

No: MERC/FAC/20112012/ 1272

Date : August 11, 2011

The Director  
Reliance Infrastructure Limited,  
Reliance Energy Centre,  
Santacruz (East), Mumbai 400 0055

**Subject:** Approval of Reliance Infrastructure Ltd Fuel Adjustment Charges (FAC) for the period October 2010 to December 2010. (QIII - FY11)

**Reference :** Reliance Infrastructure's submission vide letter dated 4 July 2011 for Post facto approval of FAC for the period October 2010 to December 2010. (QIII - FY11)

Sir,

With reference to your submission referred to above, in pursuance of directions in the Tariff Order dated 15<sup>th</sup> June 2009, I am directed to forward herewith the decision of the Commission (refer Annexure) for further necessary action.

The Commission has post facto approved FAC amount of Rs. (28.7461) Crores, Rs. (60.14) Crores, Rs. (31.5060) Crores for the months of October 2010, November 2010 and December 2010 resp. to be refunded to the Consumers, the carried forward amount for recovery at future date is Nil.

The details are tabulated in the enclosed Annexure.

Yours faithfully

Sd/-  
(Kuldip N.Khawarey)  
Secretary, MERC

**Encl :** Detailed Vetting Report for QIII- FY11

Names and Addresses of Consumer Representatives authorized as per Section 94 (3) of the Electricity Act 2003

Prayas Energy Group, Amrita Clinic, Athawale Corner, Lakdipool-Karve Road Junction, Deccan Gymkhana, Karve Road, Pune 411 004.	The President, Mumbai Grahak Panchayat, Grahak Bhavan, Sant Dynyaneshwar Marg, Behind Cooper Hospital, Vile Parle (West), Mumbai 400 056.
The General Secretary, Thane Belapur Industries Association, Plot No.P-14, MIDC, Rabale Village, PO Ghansoli, Navi Mumbai 400 7001	The President, Vidarbha Industries Association, 1 <sup>st</sup> floor, Udyog Bhawan, Civil Lines, Nagpur 440 001.

## ANNEXURE

### **Detailed Vetting Report**

**Date** : August 11, 2011

**Reference** : Reliance Infrastructure's submission dated July 4, 2011.

The Commission has issued Tariff Orders on 8<sup>th</sup> September 2010 for R Infra G (Case 99 of 2009) and TPC-G (Case 96 of 2009), vide which the generation tariff for these utilities for FY11 has been determined, The said tariff orders are applicable with effect from September 2010.. In the said T O, the Commission has directed that Reliance Infra –D may recover any variations in the cost of power due to variations in the fuel costs, with respect to the levels stipulated in the said order, from its consumers through the FAC mechanism as elaborated in MERC (Conditions of Tariff), Regulations 2005. Accordingly, vide its submission of July 4, 2011 Reliance Infra –D has computed the FAC for the month of October, November, and December 2010 as directed, and detailed methodology as per MERC (Terms and Conditions of Tariff) Regulations, 2005.

The relevant parameters approved in the said APR Order for computation of FAC are enclosed at Appendix-1

- 2 In terms of the aforesaid MERC Regulation a Distribution Licensee is required to obtain post facto approval of the Commission on a quarterly basis for the FAC charges. Accordingly, RInfra-D has submitted details of FAC chargeable to all consumers for October, November, and December 2010
- 3 RInfra-D meets its power requirement through procurement from the following sources
  - a) Procurement from R Infra –G (DTPS)
  - b) Purchase from TPC-G
  - c) RPS Power
  - d) Bilateral Purchases (as per SLDC)
  - e) UI purchases (as per SLDC )

In December 2010, RInfra has banked excess power available from Dahanu Thermal Power station at off peak hours whereby backing down of the base loaded station was avoided.

RInfra-D has submitted affidavit verifying the application. RInfra-D has also submitted the power purchase bills of TPC and the IBSM statements issued by SLDC for the months October, November, and December 2010 resp.

Supporting documents from R Infra-G such as certified copies “Coal related expense” have also been enclosed.

#### **4 Validation of Fuel Adjustment Cost for October, November, December 2010**

The Commission has assessed FAC charge of RInfra-D for the said period based on the FAC formula approved in the Tariff Regulations. The methodology adopted for vetting the FAC computations is as follows:

**5 Change in Variable Cost of own generation and power purchase (C):**

Due to change in variable (fuel) cost of generation and power purchase, the actual weighted average variable (fuel) cost of generation and power purchase has varied (decreased) by Rs. (0.093), (0.578), (0.042) per kWh in October, November, December 2010, respectively. Considering the normative actual variable (fuel) cost of generation for DTGS and actual power purchase from other sources, the rate of variable charge for power is Rs. 3.71, 3.226, 3.804 per kWh for months October, November, December 2010 respectively, as against Approved rate of Rs.3.804 per kWh for these months.

Change in variable (fuel) cost of own generation and power purchase, has been arrived at by multiplying the total quantum of gross generation and power purchase with the change in weighted average cost of generation and power purchase.

