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TANGEDCO to save money by using bellows on transformers

The New Indian Express : September 26, 2016

The State government is expected to save crores of rupees it has been spending on maintaining high-power transformers as the Research & Development wing of Tamil Nadu Generation and Distribution Corporation (TANGEDCO) is to soon introduce 'bellows' for insulation preservation.

Unlike distribution transformers at street corners for end user connectivity, high-power transformers are employed only in generation and transmission substations. These power transformers (33 or 110 KV) involving higher voltage distribution networks are generally used for stepping up or down the voltage.

The Tamil Nadu Electricity Regulatory Commission (TNERC) in its annual reports highlighted that frequent power interruptions were reported due to poor maintenance of power transformers. A TANGEDCO official said that besides high temperature, entry of oxygen and moisture into the components of a power transformer deteriorates the oil used for insulation and causes premature failure.

In an attempt to preserve the quality of oil and paper insulation and other main components, TANGEDCO's R&D wing started a project last year to enhance the life of these transformers. The project suggested the use of 'external bellows' to preserve transformer insulation.

An engineer from TANGEDCO R&D who was a part of this project, said bellows are metallic vessels attached below the power transformers' breather compartment. They arrest entry of oxygen and moisture besides removing moisture from the solid insulation in a gradual manner, the engineer added.

During the first phase of this project, expected to be launched this year, bellows will be attached to 900 33 KV transformers and 1,600 110 KV transformers.

Open access power consumers move TNERC against utility

Business Line: September 27, 2016

Open access power consumers have approached the Tamil Nadu Electricity Regulatory Commission seeking relief from the high cross-subsidy surcharge levied by the utility.

The latest National Tariff Policy notified in January 2016 allows public sector utilities levy CSS on all segments of open access consumers up to a ceiling of 20 per cent of the electricity tariff set for that segment.

But the CSS levied by the Tamil Nadu Generation and Distribution Corporation (Tangedco) continues to follow the National Tariff Policy of 2006 which does not set a ceiling on CSS. Open access consumers, the large power users, are shelling out double or more as CSS.

The Open Access Users Association, a registered, national body representing the open access consumers had petitioned the Commission, which issued notice to Tangedco today.

The association maintained that open access – allowing large power consumers to buy power directly from private generators – was aimed at enhancing competitiveness and efficiency in the power sector.



CSS compensates the public sector utility for the loss of revenue and also provides for the use of the transmission and distribution infrastructure. But it cannot constrain open access.

The latest policy provides for a CSS of Rs. 1.46 to Rs. 1.98 a kWh depending on the tariff levied on various segments such as HT Industry which pays Rs. 8.20 a kWh; Government Educational Institution Rs. 7.32; Private Educational Institutions Rs. 7.74; Commercial and other HT Consumers Rs. 9.93; Railway Traction Rs. 7.82.

Cash-strapped discoms backtrack on renewable power contracts

Live mint: September 27, 2016

Solar power offtake is seeing curtailments in Rajasthan and Tamil Nadu, impacting developers, shows study

As renewable energy capacity additions gather pace and more green power is offered to power distribution companies (discoms), offtake is far from encouraging. A study by Mercom Capital Group says solar power offtake is seeing curtailments in Rajasthan and Tamil Nadu, impacting developers.

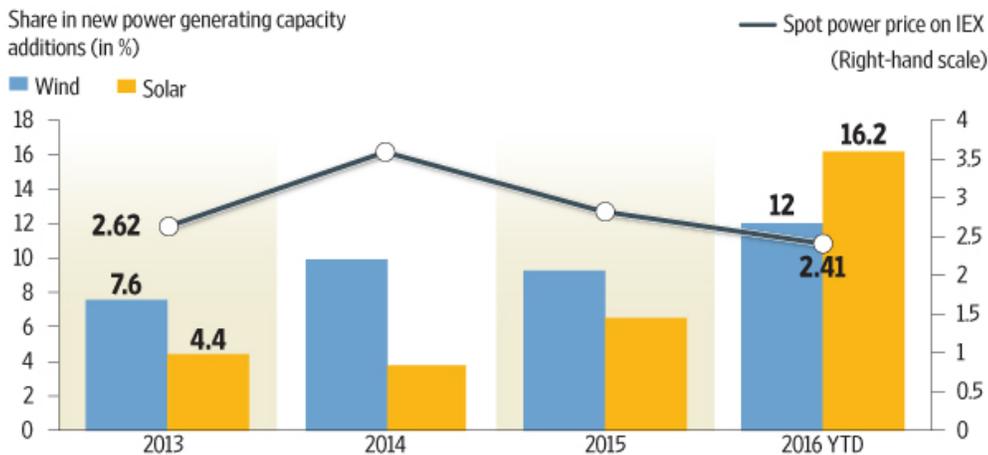
Earlier, channel checks by JM Financial Institutional Securities Ltd found that Maharashtra and Rajasthan are slowing power purchase agreements (PPAs) with wind energy developers, resulting in stranded capacities.

