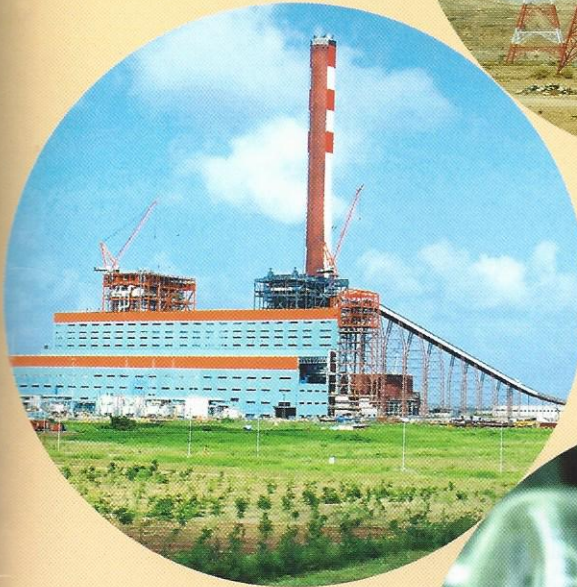
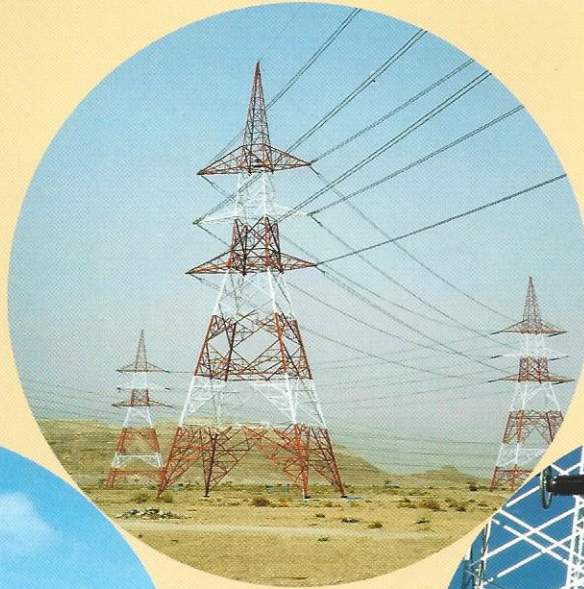
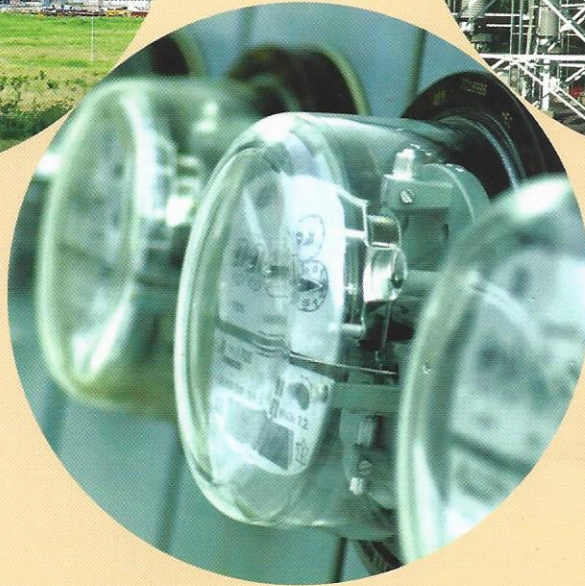
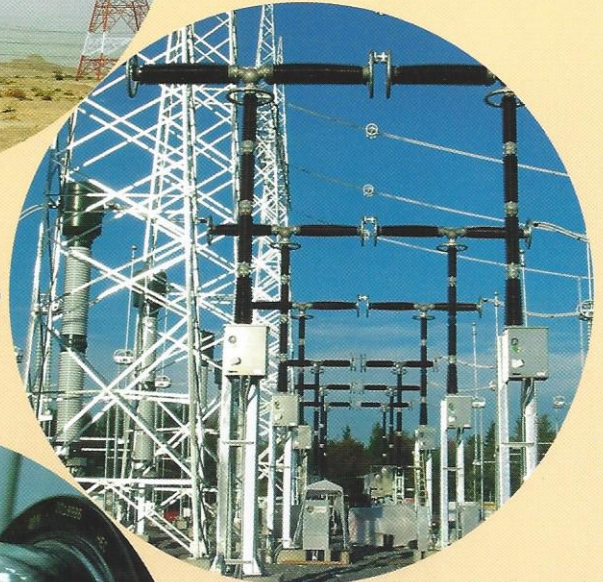


