

### **Tariff and Financial issues impacting Delhi Discom's and Delhi consumers**

Immediate steps that needs to be taken for optimization and reduction of Power Purchase Costs which have huge impact on the retail tariffs being paid by the consumers of Delhi.

#### **1. High cost of power procurement from NTPC plants and Delhi Gencos**

Delhi Discom's have been sourcing nearly 90% power through long term power procurement from Central Generating Stations of NTPC, NHPC, THDC, DVC, SJVNL, etc. and from Delhi Gencos such as Pragati, Rajghat, Bawana, etc as per allocation by Ministry of Power, Government of India. It may be noted that Delhi Discoms have allocations from some of the highest cost plants of NTPC and Delhi Genco's such as Dadri 1, Dadri 2, Aravali Jhajjar, Badarpur, etc which supply nearly 40% of our power requirements. In addition to the above, Delhi Discoms are burdened with old and inefficient coal based plant of Delhi Gencos such as Rajghat and costly gas based plants such as Bawana, GT and Pragati which are showing unprecedented high costs on account of limited availability of gas for the past 2-3 years.

As can be seen from the table below, the cost of sourcing power from these plants is in excess of Rs.5/unit and going upto Rs.11/unit, which is severely impacting the Power Purchase Costs and consequently burdening the consumers of Delhi.

<b>S. No</b>	<b>Plant Name</b>	<b>Plant capacity (MW)</b>	<b>Delhi Allocation (MW)</b>	<b>Fixed Cost Rs./kWh</b>	<b>Variable cost in Rs./kWh</b>	<b>Total Cost Rs./kWh</b>
1	Badarpur Thermal Power Station (BTPS)-Coal (NTPC)	705	705	1.21	4.83	6.04
2	Aravali Power Station-Coal (NTPC)	1500	693	1.65	3.75	5.40
3	Dadri I – Coal (NTPC)	840	756	0.92	3.77	4.69
4	Dadri II – Coal (NTPC)	980	735	2.09	3.62	5.71
5	Dadri Gas Station (NTPC)	830	91	2.38	3.53	5.91
6	Auriya Gas Station (NTPC)	663	72	5.8	4.12	9.92
7	Anta Gas Station (NTPC)	419	44	2.31	2.87	5.18
<b>Total (NTPC)</b>		<b>5937</b>	<b>3096</b>			
8	Rajghat – Coal	134	134	2.95	3.46	6.41
9	Pragati Power (Gas)	330	330	0.96	4.24	5.20
10	Gas Turbine (Gas)	270	270	1.70	4.57	6.27
11	Bawana (Gas)	1371	1096.8	8.13	3.07	11.20
<b>Total (Delhi Genco)</b>		<b>2105</b>	<b>1831</b>			

(Data as submitted to DERC)

Given the above unviable Power Procurement Cost, it is becoming increasingly difficult for Delhi Discoms to restrict the overall tariff to the consumers as nearly 80% of the tariff comprises the power procurement cost.

In this regard, some steps have been taken to restrict cost of power procurement with support of Delhi Government and Ministry of Power, Government of India to ensure reallocation of costly plants such as Aravalli, Jhajjar to the Southern States of Andhra, Karnataka and to power deficit States of UP and Bihar which will ensure that the burden of these high cost plants are not passed on to Delhi consumers. When such reallocations are not possible, Discoms has been asking for backing down of these plants to ensure that in times when supply is surplus in Delhi, no high cost power is procured other than to meet the demand of its consumers.

