CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:

1. **Shri Ashok Basu, Chairman**
2. **Shri Bhanu Bhushan, Member**
3. **Shri A.H. Jung, Member**
4. **Shri Rakesh Nath, Member (Ex-Officio)**

Petition No.155/2006
(Suo motu)

In the matter of

Development of a common platform for electricity trading

STATEMENT OF REASONS
(DATE OF HEARING: 19.12.2006)

Preliminary

The Central Electricity Regulatory Commission (hereinafter referred to as "the Commission"), has been mandated under Section 66 of the Electricity Act, 2003 (hereinafter referred to as "the Act") to endeavour to promote the development of a market (including trading) in power in such manner as may be specified and shall be guided by the National Electricity Policy. The National Electricity Policy issued by the Central Government vide Resolution dated 12th February, 2005 in sub-para (d) of Para 5.7.1 enjoins upon the appropriate Commission to undertake development of power market in consultation with all concerned. In due discharge of its statutory responsibility, the Central Commission floated a Staff Paper on "Developing a Common Platform for Electricity Trading" in July, 2006 inviting comments/suggestions from the stakeholders and the interested parties/persons on the viability, structure, management and operational arrangement of power exchange(hereinafter referred to as PX).

2. In the staff paper, the following proposals were made:

(a) A single national PX dispensing tradable power through day-ahead bidding (in one hour time block) would be appropriate for India at this stage.

(b) Price discovery would be through double side bidding and buyers and suppliers shall pay/receive uniform price, which will be the price of the marginal supply.

(c) PX will manage congestion by market splitting. However, unlike market splitting practiced in the European markets, it was proposed that the buyers located downstream of the congested corridor would pay the weighted average price of the clearing price in the sub-market and the clearing price of the sub-market upstream of the congested corridor.

(d) It would be appropriate to handle operational inflexibilities of generating stations in the form of block bids.

(e) To begin with, participation in the PX would be on voluntary basis.

(f) The PX would cater to the spot market through day-ahead option as the balancing market is presently adequately taken care of by the established UI mechanisms. Contracts for differences are not relevant in the Indian context.

3. The Commission received overwhelming responses from the generators, distributors, traders, academicians, activists and consumers etc. Keeping in with the practice of the Commission, a public hearing was conducted on 19th December, 2006 at the India Habitat Centre, New Delhi for detailed deliberations on the proposal for electricity trading through power exchange as made out in the Staff Paper. The public hearing was attended by about 150 participants representing the different interests in the electricity industry. Some of the stakeholders, namely, MCX, NCDEX, RLDC, NTPC VVNL, PTC, Shri Jayant Deo of World Energy Council, Prof. Khaparde of IIT, Bombay made formal presentations on various aspects of the electricity market development in the Indian context while other participants like CEA, PSEB, NHPC, TPTCL, RPCs, Rajasthan PPC, Chhatisgarh SEB and Shri T.L. Sankar, Advisor, ASCI, Hyderabad participated in the debate on the various aspects of the proposed power exchange.

4. The issues on which detailed deliberations took place in the public hearing broadly covered the following areas:-

(a) Timing for launching power exchange

(b) Concerns of Licensed Traders

(c) Intra-State ABT Vs. Power Exchange

(d) Need for one or more power exchange

(e) Voluntary vs mandatory participation in power exchange

(f) Ownership and management of power exchange

(g) Regulation of power exchange

(h) Scope of power exchange

(i) Assignment of transmission capacity and congestion management

(j) Interface between power exchange and system operator

(k) Unscheduled interchange (UI) vis-à-vis power exchange

(l) Other related issues

5. The Commission has considered the proposals made in the Staff Paper and the views/suggestions received prior to and during the oral hearing from the various stakeholders and interested parties on the issues enumerated above. Summary of the discussion and the decisions of the Commission on the above issues are discussed in the succeeding paragraphs.

