Comments of Prayas Energy Group

on

CERC Staff Paper (dated August 28, 2006) on

"Developing a Common Platform for Electricity Trading"

These are some preliminary comments from Prayas Energy Group, Pune on the CERC Staff Paper, which primarily discusses the issues and possible framework for a Power Exchange (PX) in India. We hope that these observations and comments would contribute to a wider discussion on the subject.

1. **Welcome Step:** CERC taking the initiative in preparing a staff paper on power exchange and inviting comments are welcome steps. We also appreciate the overall cautious approach towards developing a PX, suggested in the Foreword and in the paper.
2. **Driver, Ownership and Management of PX:** CERC is better suited (as compared to any single utility) to take up the driver role to setting up the PX. Ownership would be joint with many participants having a stake (6.4.3). Owners should play a major role in setting up the advisory Council (6.4.7) and Board of Directors (6.4.9) with CERC playing an oversight role. The best way to ensure fairness in this process is the inclusion of all stake holders (including consumer groups) and ensuring the possibility of public scrutiny of the whole process. Management should also involve all stake holders and public disclosure of the transactions and procedures of the PX (in specified cases this may be done after commercial transactions are finalised).
3. **Motivation for PX:** The paper talks of many motivations. a) Better price discovery; b) Attracting more generation capacity to grid; c)Improved settlement and payment mechanisms; d)Increase in fair inter-regional transfers; e)Encouraging traders. We begin with looking at some of the challenges of setting up electricity markets and then examine some of the benefits of the PX claimed in the consultation paper.

<u>Creating Electricity Markets is Very Challenging</u>

We urge caution in the development of a power exchange because creating competitive electricity markets is very challenging. Some of the reasons for these difficulties are: (1) the physical characteristics of electricity; (2) the characteristics of supply and demand in electricity markets; (3) market concentration and market power problems; and (4) difficulties in creating adequate incentives for capacity additions.

One of the characteristics of electricity is that it cannot be stored and demand must match production second-by-second. This means that the price of electricity in at any time is unrelated to the price the next day or even the next hour, resulting in high volatility in the price for electricity. Further, the buyers for electricity at any time are limited to those who will be using the electricity in that hour. This reduces the number of players in the market and consequently reduces the liquidity of the market. This is unlike other commodities such as oil which can be stored and where the potential buyers in the market are those who will use oil not only during that hour or day but all others who may want to use the oil at a later time. Therefore, there is much greater liquidity in the oil market and the volatility in oil prices is much less.

In electricity markets, the supply response is sluggish for two reasons. First, generation plants have long lead times. Second, investment in electric generation plants is long-lived and it takes a long time for developers to get their money back. This increases the risk for investors and makes them cautious.

To make matters even more difficult, the demand response for electricity is muted making demand for electricity very inelastic. Consumers may respond somewhat to average electricity prices in the long run, but when it comes to hourly electricity prices, most consumers are not even aware of them making it impossible for them to respond to electricity prices that change dramatically from hour to hour.

The difficulties due to these characteristics of electricity and electricity markets are further exacerbated by the problems with market concentration and market power. Most countries have found it difficult to achieve sufficient horizontal unbundling of generation resulting in too few players in the market. In electricity markets, even a small supplier, if he is a pivotal supplier can exercise market power. Implicit collision between suppliers can make matters even worse.

The non-storability of electricity, the characteristics of electricity demand and supply curves, and the difficulties with reducing market concentration make electricity markets particularly vulnerable to gaming or manipulation. While the consultation paper does propose monitoring measures to mitigate the potential for abuse, it must be remembered that participants in markets are generally one step ahead of the regulatory body. This is likely to be particularly true for electricity markets in India where regulatory capacity in terms of staffing, resources, and skills is inadequate.

With this background, we now look at some of the benefits of PX claimed in the consultation paper.

Attracting more generation capacity to grid

Considering the Indian context, it must be noted that, as far as we know, no country has introduced electricity markets during periods of shortages. In fact, most countries that have introduced electricity markets have done so when there was a large surplus of generating capacity. In most such cases, the markets worked until the surplus was depleted and then ran into trouble when the capacity situation got tight. It is of particular concern that India wants to introduce markets when there is already a capacity deficit. As Frank Wolak[1] says, "It is difficult to imagine more adverse circumstances."

The problems of electricity markets not working well under tight capacity conditions is related to the observation from international experience that electricity markets do not give sufficient incentive for new capacity. One of the main benefits that used to be claimed for electricity markets was that they send the appropriate price signals to investors to invest in new capacity. However, international experience, particularly in Latin America suggests that such price signals may not be sufficient. Even Norway which is touted as a success of electricity markets is beginning to look into how to ensure that there is adequate capacity in the future. Many countries are struggling with this issue and are exploring separate payments for capacity but recognize that those too would introduce distortions. Given this experience with inadequate incentive for new capacity, it is ironic that the consultation paper suggests that one benefit of the power exchange is that new merchant plants will come up.

It is possible that spare captive capacity will be added. But in that case, the price of power is likely to be high and the buyers will turn out to be high–end consumers (like IT parks, SEZs etc). In that case, the PX will facilitate access to electricity market for a small section of suppliers and consumers. This market will use many of the common resources like T&D system, LDCs etc.

Considering that only half the households have access to electricity and the quality of rural power supply is very poor, it is to be discussed if facilitating the formation of such a market for a small section is the current priority. Competitive bidding for new capacity, improved efforts on loss reduction and subsidy reform etc are perhaps higher priority tasks.

[1] *Reforming the Indian Electricity Supply Industry*, Frank Wolak, 2004

Price Discovery

Another potential advantage of the power exchange cited in the consultation paper is that there would be better price discovery. It is difficult to see how that will happen. The power exchange will function as a day-ahead market and the UI market as the real time market. In well functioning day-ahead and real-time markets, prices in the two markets converge. In fact that was the initial rationale for adding a day-ahead market to a real-time market in some cases. It was expected that the volatility in the real time market would be reduced by the presence of a day-ahead market. Therefore, it can be expected that in the Indian context, the price in the power exchange (day-ahead market) and the UI market (real-time market) will converge. Given that the UI market is capped, it is likely that the power exchange will mirror the capped prices in the UI market. In that case, no real price discovery is likely to occur.

Improved settlement and payment mechanisms

This is a positive aspect of the proposed PX, with bank/FI as a clearing house, bank guarantee for security etc (6.2). Here again, it is perhaps possible to improve the ABT regime to incorporate these features, so that it gets more teeth?

4. Conclusions

With this background, it is important that wider public consultations are held on this subject before starting up anything new. The consultation paper says that it may be "prudent to launch it in the near future to send the right signal to investors and consumers"(7.9), but we think that it must not be done in a hasty fashion, resulting in costly mistakes. The discussion paper was available on the CERC website and sent to people in the industry, but no public events have been organized to debate the approach. Perhaps, after examining the feedback received, CERC could plan such events in the near future. This could be in the form of regional consultations, public hearings etc.

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