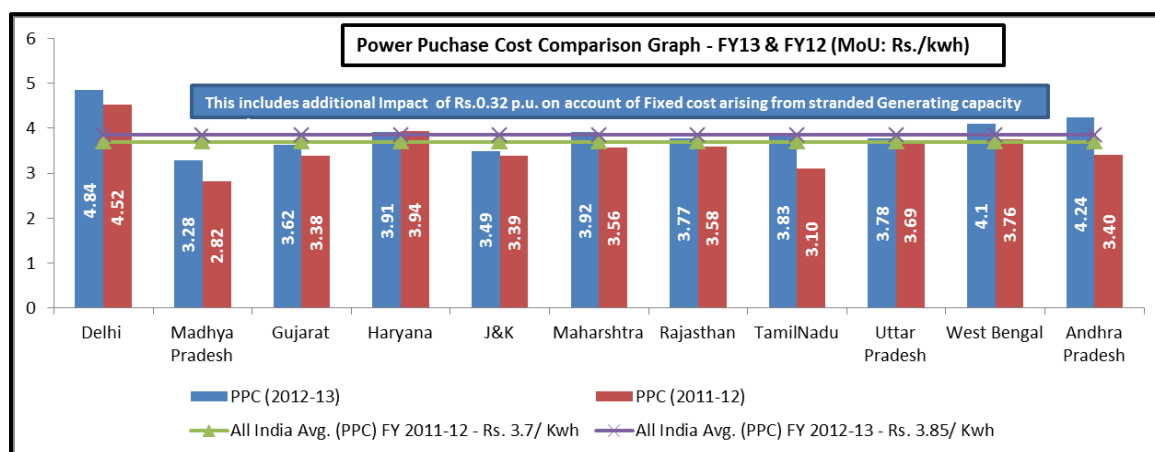
It is pertinent to mention that the variable costs of some of these NTPC plants and Delhi Genco's have increased by nearly 35% - 90% during the past 3 years as is illustrated below:

S. No	Plant Name (NTPC)	Variable cost in Rs./kWh (11-12)	Tariff (11-12)	Variable cost in Rs./kWh (14-15)	Tariff (14-15)	% Increase in variable cost
1	Badarpur Thermal Power Station (Coal)	2.83	4.34	4.83	6.04	70%
2	Auriya Gas Station	3.01	4.09	4.12	9.92	37%
3	Dadri I (Coal)	2.81	4.1	3.77	4.69	35%
4	Dadri II (Coal)	2.70	4.41	3.62	5.71	39%
5	Pragati, Delhi (Gas)	2.20	3.34	4.24	5.20	92%
6	Gas Turbine, Delhi	3.06	4.74	4.57	6.27	49%

(Data as submitted to DERC)

## 2. Reasons of High Cost of Power from NTPC plants and Delhi Genco's

As indicated in graph shown below the Average Cost of Power Procurement in Delhi is considerably higher than the other States of India and National Average. In FY11-12 Delhi's Average Power Cost was Rs. 4.52 p.u. as against National Average of Rs. 3.70 p.u. which is nearly a gap of Rs. 0.82 p.u. Similarly in FY 2012-13 Delhi's Average Power Purchase Cost was Rs. 4.84 p.u. which is approximately Rs. 1 p.u. more than the National Average of Rs. 3.85 p.u. The major reasons attributed to this spiraling increase in Power Purchase costs are as follows:



(Planning Commission Annual Report (2013-14) on the working of State Power Utilities and Electricity Departments)

- a) Inefficient coal based plants such as Badarpur and Rajghat, have outlived their useful life. BTPS was commissioned 40 years back and has three units of 95 MW and two units of 210 MW. The Useful life as specified by CERC and CEA for a Coal/Lignite based thermal generating station is 25 years. Hence BTPS has outlived its useful life and has become highly inefficient. Its inefficiency is reflected by very high Station Heat Rate, Secondary Fuel Oil Consumption, Auxiliary Energy Consumption. This has resulted in high generation cost, which ultimately gets passed on to the Delhi consumers. Similarly Rajghat plant of Delhi is nearly 25 years old and highly inefficient.
- b) Further, the coal allocation to Badarpur, Dadri, Rajghat plants are from Eastern Region which increases its overall transportation cost. This is further compounded on account of poor quality of coal which makes them one of the most expensive plants which supplies power to Delhi. It is also pertinent to mention that the variable costs of Badarpur have increased by nearly 70% in the past 3 years (from Rs. 2.83/unit in FY11-12 to Rs. 4.83/unit in FY14-15). Apart from this, it is observed that for Badarpur Plant, the variable cost being charged are on much higher side vis-à-vis the GCV of coal being used. As per the notified price of non coking coal having GCV in the range of 3100 to 3400 kcal/kg, it should be Rs. 670/tonne. However, in the bills / Form 15 received from NTPC Badarpur Plant, it is found that Rs. 1500/- to Rs. 3400/- tonne is being charged for different months. For such price range, the GCV of coal should be 5800 to 6100 kcal/kg and not 3100 to 3400 kcal/kg as claimed by Badarpur plant.
- c) Inadequate availability of domestic coal linkages for new and efficient plants like Aravalli Jhajjar which makes it dependent on imported coal apart from transportation cost from Port in eastern part of India to Jhajjar in Haryana, thereby making the plant unviable and very expensive.
- d) Inadequate availability of domestic gas at APM price to make power generation commercially viable. It may be noted that most of the gas based plants supplying Delhi such as Dadri Gas, Anta, Auriya, Bawana, Pragati, GasTurbine are running at low PLFs of 30-40% for the past 2-3 years on account of unavailability of gas. However, these plants continue to burden the consumers of Delhi with their full fixed cost which are recoverable by showing full availability of the plants. A case in point is Bawana plant in Delhi which has been commissioned for a capacity of 1371 MW. While the fixed cost are recoverable for 1371 MW, the plant only has APM gas available for running at a capacity of approximately 300 MW.
- e) Due to stranded capacity of gas based plants, the consumers of Delhi, are paying additional Rs.0.32 p.u. for the units which are not supplied to them.