Right time for launching the Power Exchange in India

6. In Para 7.9 of the Staff Paper, it was stated that going by the international experience, the right time to set up a power exchange would be when the aggregate demand and supply streams are more or less evenly placed on All India basis and the twin objectives of meeting the peak demand and resource optimization could be achieved through a common trading platform. Nevertheless, it was suggested that the power exchange should be launched in

the near future, even in the present situation of shortage in order to send the right signals to investors and consumers about transparent market development in the power sector in the country.

7. In response to the above proposal, Adani EL, Tata PTCL, Andhra Pradesh PGCL, Neyveli LC, Dr. K.K. Das, Prayas, Shri Padamjit Singh of Punjab SEB, Shri R.K. Kapoor, Consultant and Shri S. K. Dube of PTC have expressed the apprehension that due to the prevailing power shortage in the country, lack of financial viability of State Discoms and constraint in the inter-regional transfer of power, the time is not yet ripe for launching a power exchange in India. They strongly felt that the country should first achieve adequacy in generation and transmission capacity before trading is undertaken through power exchange. On the other hand, NTPC VVNL, Gujarat UVNL, CII, Shri Jayant Deo, MCX, Shri A.K. Asthana, Shri M.K. Roy, Shri Rajesh Jain, NHPC, Shri T.L. Sankar and PTC strongly favoured establishment of a power exchange without further delay as a significant amount of power trading is already going on in the country and price discovery by trading through PX would trigger creation of fresh generating capacity and meet the challenge of power shortage in the country.

8. The Commission has considered the divergent views of the stakeholders and the participants and feels that establishment of power exchange will give impetus to the generators to set up a fresh generating capacity while giving the consumers the privilege of procuring electricity at competitive price. The

Commission is, therefore, inclined towards the idea of setting up a PX at the earliest as a step in the direction of transparent market development in power.

Concerns of the Licensed Traders

9. The Licensed Traders voiced their apprehensions about the adverse impact that the establishment of a power exchange would have on their business operations. Traders like Adani EL, Tata PTCL and PTC pleaded for continuation of bilateral transactions through traders since they apprehended that establishment of power exchange would hit their business. In order to minimize the adverse impact of PX on their business prospects, these traders had pleaded that they should be allowed full membership of power exchange and participation in buying and selling through the power exchange. PTC favoured co-existence of power exchange and bilateral trading. Secondly, the traders also expressed their concern that after establishment of the power exchange, whole or a part of the inter-regional transmission capacity may be assigned to PX, which would curtail their business prospects. Thirdly, the traders also expressed their apprehension that the power exchange would get a preferential treatment in apportioning of transmission charges and losses, thus putting the bilateral arrangements by the traders at a disadvantage.

10. The Commission would like to assure the licensed traders that it does not propose to impose any restrictions regarding the membership of and participation in the power exchange. At the same time, it is made clear that

natural market development cannot be blocked solely for protecting the interests of any segment, e.g. the traders. As regards the concerns about assignment of the inter-regional transmission capacity to the power exchange, the Commission would lend its serious consideration to the issue in due course of time.

Intra-State ABT Vs. Power Exchange

11. Some of the stakeholders like JSWPTCL, GUVNL, PricewaterhouseCoopers and NHPC have expressed their opinion that implementation of intra-State ABT should precede establishment of power exchange in order to ensure participation of the intra-State entities in the proposed system. The Commission does not fully share this view for the simple reason that if a State does not appreciate the benefits of intra-State ABT and defers its implementation, this should not stand in the way of the other progressive States, who have already implemented the intra-State ABT, from reaping the benefits of the PX. Even otherwise, the States can fruitfully participate in the power exchange even before full fledged implementation of intra-State ABT by the entities within their jurisdiction. The minimum pre-requisite for such participation by the generators and other entities embedded in the State network is to ensure installation of special energy meters for UI accounting and the agreement with SLDC to settle the UI account, which can be achieved easily.

