



Dear Readers,

The development of power exchanges has been the most important step in the creation of organized markets within the country with the exchanges successfully demonstrating the benefits of trading through them.

After about seven months of continued operations, PXIL believes that the power markets in India are ready to take the next step in their development process through the introduction of the longer tenure products on PXIL. The products are in the final stage of approval with the Hon'ble CERC and should be implemented within this month.

The products would be traded using PXIL's newly developed proprietary trading engine and would utilize the bilateral open access system. With standardized contract structure and standardized risk management systems, trading on the exchange would be convenient and easy for all participants.

In addition to introduction of new products, PXIL has taken significant strides in the development of power markets within the States, which would run in tandem with the national power market. These Intra-State markets would play a key role in unlocking captive capacity in the States and support the State utilities in their endeavor to fulfill their universal service obligations.

In this edition of our newsletter we bring to you details of the proposed longer term products as also a brief on our vision on creation of Intra-State markets in electricity.

Warm Regards,

**Rupa Devi Singh**  
MD & CEO  
Power Exchange India Limited

## PXIL joins Association of Power Exchanges



Power Exchange India Limited (PXIL) becomes a member of the Association of Power Exchanges (APEX). APEX is a world body of power exchanges which plays a key role in development and knowledge sharing of best in class market practices. All the members of APEX are national level power exchanges or power pools including: Nordpool, EEX, PJM, NEMMCO, OMEL etc.

PXIL aims to utilize this forum to bring the best practices from across the world for the development of Indian power market. Additionally, PXIL would endeavour to increase awareness about the developments in the Indian power market as well as innovative tools introduced by PXIL, among various power market entities across the world.

## Development of Intra-State Electricity Markets

Power Exchange India Limited (PXIL) has proposed the idea of developing a power market within specific States, such that buyers and sellers including captives and large industrial consumers can transact with each other on the exchange. The surplus electricity and unmet demand in this Intra-State market would be cascaded in such a manner that it can be sold in the national market through the power exchange on the next day.

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## World Environment Day: 5<sup>th</sup> June



Is an initiative of UN to bring attention of various political sources and human resources towards demolition of environment and their effect in time to come.

## Trading data for the month of May - 2009

Total Buy Bids (MUs)	22.14
Total Sell Bids (MUs)	95.85
Total Market Cleared Volume (MUs)	17.80
Max MCP (Rs/KWh)	14.55
Min MCP (Rs/KWh)	3.00
Avg. MCP (Rs/KWh)	4.87
Max Volume in a day (MUs)	2.53
Total Market Clearing Volume in MUs (till 31 <sup>st</sup> May 09)	196.52

## Within the pages...

- **Top news:** India and International
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## Top News: India

- ❖ [Central Electricity Regulatory Commission to rope in consultant to evolve norms for power market as mandated by the Electricity Act, 2003.](#) May 25, 2009

The Central Electricity Regulatory Commission (CERC) will engage an individual consultant to evolve comprehensive regulations for power markets in India as mandated by the Electricity Act, 2003. These norms will take into account the initiatives taken so far and also the emerging needs of the power sector. (source: <http://www.financialexpress.com/news/cerc-to-rope-in-consultant-to-evolve-norms-for-power-market/465198/>)

- ❖ [CERC amends the inter-State Open Access regulations](#) May 25, 2009

After considering the suggestions and comments received from various stakeholders on the draft proposals, Central Electricity Regulatory Commission, CERC has notified the final amendments to the open access regulations. The main features of the amendment are: Open Access norms for short-term transactions, display of Open access application status at SLDC website, revision of schedule etc (source: <http://www.cercind.gov.in/2009/May09/Signed-Final-Open-Access-Amendment-Regulations-2008.pdf>)

- ❖ [Central Electricity Regulatory Commission in favour of a fixed capital cost for renewable energy projects on the lines of thermal power projects](#) May 14, 2009

"The draft regulations for renewable energy projects such as small hydro, biomass, solar and wind units would be notified next week," a senior CERC official said. "By June 15, 2009, CERC would receive the suggestions from its stakeholders like state power utilities and investors, and since these are renewable power projects, it would receive feedback from NGOs as well," he said.

(source: <http://www.financialexpress.com/news/cerc-favours-fixed-capital-cost-for-green-projects/458784/>)

- ❖ [Power bourses to get CERC nod for long-term contracts - Paving the way for the top power exchanges IEX and PXIL](#) May 12, 2009

Power regulator Central Electricity Regulatory Commission (CERC) is likely to notify the amended open access regulations this week, paving the way for the top power exchanges - IEX and PXIL - to launch long-term contracts. "The amendment to the Open Access Regulations for Inter-State Transmission will be notified in about a week," a senior CERC official said.

(source: <http://www.thehindubusinessline.com/bline/blnus/03111707.htm>)

## Top News: International

- ❖ [Free market means cheaper power](#) May 29, 2009

Today, power plants are like any other business competing to sell a commodity; if they cannot succeed through hard work and ingenuity, then they will not survive. This transition has made New York's electricity system more reliable, saved consumers money and benefitted the environment. New York has been a successful example to the above.

(source: <http://www.timesunion.com/AspStories/story.asp?storyID=804945&category=OPINION>)

- ❖ [Western European Power Trading Rose to Record in 2008](#) May 28, 2009

Electricity trading in western Europe's seven biggest markets advanced to a fourth straight annual record in 2008 as prices reached all-time highs, spurring speculation.

(source: <http://www.bloomberg.com/apps/news?pid=20601087&sid=applNd.eZrw&refer=home>)

- ❖ [Rash move to meddle in power market: New Zealand](#) May 27, 2009

Ever since the electricity industry was transformed from a state monopoly into a market supplied by four main generating companies, the four have been accused of exploiting excessive market power.