**6 Assessment of Variable (Fuel) Cost of own generation (RInfra-G)**

The Commission has assessed the variable cost of own generation (RInfra -G) taking into consideration change in fuel mix, actual fuel price and normative heat rate and which are Rs. 2.130, 2.278, 2.428 per kWh for months October, November, December 2010 respectively as against Rs.2.082 per kWh considered in the APR Order of R Infra-D for FY 2010-11,

It is to be noted here that the “Normative actual” cost of generation is higher than the “actual” cost of generation due to efficient generation parameters of Dahanu thermal units. This is approved.

The total normative variable cost of own (R Infra G) generation amounts to Rs. 7251.27 Lakhs for 340.4 MU net generation in October 2010, Rs 6604.97 Lakhs for 289.89 MU net generation in November 2010 and Rs 7481.72 Lakhs for net generation of 308.15 MU in December 2010.

It is also noted that in December 2010, R Infra-D has banked 91.684 MUs of DTGS power at the rate Rs 2.428/kWH, amounting to Rs. 2226.08 Lakhs, which is deducted from the total cost of Power procurement done for Mumbai License area, for the month.

The normative per unit rate, of power procurement thereby, would be Rs. 3.71 per kWh, Rs 3.226 per kWh and Rs 3.762 per kWh for October 2010, November 2010 and December 2010 resp.

**7 Change in Fuel Mix**

RInfra-G has used blending ratio of Raw coal: Washed coal: Imported coal; F grade coal as follows:

	F grade	Washed	Imported
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		Coal	Coal
Order Values	7%	73%	20%
<b>Month</b>			
<b>October-10</b>	17%	55%	28%
<b>November-10</b>	17%	50%	33%
<b>December-10</b>	19%	48%	33%

The Commission has accepted the change in fuel mix effected by RInfra-G for October, November, December 2010

**8 Actual Fuel Price**

The Commission has assessed fuel price in terms of heat content (Rs./Mkcal) by considering actual fuel price based on the audited statement of fuel cost submitted by RInfra. The Commission has considered calorific value of the coal basket as fired coal at DTPS based on the certificate issued by independent verification agency.

RInfra has incurred Coal related expenses of Rs. 31.46 Lakhs, 30.28 Lakhs, 32.34 Lakhs for the months October, November, December 2010 respectively. The expenses pertain to handling of Washed coal and Imported coal.

The Commission has allowed these expenses as fuel cost expenses in the respective months.

**9 Heat Rate**

R-Infra has considered the approved heat rate viz. 2500 kcal/kWH, as per the APR Order for FY 2009-10 for computing normative actual variable (fuel) cost of generation for assessment of FAC, which is allowed.

**10 Disallowance of FAC corresponding to excess auxiliary consumption**

The Auxiliary consumption at DTPS , excluding consumption of FGD is reported as 7.511%, 7.693% and 7.248% in October, November, December 2010 respectively against the approved value of 8.5 % . Hence no disallowance from the FAC has been made on account of excess auxiliary consumption.

The consumption of FGD in the months October, November, December 2010 respectively is 4.825 MU, 4.154 MU and 4.203 MU respectively, against average approved value of 4.75 MU (Annual approved consumption of FGD 57 MU)

**11 Disallowance of FAC corresponding to excess Transit Loss**

Excess Transit Loss is computed based on the normative transit loss approved in the APR Order. Fuel adjustment cost corresponding to excess Transit Loss has been disallowed and is computed by multiplying the excess transit loss with the washed coal consumption rate per metric ton (MT). The FAC disallowed corresponding to excess

Transit Loss has been worked out as Rs 80.60 Lakhs, Rs 78.53 Lakhs and Rs 62.44 Lakhs for the months October, November, December 2010, respectively.

**12 Change in variable cost of power purchase:**

Total variable cost of power purchase from all sources for October, November, December 2010 is summarized as under:

Month	Procurement of Energy		Normative Actual Cost		Normative Rate of Power Purchase		Average Rate Rs/kWh
	From R Infra- G MU	From others MU	From R Infra- G Rs Lakhs	From others Rs Lakhs	From R Infra- G Rs./kWH	From others Rs/kWH	
October 2010	340.4	457.576	7251.27	22437.98	2.13	4.90	3.71
November 2010	289.89	422.18	6604.97	16441.8	2.278	3.894	3.226
December 2010	308.15	396.816	7481.72	17876.42	2.428	4.505	3.762

**Note :**

1. Deduction as above, for excessive Transit Loss has been made in final tabulation
2. For December 2010, R Infra has banked power from DTPS , the cost of which is subtracted herein, so that the net cost of energy for the month is reduced to that extent

RInfra-D has submitted the data for the power purchase cost certified by cost accountant along with the power purchase bills from TPC-G.

The FAC charged by TPC-G to R Infra D is @ Rs (0.253), (0.568), (0.590) per kWh for the months October, November, December 2010 respectively.