One Power Exchange Vs. Multiple Power Exchange

12. In Para 4.2.2 of the Staff Paper, it had been suggested that one PX may be established to start with. One of the considerations for such a suggestion was that since the power exchange would necessarily have to closely coordinate with RLDCs/NLDCs, the latter would face difficulties if they have to interact with more than one PX. The second consideration was that surplus tradable capacity being limited at present, there may not be enough business to sustain more than one PX. This suggestion has been, by and large, welcomed by most of the participants with the exception of MCX and Shri Jayant Deo, ex-Member, MERC. Citing the example of satisfactory multiplicity of Stock Exchange (NSE & BSE) and Commodities Exchange (MCX, NCDEX) in the country, they favoured establishment of more than one power exchange to encourage competition for their sustained performance, since one PX would be a monopoly and would tend to be complacent in the long run. As regards the business volume, they strongly felt that this should be left to be decided by the operation of the market forces. If required, second-tier power exchanges in each State/region should be encouraged.

13. MPERC, Shri R.N. Pathak, CE, Rajasthan PPC, Shri C.M. Bhogal, MS, NERPC and PricewaterhouseCoopers made a suggestion that one regional power exchange should be established to gain experience before moving to a national power exchange. Professor P. Kalra of IIT, Kanpur proposed that there should be a power exchange in each region besides a national power exchange. NTPC

VVNL, during their presentation made a point that viability of power exchange was not an issue since enough trading volume exists to sustain the power exchange. They have, however, suggested that a beginning should be made with one power exchange at the national level. To support their suggestion, they have quoted the case of other countries, which have either one power exchange or are moving in that direction.

14. The Commission has noted that though many respondents have supported the staff proposal for having one national PX, the reason for it is mostly the low business volume available for trading at present. The Commission feels that the policy framework should make room for establishment of more than one power exchange at the national level and also have the provision for having second-tier power exchanges at State/regional level commensurate with the market development/perception. The Commission would also like to welcome any initiative on the part of the prospective promoters of power exchange at the national level, which has a potential of bringing about larger benefits to the electricity sector. The Commission would also like to allay the apprehension in some quarters that multiplicity of power exchange would result in increased work load of RLDCs and assure all concerned that the Commission would encourage a framework in which the impact of additional work load of RLDCs on account of setting up of the PX is minimal.

Voluntary Participation Vs. Mandatory Participation

15. It was suggested in Para 4.2.3 of the Staff Paper that participation in the PX would be voluntary, to begin with and mandatory participation could be thought of when some experience of its operation is available. The responses to the proposal are overwhelming. Among the votaries of mandatory participation were GEA ES(I) L who wanted all traders to operate through the power exchange only and even the commercial consumers to ultimately move to power exchange. NHPC suggested that to make the power exchange viable, all short term trading should be mandatorily carried out through power exchange, a view which was also shared by Shri Asoke Kundu, GE Energy and Professor P. Kalra of IIT, Kanpur.

16. The Commission is of the considered opinion that the main objective of proposing establishment of PX in India is to provide one more option to the utilities/entities and mandating participation in power exchange shall not be in consonance with the said objective. We would like participation in the power exchange to be voluntary with full freedom to individual utility/entity to decide about it depending on the perceived benefits vis-à-vis other options.

Ownership and Management of Power Exchange

17. It has been proposed in the Staff Paper that the PX will be a multi-owner organization promoted by such entities as generators, distribution licensees, central transmission utilities, financial institutions/banks, commodity exchange and trading licensees. The membership of the exchange will be open to the grid

connected entities like State electricity boards, distribution licensees, generating companies, captive power plants and the bulk industries with provision for associate membership to the trading licensees. The PX will be managed by a Board of Directors appointed by Central Electricity Regulatory Commission on the recommendations of an Advisory Council consisting of the representatives of the members and the associate members of the PX.