T&D India

YOUR BRIDGE TO THE POWER TRANSMISSION & DISTRIBUTION INDUSTRY



2
Anniversary



Powering India

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INTERVIEW



Power Exchange India Ltd (PXIL) is India's first institutionally-promoted power exchange that provides innovative and credible solutions to transform the Indian power markets. In T&D India's first-ever interaction with PXIL, we have **Prabhajit Kumar Sarkar** discussing how innovative measures have helped PXIL improve its market share in recent years. Sarkar feels that power trading is picking up in India and given this, power exchanges have a much larger role to play in creating efficient transaction structures to meet the power demand and supply situation.

PXIL ensures that consumers get world-class services

— **Prabhajit Kumar Sarkar**, MD & CEO,
Power Exchange India Ltd

How have trading volumes grown at PXIL over the past few years?

PXIL's trading volumes have been growing reasonably well over the past few quarters. In the REC segment, PXIL has attained a market share of around 40 per cent and significant growth in the overall segment as such.

In the physical supply segment, FY18 saw a growth of around 250 per cent in the volumes of electricity transacted at PXIL. While a part of this was due to the lower base in preceding year, a large part of this was also due to the renewed trust of market participants in PXIL as a market infrastructure of relevance and value in the power markets. FY18 therefore, has seen the highest profitability for PXIL in its history and we are striving to continue achieving great results for PXIL.

We understand that PXIL has introduced a variety of trading periods like day-ahead, term-ahead, any-day, intra-day, etc. Please tell us in brief how "intra-day" works

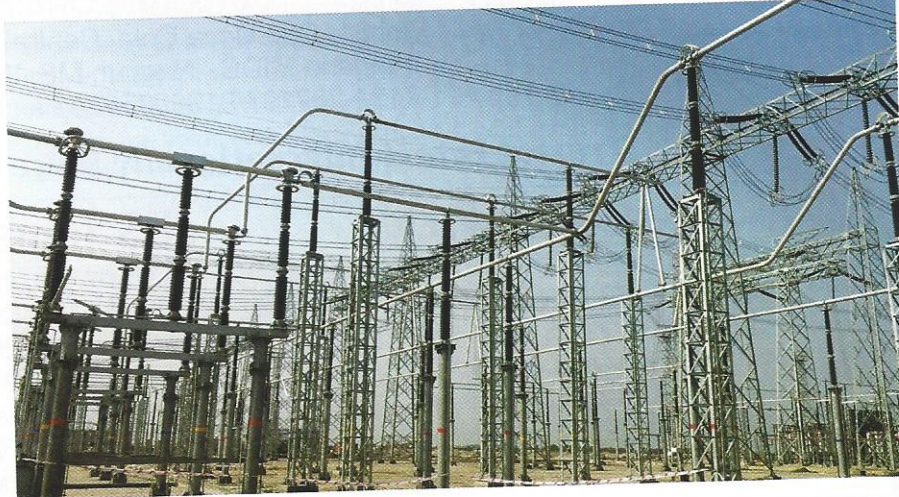
and discuss the response to this mechanism.

"Intra day", as the name suggests, is a product available to meet the requirements for any or all the 24 hours of the day. The contracts are available on rolling basis, three hours ahead of delivery and are concluded for every 15-minute time block.

During FY18, around 40 per cent of our trades in bilateral segment were under this product. The product is supposed to cater to the near immediate requirement of the participants to balance their portfolios and safeguard them from the penalty under the deviation settlement mechanism.