**13 Working Capital Interest (I)**  
Rs lakhs

Month	Variable Cost as per Order (per month)	Actual variable cost (Norm)	Variance between Actual Variable cost and "Order" variable cost	Rate of IWC	IWC
October 2010	32294.8	29608.64	-2686.16	13%	-29.10

November 2010	32294.8	22968.24	-9326.56	13%	-101.04
December 2010	32294.8	23069.62	-9225.18	13%	-99.94

**Note:1:**The Interest Rate 13% is as per approval of the Commission in the APR Order

**Note 2:**Interest on working capital has been granted at the approved Interest rate for the eligible amount viz the difference between the Normative Actual variable cost of Power procurement and the Order cost of power procurement, for the respective month

**14 Adjustment for Over Recovery/Under Recovery (B)**

After adjustment for over-recovery/under-recovery ('B'), the Adjustment factor for over-recovery/under-recovery

For the month of October 2010 Rs (21.5566) Crores

For the month of November 2010 Rs (17.9499) Crores

For the month of December 2010 Rs (27.9138) Crores

**15 FAC (Total Fuel Adjustment Cost) and**

Total fuel cost and power purchase adjustment (FAC) has been computed by summing up the change in costs (C), Working Capital Interest (I), and adjustment for over recovery / under recovery (B). The Commission has considered energy sales based on audited submissions of RInfra-D.

**16 Excess Distribution Loss**

The Commission had considered allowable Distribution loss at 10.5% for October, November, December 2010

Actual Distribution Loss is as follows :

Actual loss for October 2010 12.223%

Actual loss for November 2010 8.734%

Actual loss for December 2010 8.142%

**17 FAC per unit**

FAC per unit has been computed by considering Total Fuel Adjustment Cost, Energy Sales submitted by RInfra-D and excess distribution loss assessed by the Commission.

**18 Cap on Monthly FAC Charge**

The ceiling based on 10% of the variable component of Tariff works out to Rs 64.2 paise/kWH as per Tariff order

**19 Recovery of FAC:**

The Commission has assessed FAC to be refunded in the month of October, November, December 2010 as Rs. (2874.61) Lakhs, (Rs 6014.62) Lakhs, and Rs (3150.60) Lakhs respectively,

**20      Summary of Results:**

The summary of the Total Fuel Cost and Power Purchase Cost Adjustment (FAC), FAC Charge per unit (FAC/kwh) and FAC to be recovered considering the cap on monthly FAC charge for October, November, December 2010 is given in the table below:



SUMMARY TABLE

Sr. No.	Parameter	Unit	Value	Value	Value
			October 2010	November 2010	December 2010
(A)	(B)	(C)	(D)	(D)	(D)
<b>1.0</b>	<b>Calculation of FAC (A)</b>				
1.1	Disallowance of change in variable cost of generation corresponding to excess auxiliary consumption	Rs Lakh	-	-	-
1.2	Change in weighted average variable cost of generation and power purchase after accounting for disallowance of change in variable cost corresponding to excess auxiliary consumption	Rs Lakh	(745.99)	(4,118.59)	(259.28)
1.3	Apportionment of change in variable cost of generation and power purchase to License Area (C)	Rs Lakh	(745.99)	(4,118.59)	(259.28)
1.4	Working Capital Interest (I)	Rs Lakh	(29.10)	(101.04)	(99.94)
1.5	Adjustment for Over Recovery/Under Recovery (B)	Rs Lakh	(2,155.96)	(1,794.99)	(2,791.38)
<b>1.6</b>	<b>FAC (A) = C + I + B</b>	Rs Lakh	(2,931.05)	(6,014.62)	(3,150.60)
<b>2.0</b>	<b>Calculation of FAC<sub>kWh</sub></b>				
2.1	Sale within License Area	MU	670.362	621.567	523.593
2.2	Excess Distribution Loss	MU	13.161	-	-
2.3	FAC Charge (FAC <sub>kWh</sub> ) without considering cap on monthly FAC Charge	Paise/kWh	(42.88)	(96.77)	(60.17)
2.4	Cap on monthly FAC Charge	Paise/kWh	64.20	64.20	64.20
<b>2.5</b>	<b>FAC Charge (FAC<sub>kWh</sub>) considering cap on monthly FAC Charge</b>	Paise/kWh	(42.88)	(96.77)	(60.17)
<b>3.0</b>	<b>FAC (A)</b>				
3.1	FAC (A) considering cap on Monthly FAC Charge	Rs Lakh	(2,874.61)	(6,014.62)	(3,150.60)
3.2	FAC (A) disallowed corresponding to excess Distribution loss	Rs Lakh	(56.44)	-	-
3.3	Carried forward FAC (A) for recovery during future period	Rs Lakh	(0.00)	-	-

**Reliance Infrastructure Ltd**  
**Approval of Fuel Adjustment Charges (FAC) for October**  
**2010, November 2010, December 2010**

<b>Form No.</b>	<b>Particulars</b>	<b>Unit</b>	<b>Norms (FY 09-10)</b>
1	Intra State Transmission Loss	%	4.85%
2	Distribution Loss	%	10.50%
3	Auxiliary Consumption	%	8.50%
4	Transit Loss (for Coal)	%	0.80%
5	Heat Rate	kCal/kWH	2,500
6	Secondary Oil Consumption	ml/kWH	2
7	FGD consumption	MU/year	57