18. In response to the above proposal, some of the participants like PTC, NTPC, CII, APPGL etc. recommended that the Central Transmission Utilities and the Regional Load Despatch Centres should have a stake in the PX. NTPC was of the view that the PX should be promoted by CPSUs and all stake holders should be involved in its establishment. Even PTC evinced keen interest to invest in the PX. A diametrically opposite view was expressed by JSW PTCL and NHPC, who wanted that the CTUs/RLDCs should be kept out of the purview of the PX. Tata PTCL expressed the opinion that the beneficiaries should not have a controlling interest in the PX. While NCDEX recommended that actual users should have equity participation in the PX, other participants like MCX and Shri Jayant Deo favoured separation of ownership, management and participation in the PX. Shri C.M. Bhogal suggested a 3-tier structure consisting of operational, advisory and technical wings of the PX, which should be funded by the Government of India to begin with. Both MCX and NCDEX suggested that an experienced commodity exchange should operate the PX to ensure the required neutrality of the system.

19. The Commission is in agreement with the suggestion of MCX and NCDEX that a commodity exchange, being already geared up, would be well qualified for operating the PX and imparting the required ring-fencing between ownership, management and participation in the PX. The Commission would also like to clarify that in keeping with its approach to encourage voluntary participation in the PX and allowing more than one PX to come up as per the market perception, it does not propose to mandate any restriction at this stage on the ownership and management of the PX. The Commission would also welcome any imaginative initiative by NTPC and PTC or any other entity to set up a PX. The bottom line, however, is that the PX would be required to meet the qualifying criteria to be specified by the Commission in due course of time.

Regulation of PX

20. The general approach of the Commission is to allow operational freedom to the PX within an overall framework. The regulation would be minimal and restricted to requirements essential for preventing derailment/accidents and collusion. Private entrepreneurship would be allowed to play its role. The Commission shall keep away from governance of PX, which would be required to add value and provide quality service to the customers.

21. As a logical consequence of the above (voluntary participation, no mandate for one PX, no restriction regarding ownership, and minimal regulation), the

Commission would not like to impose any management structure, rules or procedures for PX. We would let the promoters develop these, and submit them for Commission's approval. It is important that the rules and procedures cater to the requirements of PX customers. As such, it is for the PX promoters to have a serious dialogue with their prospective clients, and determine what their pragmatic expectations are.

22. As already indicated by us during the hearing on 19.12.2006, the Commission would come out with the proposed regulatory requirements (including those relating to registration/licensing) by 20.1.2007.

Scope of PX

23. In Para 4.4 of the Staff Paper, it has been stated that the balancing market is adequately and fully taken care of by the established UI mechanism and the proposed PX will not have any role in it. Except for Shri V. Raghuraman of CII, who feels that balancing market should be handled through PX, other participants are silent on this proposal. The Commission is of the view that the established UI mechanism is well geared up to meet the requirement of balancing market and there is no need to assign this task to the PX.

24. It has been suggested in the Staff Paper that the Contracts for differences are neither relevant nor applicable in the Indian context. Most of the responses are silent on this point except PTC and Shri Raghuraman of CII, who strongly

pleaded that Contracts for differences should be promoted through PX. The Commission would like to clarify that unlike the other countries, where the Contracts for differences are practised, we have an intermediate stage of day-ahead scheduling between an agreement and delivery. So long as the agreement for sale/purchase reached through/with PX is faithfully converted into day ahead schedule advices to the concerned RLDCs/SLDCs, there would be no scope left to the PX for resorting to the Contract for differences. Any failure to deliver in compliance with the schedule gets reflected as UI and is duly accounted for by the concerned RLDC through UI accounting, thus leaving no scope for interference by the PX. Only in case of failure on the part of a party to convert his agreement into day-ahead schedule advices to the RLDC, it would amount to a default in the PX and it will be for the PX to handle such defaults either through Contracts for differences or any other mechanism. The PX could even mandate that all agreements must necessarily be scheduled so that there is no default in the PX and all defaults are taken care of by UI only.