Several factors are leading to this situation—insufficient evacuation facilities; the quality and intermittent nature of renewable energy; and the achievement of renewable purchase obligation in some states.

More importantly, as Mercom points out, discoms are swapping renewable power for purchases from spot markets, where rates are low. "In Tamil Nadu, curtailment is mostly due to the utility opting to buy cheaper power from the exchanges rather than paying Rs.7/kWh for solar (the state has signed PPAs for that rate)," Mercom said in a note. kWh is kilowatt hour.

Power play

State electricity boards are economizing their power costs by purchasing electricity on power exchanges and backing down their costlier power purchase agreements.



IEX: Indian Energy Exchange; year to date data for energy prices is till August, renewable capacity additions till July; spot price in Rs per kWh-average market clearing price

Source: Mercom Capital Group

This is clearly a worry in the backdrop of increasing capacity in the sector. Two of the three states mentioned above are high renewable potential states. A substantial amount of installations are already done and more are under way.



The saving grace is that the curtailments are not widespread yet— Mercon's report mentions curtailments in relatively expensive renewable power contracts.

But significantly, note that even though prices have come down substantially to around Rs4/kWh, they are still costlier than electricity offered on the energy exchanges (trading at around Rs2.5 per unit).

So for state electricity boards (SEBs) that are strapped for funds, low-priced spot electricity remains alluring. Rajesh K. Mediratta, director at Indian Energy Exchange, in July said states are purchasing electricity through the exchange platform to economize on power costs, and are even backing down on their costlier PPAs.

To be fair, SEBs have limited choice but to do this. The agriculture and household customer segments continue to lose money. And while industrial and commercial customers used to make up for part of the losses, a steady rise in tariffs has meant that these consumers are moving to captive and open access (purchased directly from producer).

As a consequence, the most profitable part of the business is coming under pressure and SEBs are being forced to make economical choices on power purchases.

If the situation does not improve, then the whole purpose of renewable capacity ramp-up will be defeated, and leave a sour taste for investors.

Govt mulls penalties for curtailing renewable power generation, says Union Power Minister

The New Indian Express: October 1, 2016

The government has set an ambitious target of 175 GW of power from renewable energy sources, with 100 GW from solar alone.

Taking serious cognisance of some states curtailing power generation from solar projects, Union Power Minister Piyush Goyal today said his ministry is looking into how mandatory electricity production from renewable sources can be enforced.

"I have come across this issue wherein certain states are resorting to curtailing generation from solar projects and instead buying cheaper power from the exchanges.

"We are finding a solution whereby anybody who does not fulfil the 'must run' status, what can be done to either enforce that or penalise them (states)," Goyal told reporters on the sidelines of an IEEMA event.

Some states including Tamil Nadu and Rajasthan have issued directives to curtail power generation from solar projects. Both the states backed down their commitment towards green power sources, claiming that they have already made provisions for it.

Power producers' body Independent Power Producers Association of India (IPPAI) had raised concerns that such decisions were affecting the generators.

The government has set an ambitious target of 175 GW of power from renewable energy sources, with 100 GW from solar alone.

Solar sector gets the short shift in hunt for cheaper power

Business Standard: September 27, 2016

Some discoms are simply resorting to power cuts as they cannot afford to even purchase power at low rates on the exchanges

The solar power sector faces a hurdle in meeting its ambitious growth target as cash-strapped distribution companies (discoms) are purchasing cheaper electricity from the exchanges and via e-auction.

Some discoms are simply resorting to power cuts as they cannot afford to even purchase power at low



rates on the exchanges. The increase in renewable energy (RE) capacity addition has caused some solar power curtailment issues in Rajasthan and Tamil Nadu, where discoms have flouted the "must run" status of solar power, affecting developers.

Currently, power is traded at Rs 2.40 to Rs 2.50 a unit on exchanges and on e-auction platforms compared to Rs 4-Rs 5 a unit for solar power under power purchase agreements (PPAs).

Raj Prabhu, chief executive of Mercom Capital Group, said the curtailment was still not widespread, but the issue has to be addressed immediately before it hurt investor sentiments. "The problem is more pronounced in Tamil Nadu, especially in high wind energy density areas when wind and solar generation peak simultaneously. In Tamil Nadu, curtailment is mostly due to the utility opting to buy cheaper power from exchanges rather than paying Rs 7 a unit for solar (the state has signed PPAs for that rate)," he said.

R V Shahi, former power secretary, said the comparison between price of conventional power and solar power is not for total price of conventional power but only marginal cost of variable charge. "This means discoms have started considering whether they should buy under PPA thermal power at variable cost of Rs 1 (domestic coal) and Rs 2 (imported coal), which is an option, or buy solar at Rs 4 or Rs 5 a unit under must-run condition. This consideration is not irrelevant, keeping in view the financial conditions of discoms. Simultaneously, average price of thermal power, which will operate at lower plant load factor (PLF), will also increase and further burden discoms. Even now many generators are not getting sufficient dispatch of solar power," he added.