3. **Non release of Power Purchase Cost (PPAC)/Fuel Cost by Regulatory Commission**

Another major issue that is being faced by Delhi Discom's is that while increase in cost of fuel for generation of power is a pass through and is recoverable from its beneficiaries such as Delhi Discoms on a monthly basis as per the Generation Regulations framed by the CERC. However, State Regulatory Commission does not allow same to be passed on to consumers of Delhi thereby creating a mismatch in expenditure and revenue of Delhi Discoms thereby leading to creation of regulatory assets and financial crunch. While the DERC in line with direction issued by the Appellate Tribunal of Electricity (ATE) has framed a Power Purchase Adjustment Mechanism (PPAC) to allow for a quarterly increase in costs of Power Purchase / fuel costs from long term power generation sources, the same has not been followed in

letter and spirit, thereby creating a difficult situation for Delhi Discom's to manage its operations amidst liquidity crunch.

As can be seen over the past 3 years (12 Quarters) since notification of PPAC by DERC, Delhi Discoms have been allowed some provisional increase in costs and that too only in 3 quarters thereby leaving a major chunk of increase in PPAC cost unrecovered which makes the Discoms financially unviable as they end up paying increased costs to Power generation plants on a monthly basis without any corresponding increase in PPAC to be charged from Delhi consumers.

#### 4. Liquidation of Regulatory Asset:

The revenue gap of Delhi Discom's cumulatively is around Rs. 22,000 Cr. upto 31<sup>st</sup> March 2014. The accumulation of Revenue Gap and its liquidation has been recognized by Hon'ble ATE in its order dated 11.11.2011 w.r.t OP NO.1 OF 2011. The relevant extract is being produced below for ready reference:

*"(iv) In determination of ARR/tariff, the revenue gaps ought not to be left and Regulatory Asset should not be created as a matter of course except where it is justifiable, in accordance with the Tariff Policy and the Regulations. **The recovery of the Regulatory Asset should be time bound and within a period not exceeding three years at the most and preferably within Control Period.** Carrying cost of the Regulatory Asset should be allowed to the utilities in the ARR of the year in which the Regulatory Assets are created to avoid problem of cash flow to the distribution licensee."*

In view of the above direction, DERC should have outlined a road map for liquidation of regulatory asset within 3 years which will have an impact of approx. 80-90 paise/unit on the Delhi consumers. Further, DERC vide its letter No.F.3/Tariff/DERC/2013-14/4038/4856 dated 01.03.2014 recognized that Regulatory Overhang upto FY11-12 and is supposed to issue its amortization plan in line with ATE orders. However, to safeguard the interest of the consumers from the above tariff shock, it is felt that Ministry of Power, Government of India and Delhi Government needs to come forward and provide financial support to Discoms of Delhi through a grant / tax free bonds (similar to one provided to State Discoms by Financial restructuring plan) so that the relief is provided to the consumers of Delhi from the above mentioned tariff shock.

Keeping the above in mind, following actions needs to be taken in restricting the overall power purchase costs of Delhi Discom's so as to benefit the consumers of Delhi through lower tariff:-

1. Reallocation of expensive stations of NTPC such as Aravalli, Badarpur, Anta, Auriya, Dadri Gas and substituting it with lost cost plants or the Discoms be advised to arrange low cost power through long term arrangements.
2. Allocation of additional APM gas to 1371MW Bawana plant of Delhi which is an efficient and new plant to meet Delhi's power requirement.
3. Regulatory Commission to follow the PPAC mechanism on quarterly basis to compensate actual increase in generation cost / variable cost.
4. Liquidation of regulatory assets through grant / tax free bonds provided by Ministry of Power, Government of India / Delhi Government to avoid the tariff shock on the consumers of Delhi.