25. The Commission is of the view that the transactions finalized through PX should be at least day ahead since all transactions reached through PX must necessarily be scheduled and all scheduling except in an emergency must be done on day-ahead basis. The Commission, therefore, does not foresee any scope for same-day transaction through PX. Even under the prevailing situation, the utilities in India have the option of load shedding as well as of over drawing/under drawing from the grid under the UI mechanism in the event of

unforeseen change in the consumer load. The utilities have also no compulsion to stick to schedule unlike the other countries, where all control areas must maintain their actual net exchange as per their respective schedules and, therefore, the utilities have to buy/sell in a hurry if consumer load differs from the forecast.

26. The Commission has noted that most participants have agreed to the PX starting with and concentrating on day-ahead, though some respondents want PX to handle long term contracts as well. The Commission would have no objection to contracts for longer period/maturity being finalized through a PX though such contracts have to be organized through suitable packaging. The Commission would like to leave this aspect to be decided by the promoters of the PX in the light of the requirements and limitations of their prospective customers.

27. The Commission would also like to clarify that it is not in favour of assigning any generating capacity to the PX. Since PX provides one more option to the utilities or entities to trade their surplus power and participation in the PX is voluntary, the Commission is of the view that the long term PPAs should not be restricted/discouraged for the sake of promoting the PX.

28. A proposal has been advanced by PricewaterhouseCoopers and MPERC that the PX should facilitate bilateral sales between the parties. The Commission appreciates such innovative proposal and suggests that the promoters of PX should give a serious thought to this option of bilateral trading through the PX.

Another proposal has been received from Shri Jayant Deo, CII, MCX and GUVNL to exploit the potential of PX in harnessing captive generation in the country. The Commission would like to point out that the implementation of the proposal requires adoption of intra-State UI by the concerned States and implementation of the scheme of open access by the State Transmission Utility/SLDCs. This needs serious consideration by the state commissions and the STUs/SLDCs.

Assignment of Transmission Capacity and Congestion Management

29. As regards the assignment of transmission capacity, we have intra-regional and inter-regional systems. Intra-regional systems are, by and large, well meshed and have adequate transmission capacity except in case of transmission outages. On account of the meshed nature of the network, it is neither possible nor necessary to assign any transmission capacity to PX. As regards the inter-regional links, most of the present bilateral trading is carried out through inter-regional transmission system and their use has to be restricted on account of limitations in inter-regional transmission capability.

30. The responses to the suggestion for allocation of any transmission capacity to the PX ranged from allocation of entire inter-regional capacity to strong objections to any allocation, particularly from the licenced traders. The Commission is of the view that the issue needs to be considered from various angles including the need for equitable treatment to long term contracts, bilateral

agreements and transaction through PX, all of which have an important place in the evolving electricity market in India.

31. Congestion Management is a complex issue, which requires careful deliberation. Fortunately, we have relatively few interfaces with transmission congestion. However, Shri Padamjit Singh, during the hearing, raised a very pertinent question regarding the difficulty in identifying congestion with a particular transaction since a transmission path cannot be identified for a particular transaction through the PX. Professor Khaparde of IIT, Mumbai also explained that the congestion management is a very complex issue and needs to be addressed. . The Commission proposes to discuss these issues with the promoters of the PX and RLDCs in due course of time.

32. Another complex issue is the question of levy of transmission charges and apportioning the transmission losses in respect of transaction made through the PX. The Commission would deliberate on this issue at an appropriate stage in future.

Interface with System Operator

33. As mentioned earlier, in many countries, PX is seen/ established as an extension of the system operators, or as the market operator to share the work load of the system operator. The need for this arises because they must have an hour-ahead market as also a balancing market. In our case, with UI taking care of

these requirements, PX is not a requirement of the system operator. PX would be mainly an alternative to bilateral trading (direct or through a trader), and therefore, should not expect a preferential treatment from RLDCs/NLDC. The Commission would, however, endeavour to come out with the guidelines to ensure that the PX does not increase the workload of RLDCs/NLDC.