The product is likely to offer its full and true flavour to the market participants once the gate-closure for trading is reduced from current three hours ahead to, say, one hour ahead of delivery. CERC has recently issued a staff paper on redesigning the real time electricity markets in the country which should pave the way for enhancing traction in this market and allow market participants to get

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greater benefits of balancing their demand and supply closer to the real time through use of the intra-day markets.

Are there plans of introducing more time-period based products in the near future?

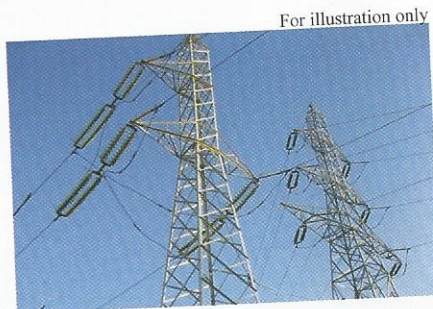
Power exchanges have a much larger role to play in creating efficient transaction structures to meet the power demand and supply situation while helping sustain the capacity market in the country. That would also be a vindication of the role envisaged by the policy makers and regulators for development of the power markets through power exchanges.

For further improvement of the power transactions framework, the underlying infrastructure of transmission access, information availability as well as processes for obtaining approvals for power T&D network access for users also needs to be digitized and brought closer to real time.

Any new contracts for physical delivery catering to different time periods are dependent to a large extent on the regulations governing access to transmission and time periods to gate closure. There is much impetus towards optimizing the processes involved in this and we believe more products can be introduced very soon on the exchange platforms.

We feel that a large quantum of electricity generated is tied up through long-term power purchase agreements. Given this do you feel that there is enough volume left for trading on power exchanges?

Exchanges are market places for price discovery and also risk sharing. Therefore, it is not at all necessary that the entire volumes should flow through the exchanges. There are examples in the world wherein transactions at exchanges constitute the majority, but the context of those markets is different. They were mandatory markets to start with, had



the long term contracts integrated into the short term market and new capacity additions were mostly replacement capacities. The context in our country is very different from those markets.

Through long term tie-ups, the off-take is assured, or in other words, the quantity risk is covered. The price at which off-take will occur, can be aligned to the markets rather than it being regulated. It can be a feasible possibility, however, once the sector starts embracing market mechanisms for its commercial settlement – even for its long term PPAs.

Electricity prices are seen to be converging into a “one price” situation on energy exchanges. What have been the major reasons for this?

In case you are referring to one pan-India price being discovered, it is essentially due to lack of congestion in the transmission system. The prices discovered for 96 blocks in a day also account for the “time” attribute of electricity through different prices being discovered during peak hours, off peak hours, night hours etc. The “place or location” attribute can be worked out after incorporating the losses to work out the cost of delivered power. But yes, the system operator and the exchanges need to work towards price signal incorporating both the “time” and “place” of delivery.

PXIL has been a frontrunner in terms of trading of RECs. How has been trading volumes in recent months?

PXIL has indeed been instrumental in ensuring traction among market

participants for trading in RECs. The performance in this segment has been consistent on our exchange and we have ensured participation by a large cross-section of buyers and sellers spanning distribution utilities, large industrial consumers and, of course, large and small sellers from across the country.

PXIL has witnessed trade of around 69 lakh RECs during the last financial year (FY18) on its platform and during the first quarter of this year (FY19) nearly 13 lakh RECs have been traded on the PXIL platform.

There is a perception that state utilities are dithering when it comes to honouring their renewable purchase obligations. What is your take on the matter? All the same, do you feel discoms are getting more compliant of late?

With both Ministry of New and Renewable Energy (MNRE) and Ministry of Power (MoP) laying large emphasis on developing renewable capacity to meet future demands, the policy push has resulted in the REC inventory with sellers being sold almost completely during the last year. In absence of sufficient availability in the market, we will have to see how the demand from utilities pans out.