Rajesh K Mediratta, director (business development), Indian Energy Exchange Limited, said there was a serious conflict from economic signals coming from framework for solar. "We pay to solar generators at feed in tariff for each unit generated. So, if preferential tariff for a RE generation is Rs 5 per unit, the discom has to pay Rs 5 for each unit of marginal generation. Whereas, marginal cost of generation is zero. Therefore, we need to apply same mechanism as Germany where RE generators sell through exchanges at zero marginal cost and get paid for green premium through government common funds. Such mechanism can only mitigate problem of discoms curtailing power from RE generators," he said.

Power tariffs for industry shoot up

Business Standard: September 27, 2016

This is thanks to increase in states' levy of cross-subsidy charges

Power tariffs paid by industry have increased across states owing to the levy of high cross-subsidy charges to subsidise lower-paying consumers. There has been 30-600 per cent increase in cross subsidy surcharges (CSS) in the past year in the states reviewed by *Business Standard*.

In Bihar there was a 500 per cent increase in CSS, while in Uttar Pradesh it was 174 per cent, followed by 193 per cent in Himanchal Pradesh and 146 per cent in Gujarat.

At the same time, Bihar, Chattisgarh, Gujarat, UP and Uttarakhand have issued tariff orders for financial year 2016-17 and only Gujarat has allowed a retail tariff to be increased. These states have, however, allowed CSS to be levied on industry. Rajasthan has not filed a tariff petition but has levied additional surcharge.

CSS is levied by state power distribution companies (discoms) to recover cost of supply. This comes at a time when most states have signed up for the Union government's Ujwal Discom Assurance Yojana (UDAY) scheme that aims to bring down losses and improve efficiency. However, most of the states have increased the amount of additional charges levied on industry.

STEEP RISE (₹ per unit)

	Cross-subsidy			Final rate
	FY15	FY16	%chg	
Haryana	0.93	1.57	68.82	7.69
West Bengal	2.20	2.87	30.45	6.67
Uttar Pradesh	0.23	0.63	173.91	6.35
Karnataka	0.63	0.86	36.51	6.25
Gujarat	0.59	1.45	145.76	5.99
Meghalaya	1.47	1.90	29.25	5.89
Daman & Diu	0	0.42		5.79
Dadra & Nagar Haveli	0.03	0.22	633.33	5.79
Chhattisgarh	0.89	1.21	35.96	5.70
Bihar	0.13	0.78	500.00	5.10
Odisha	1.29	1.21	-6.20	4.83
Himachal Pradesh	0.14	0.41	192.86	4.20
Uttarakhand	0.42	0.47	11.90	4.13

ADDITIONAL LEVY

	Additional surcharge	Final rate
Haryana	0.87	7.69
Delhi	1.67	7.21
Rajasthan	0.80	6.50
Punjab	1.13	6.03
Himachal Pradesh	0.78	4.20

Cross-subsidy is levied on commercial consumers who can switch their source to subsidise low paying capacity consumers; Additional surcharges are levied on consumers who buy from outside state (open access consumers)
Source: Power ministry

According to market estimates, the gap between the average cost of supply (ACS) and the average revenue realisation (ARR) of state-owned discoms is around 27 per cent, and around 35 per cent in big states such as UP and Rajasthan.

The National Electricity Policy allows states to subsidise a section of consumers. It also has provisions for levying additional charges on consumers capable of paying higher rates to make up for the ACS-ARR gap. The charge is levied on commercial and industrial consumers who are capable of switching to other sources of power; thereby they need to compensate discoms.

The National Tariff Policy (NTP) 2016 suggested a new formula for CSS determination and capped it at 20 per cent of tariff, which led to states increasing charges. NTP also introduced additional surcharge for these consumers when they shift to other sources apart from states' discoms. Delhi, Punjab, Haryana, Rajasthan and Himachal Pradesh have introduced additional surcharge in their tariff regime.

"If CSS is higher than the ACS-ARR gap of any state, then it is a clear sign of protectionism. States have a public interest in levying CSS. As the distribution sector faces losses across states, we need to link the CSS with AT&C (Aggregate Technical and Commercial) losses faced by discoms. This would ensure that as states bring down their losses, they will reduce additional charges," said a Delhi-based expert.

Executives said states keep restricting open access by levying various charges on industry. "Cross subsidy makes up for subsidised power promised by the political class to appease the rural population," said a power sector executive. It thereby restricts the idea of open access, which is one of the most important amendments suggested in the Electricity Act, the executive said.

Those who avail of the subsidies are mostly farmers, the rural populace, and lower income/consumption groups. Industries are allowed to purchase their power demand from outside states and the spot market, falling in the category of open access. Open access is yet to be made mandatory for all

consumers in states under the Electricity Act. It is also proposed that open access be made free of additional charges to ensure a uniform power market across the country

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