34. An extreme view has come from GEA suggesting that all RLDCs should work under the directions of PX. The Commission cannot subscribe to such suggestion since the RLDCs/NLDC have statutory responsibilities to discharge under the provisions of the Electricity Act, 2003, which cannot be diluted by placing them under the control of the PX.

<u>Unscheduled Interchange (UI) vis-a-vis Power Exchange</u>

35. Unscheduled Interchange (UI) is not only the third part of Availability Based Tariff (ABT), but an integral component of evolving electricity market in India. Mr. Mark Lively of USA and Shri Prabuddha Banerjee suggested that UI rate should have locational bias, taking into account the transmission loss/constraint. While many have so far viewed UI primarily as a disciplinary mechanism, the Commission would like to clarify that UI is a mechanism for dispute-free settlement of deviation from schedules. It not only eases the workload of utilities but also enables optimization of generation capacity through real merit-order. Our experience shows that UI mechanism offers a real time balancing market and an alternative to trading in power. Therefore, the PX, instead of viewing long-term

contracts and UI as a threat, have to supplement these. Further, the PX should not allow any contracts to take place under its aegis in which a party becomes immune to UI. The Commission wants all utilities/entities to respond on line to the pricing signal of UI.

Other related issues

36. It has been suggested by NTPC that all cross border trade should be carried out through PX only. The Commission does not subscribe to this view since the Power Exchange has been conceived as an additional tool for trading and not to supplant the existing mechanisms. PTC has suggested that the trader should be allowed to aggregate while participating in PX. The Commission would like to leave this question to the promoters of the PX to take appropriate decision. Regarding trading in derivatives and futures, this issue should be decided keeping in view the expectations of the customers of the PX. However, the Commission would not like to encourage gaming by the speculators.

37. Some of the participants have cautioned about the possible regulatory overlap with Forward Markets Commission in the matter of the power exchange (PX). The Commission is of the view that the Commission has been mandated by the Electricity Act, 2003 to develop a power exchange. In this connection, the relevant provisions of the Electricity Act, 2003 are extracted below:

> "Section 66: The Appropriate Commission shall endeavour to promote the development of a market (including trading) in power in such manner as may be specified and shall be guided by the National Electricity Policy referred to in Section 3 in this regard.

Section 173: Nothing contained in this Act or any rule or regulation made thereunder or any instrument having effect by virtue of this Act, rule or regulation shall have effect in so far as it is inconsistent with any other provisions of the Consumer protection Act, 1986 or the Atomic Energy Act, 1962 or the Railways Act, 1989.

Section 174: Save as otherwise provided in Section 173, the provisions of this Act shall have effect notwithstanding anything inconsistent therewith contained in any other law for the time being in force or in any instrument having effect by virtue of any law other than this Act."

38. It is evident from the above provision that any of the provisions of the Electricity Act, 2003 or any rule or regulation made thereunder, which is inconsistent with any of the provisions of the Consumers Protection Act or the Atomic Energy Act or the Railways Act shall be void to the extent of inconsistency. Since Forward Markets Commission does not draw its existence from any of the provisions of these Acts, the Central Commission is fully empowered under Section 66 of the Electricity Act, 2003 to take steps to develop the power market including trading. The question of regulatory overlap with the Forward Markets Commission in so far as the PX is concerned, should therefore not arise.

Sd/-	Sd/-	Sd/-	Sd/-
(RAKESH NATH) **MEMBER (EO)**	**(A.H. JUNG)** **MEMBER**	**(BHANU BHUSHAN)** **MEMBER**	**(ASHOK BASU)** **CHAIRMAN**

New Delhi dated the 18th January, 2007