(source: [http://www.nzherald.co.nz/politics/news/article.cfm?c\\_id=280&objectid=10574700](http://www.nzherald.co.nz/politics/news/article.cfm?c_id=280&objectid=10574700))

## Trading power with ease, transparency and certainty for longer tenures

Power Exchange India Limited has been in operations since 22nd October 2008. The last seven months of operations have provided PXIL with deep insight into the Indian power market and its requirements. With continued feedback from market participants and from a detailed analysis of product lifecycles followed at various power exchanges worldwide, some longer tenure products have been designed. These products are in the final stage of approval with the Hon'ble CERC and should be implemented shortly. All these products are physical delivery based and would enable market participants to procure and sell electricity through PXIL on **week-ahead, 1st, 2nd and 3rd month ahead** basis.

The current day-ahead trading market uses a closed double-sided bidding mechanism for a uniform price auction. While this bidding mechanism is useful for obtaining a uniform hourly market clearing price for smaller volumes and transactions in the day-ahead market, this bidding mechanism may have some issues for much larger transactions which are expected for the longer tenure products.

Since the longer tenure electricity transactions would imply much larger value transactions and the risk management and delegation of authority processes within many of the utilities are not completely evolved, therefore a mechanism needed to be developed which would best allow participating entities to take considered decisions based on transparent information on sale or purchase of electricity over a longer term.

The electricity trading system developed by PXIL, would operate as per the revised inter-state bilateral open access regulations. PXIL's trading system uses an auction mechanism whereby the trading session is divided in multiple sessions meant for sell, buy, trade matching and price revision. The trades would be matched through PXIL's newly developed proprietary trading engine.

PXIL believes that order matching systems for power trades are best evolved in keeping with the peculiarities of the local market conditions. Hence, PXIL has developed a trading engine software through a consultative process with the market participants ranging from utilities to smaller captives, as well as Regulators so as to provide the Indian power market with the most suitable product. The in-house development of the trading and matching system also provides PXIL with the flexibility to accommodate changes in continuously evolving Indian power market.

The contract features of the traded products e.g. contract structure, penalty structures, risk and margin system for longer tenure products have been kept in line with the present trading transactions undertaken in the short term bilateral trading market.

The sanctity and surety of the trades matched on the exchange are ensured by creating a risk management mechanism in the form of adequate margins to cover the trades. Therefore, the risk management mechanisms take care of defaults in payment by buyers, defaults in supply by sellers, arbitrary termination of contract etc. The margins are collected in the form of an initial margin after trade matching, daily margin of a pre-determined value during delivery and extra-ordinary margins to cover penalties of default. To provide the market participants with flexibility, margin required can be built in the form of bank guarantee, bank limits, letter of credit, fixed deposits and cash. Furthermore, care has been taken to ensure that the value of the margins is far lower than that required in the short term bilateral transactions otherwise.

PXIL is of the opinion that by providing ease, transparency and certainty to market participants these products would change the way power is traded in India and would take the Indian power market to the next stage of development.

## Workshop on development of Intra-state electricity markets

PXIL has proposed the idea of developing a power market within specific States, such that buyers and sellers within the state, incl. captives and large industrial consumers, can transact with each other on the exchange. The surplus electricity and unmet demands in Intra-State market would be cascaded to the national market on day-ahead basis through power exchange.

To take this idea further and establish its commercial principles and viability, PXIL conducted a workshop in Mumbai taking the State of Maharashtra as a case for study, presentation and discussion. Participants included the Hon'ble CERC Chairman, Hon'ble CERC members, the Hon'ble MERC Chairman, representatives from State Utilities including MahaSLDC, Power trading firms, Captive power plant representatives from Sugar, Steel, Cement & Chemical industries, industrial consumers and other interested organizations.

**Mrs. Rupa Devi Singh**, MD & CEO, PXIL started the session with a welcome speech and set the background by elaborating on genesis of the idea of Intra-State market. **Dr. Pramod Deo**, Hon'ble Chairman, CERC, while delivering the key-note address elaborated on major initiatives taken by CERC for development of power market viz. unbundling of SEBs, Open Access etc. He laid emphasis on quick development of market infrastructures within States and supported the multi-buyer structure at State level. Concluding his speech Dr. Deo said that Maharashtra is a very good example where intra-state market can develop. He wished PXIL all the best for the development of power market in India and for the appropriate development of this concept propounded by PXIL. **Mr. V. P. Raja**, Hon'ble Chairman, MERC, in his inaugural speech said that the reforms in power sector has been happening for quite some time however, speed and sequencing of reform initiatives matter a lot. Concluding his speech, Mr. Raja wished success to PXIL and encouraged the team to take similar initiatives in future. During the technical sessions too, Mr. Raja mentioned the need to create market spaces in States where competitive market forces could be allowed to operate such that the benefits of competition could go to final users.

The PXIL team took the audience through the entire concept of the **Intra-State two-day-ahead market** and elaborated on discussion points to ensure that viability of the concept could be established through a consensus approach. The enthusiasm of the discussion panel and audience were evident from the high level of participation. It is expected that the inputs received from the key stakeholders of the power sector in the form of CERC, MERC, MahaSLDC, Power trading firms and CPPs would take this idea to its logical conclusion through quick implementation. (detailed news: <http://www.powerexindia.com/download/PXIL%20-%20Intra-State%20workshop%20-%202015%20May%202009.pdf>)



### Did you know?

1. Using solar power, just 1% of the land area in India is adequate to meet India's entire electricity requirements till 2030.
2. First nuclear power plant in India was setup at Tarapur, Maharashtra, in 1969
3. China's wind power generation capacity at the end of year 2008 was 12,210MW, which is double of the capacity at the end of year 2007.

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