The REC segment is currently passing through a changeover, from being sell surplus to sell deficit. We will have to wait for a few more months for the new normal to be formed and emerge. The solar REC segment, where no trading could take place during an interim period, is fast catching up on the bottled up demand and large transactions are taking place in this sub-segment.

The introduction of partial fungibility of these instruments in the new RPO trajectory is a welcome and significant step and would help state utilities meet their requirements in a more commercially efficient manner.

To ensure greater utilization of the REC mechanism, we feel that on the supply side of RECs, it is high time

that competitive bidding structures are contemplated where RE assets bid on the basis of price of energy delivered and the green component of such energy is reflected through the REC certificates issued to them for further monetisation through the REC trading framework.

On the demand side, the right degree of policy and regulatory stewardship would lead to a sustained demand stemming more from higher standards of compliance and governance, rather than from fear of penalty.

PXIL is India's first institutionally-promoted energy exchange. Tell us how has technology, over the years, helped in making energy trading an efficient and transparent process?

PXIL is promoted by National Stock Exchange (through its wholly owned subsidiary NSICL) and National Commodity & Derivatives Exchange Ltd (NCDEX). PXIL since inception has been using an indigenously developed technology solution that has evolved to meet the ever growing needs of market participants.

PXIL is in the process of migrating to a new trading system, which has many user-friendly features that enhances customer experience. The new trading system has been devised to meet challenges in 'ease of participation' and requirement of 'innovative products' for future growth of Exchange.

Tell us about the growth of membership on PXIL since the past 3-4 years. Who are the dominant players in the non-REC segment? In particular, are Open Access consumers active on the exchange?

PXIL today has membership from all prominent trading licensees who contribute nearly 95 per cent of volume in the power exchange space. Among the discoms, except for few states in the north eastern region, nearly all the state discoms in the country are members of PXIL.

Most of the Open Access consumers are clients of these members and

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participate on the exchange platform through these members on an ongoing basis.

In general, how has PXIL contributed towards improving the energy trading market in India?

PXIL, being an institutionally-promoted power exchange, has always endeavoured to transform the power markets in the country. It has played a crucial role in altering the electricity transaction from price negotiation to price discovery. A few of the major contributions made by PXIL are:

- "Made in India" trading system: PXIL has successfully developed an indigenously developed IT based trading system that has evolved over the past decade of exchange operations
- MILP-based matching engine: PXIL offered the Mixed Integer Linear Programming (MILP) based uniform clearing price matching engine, developed by IIT Bombay, in the Day ahead market in October-2013. MILP based matching engine is unique amongst all the Day ahead markets operated by Power exchanges in various electricity markets that run on heuristics model.
- Occasional trading: In order to grow the Open Access market, PXIL introduced the 'Non-pattern

day (occasional day trading)' for clients in September 2013 wherein flexibility is provide to Clients to trade on PXIL platform on daily/weekly/monthly/quarterly basis. Under this option, hitherto many clients were aggrieved with the fact that even though the clients were not trading for all 365 days of the year, the annual fees paid to exchange was not optimal utilisation of trading platform. PXIL provided flexibility to client to pay fees based on their assessment of trading in power exchange platform.

- 15-minute: PXIL led the consultation process for migration from 1-hours duration electricity contracts to 15-minute duration contracts for Power exchange products
- Advisory Member: PXIL led the consultation process that resulted in creation of 'Advisory Member' category who would play the role of market makers by providing advisory services to Clients.

What are some cherished objectives that you would like to see PXIL attain in the coming years?

PXIL, as a market infrastructure institution, has and will remain institutional in character, in conduct and in day-to-day operations. Our governance standards continue to remain benchmarks and we are working towards making our service standards as the new benchmarks in the sector.

The power market structure in India envisages competition in providing transparent and efficient market infrastructure and we firmly believe that such competition benefits the consumers, ensures high degree of service capability and fosters innovation and growth.

PXIL would be fulfilling its rightful role by ensuring that consumers get world-class services as well as new products and contracts, which would help them meet their energy requirements in the most efficient manner. ■