumption	MT	0	151513	51373	202886
Blending Ratio	%	0	74.68	25.32	100
Consumption of coal	Mkcal	0	613759	267140	880899
Calorific Value	kcal/kg	0	4051	5200	4342
Landed Price of Coal	Rs/MT	0	2106.80	2401.53	2181.43
Total consumption of coal	Rs. Lacs	0	3192.08	1233.74	4425.82
Landed Price of Coal	Rs/Mkcal	0	520	462	502

Secondary Oil Basket					
Particular	Unit	LDO	HFO		Total
Total Oil consumption	KL	12	0		12
Total Oil consumption	Mkcal	115	0		115
Calorific Value of Oil	kcal/ltrs	9583	-		9583
Specific Consumption of Oil	ml/kwh	0.03	0.00		0.03
Landed Price of Secondary Oil	Rs/KL	25416.67	-		25416.67
Total consumption of Sec Oil	Rs lacs	3.05	0.00		3.05
Landed Price of Secondary Oil	Rs/Mkcal	2652	-		2652

Total fuel Cost					
Total consumption of fuel	Mkcal				881014
Total cost of fuel	Rs lacs				4428.87
Landed Price of fuel	Rs/Mkcal				503

B) Fuel Calorific Value & Price

Fuel	Tariff Order (FY 2004-05)		Dec-05	
	Calorific Value	Price	Calorific Value	Price
		Rs/Mkcal		Rs/Mkcal
Coal basket (kcal/ kg)	4500	433	4342	502
Secondary Oil basket (kcal/L)	10619	1566	9583	2652
All fuels		434		503

C) Heat Rate and Auxiliary Consumption:

	Heat Rate			Auxiliary Consumption	
	Order (FY 2004-05)	Actual REL Dec 2005	Considered for FAC (Dec 05)	Order (FY 2004-05)	Actual REL Dec 2005
DTPS (kcal/kwh)	2319	2276	2319	7.34%	7.38%

D) Variable Cost of Generation & Power Purchase for December 2005

Source	Tariff Order (FY 2004-05)			Assessment for FAC		
	Var Cost	Generation	VC	Var Cost	Generation	VC
	Rs/kwh	MU	Rs lacs	Rs/kwh	MU	Rs lacs
Gross Generation from DTPS (A)	1.006	4326	43539.00	1.166	387.089	4512.55
Power Purchase from TPC (B)	1.853	3401	63038.00	2.056	250.287	5146.19
Variable cost of gen & power purchase (A+B)	1.379	7727	106577.00	1.515	637.376	9658.74

a) Change in Vcgen disallowable due to excess aux. Consumption is Rs. 0.160/kwh (Rs.1.166-Rs.1.006)

b) Change in VCgen & VCpp is Rs. 0.136/kwh (Rs.1.515-Rs.1.379)

E) Disallowance of FAC corresponding to excess Auxiliary consumption for December 2005:

Station	Excess Aux Consumption	Rate of Change in VC for disallowance	Disallowance of change in VC
	MU	Rs/kwh	Rs lacs
DTPS	0.137	0.160	0.218

F) Change in Variable Cost of Generation and Power Purchase for December 2005:

Parameter	Unit	Value
Variable cost of gen & power purchase considered in Tariff Order for Dec 2005	Rs./kwh	1.379
Variable cost of gen & power purchase as assessed for computation of FAC for Dec 2005	Rs./kwh	1.515
Change in variable cost of generation and power purchase (on per unit basis) for Dec 2005	Rs./kwh	0.136
Gross generation and power purchase for Dec 2005	MU	637.376
Change in variable cost of generation and power purchase for Dec 2005	Rs Lacs	869.32
Disallowance of FAC corresponding to excess auxiliary consumption for Dec 2005	Rs Lacs	0.218
Net change in variable cost of generation and power purchase for Dec 2005	Rs Lacs	869.10

Variable cost of generation and power purchase considered in the Tariff Order for FY 2004-05

Table 1 : Month-wise Gross Generation, Power Purchase and variable cost of generation and power purchase for FY 2004-05

Source	Unit	Apr-04	May-04	June-04	July-04	Aug-04	Sept-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	2004-05
<i>Energy Input</i>														
Gross Generation from DTSP	MU	367.9	377.3	365.3	376.9	378.5	363.2	370.1	319.1	314.3	357.5	355.1	380.8	4326.0
Power Purchase from TPC at 22/33 kV	MU	302.6	296.8	252.6	235.6	239.2	246.7	283.8	283.1	243.2	174.4	198.2	311.1	3067.3
Power Purchase from TPC at 220 kV	MU	32.9	32.3	27.5	25.6	26.0	26.9	30.9	30.8	26.5	19.0	21.6	33.9	333.8
Total Energy Input		703.4	706.3	645.4	638.2	643.7	636.8	684.8	633.1	584.0	550.9	574.8	725.7	7727.1
Variable Cost of														
Generation	Rs. Crore	37.0	38.0	36.8	37.9	38.1	36.6	37.3	32.1	31.6	36.0	35.7	38.3	435.4
Power Purchase	Rs. Crore	87.6	85.9	51.9	48.4	49.2	50.7	58.3	58.2	50.0	35.8	40.7	63.9	680.6
Generation and Power Purchase	Rs. Crore	124.6	123.9	88.7	86.4	87.3	87.3	95.6	90.3	81.6	71.8	76.5	102.3	1116.0
<i>Per Unit Variable Cost of</i>														
Generation and power purchase	Rs/kwh	1.771	1.754	1.374	1.353	1.355	1.370	1.396	1.426	1.398	1.304	1.330	1.409	1.385

Variable cost of generation and power purchase considered by REL for FY 2005-06.

<u>Reliance Energy Limited</u>													
Weighted Average Cost													
Month	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	TOTAL
Quantity													
DTPS Generation	367.9	377.3	365.3	376.9	378.5	363.2	370.1	319.1	314.3	357.5	355.1	380.8	4326.0
TPC Pur 22/33 kV	302.6	296.8	252.6	235.6	239.	246.7	283.8	283.1	243.2	174.4	198.2	311.1	3067.3
TPC Pur 220 kV	32.9	32.3	27.5	25.6	26.0	26.9	30.9	30.8	26.5	19.0	21.6	33.9	333.9
Total MUS	703.4	706.4	645.4	638.1	643.7	636.8	684.8	633.0	584.0	550.9	574.9	725.8	7727.2
Rate													
DTPS Generation	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006
TPC Pur 22/33 kV	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625	1.8625
TPC Pur 220 kV	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700	1.7700
Total Rate													
Value													
DTPS	37.00	38.00	36.80	37.90	38.10	36.60	37.30	32.10	31.60	36.00	35.70	38.30	435.40
TPC	56.36	55.28	47.05	43.88	44.55	45.95	52.86	52.73	45.30	32.48	36.91	57.94	571.28
TPC	5.82	5.72	4.87	4.53	4.60	4.76	5.47	5.45	4.69	3.36	3.82	6.00	59.10
TOTAL Value	99.18	99.00	88.71	86.31	87.25	87.31	95.63	90.28	81.59	71.85	76.44	102.24	1065.78
Weighted Average Cost	1.4100	1.4014	1.3746	1.3526	1.3555	1.3711	1.3964	1.4262	1.3970	1.3041	1.3296	1.4087	1.3793