

**Some Good News in the Power Sector:  
Initial Success in Solicitations for Ultra Mega Power Projects**

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The recent announcement of the winning bids for the Sasan and Mundra ultra-mega power projects (UMPPs) has created some excitement in the power sector where good news is rare. The tariffs quoted by the two winners are much lower than the cost of power from other plants and they have set a new price benchmark. The quoted tariffs highlight the importance of competitive bidding as a powerful mechanism to procure power at cost-effective rates. Unfortunately, many states still prefer to use negotiations followed by a memorandum of understanding (MoU) leading to a significant loss to the economy. These initial results of the UMPP bidding process also draw attention to the inefficiencies in the operation of the coal industry.

**Background**

While the Indian economy is growing at a rapid pace, most state utilities have not been adding much generation capacity, further exacerbating the power shortage in the country and leading to high cost of power. The Ministry of Power (MoP) envisages generating capacity additions of over 100,000 MW in the 10<sup>th</sup> and 11<sup>th</sup> Plans . Noting that on-going and proposed projects would be insufficient to meet these requirements, in January 2006 it proposed several large-scale capacity addition projects to bridge the gap. In order to capture economies of scale and to achieve higher efficiencies, MoP decided to set up nine such UMPPs of 4000 MW each, all of them coal-based and using super-critical steam technology which would require 10% less coal than the prevailing sub-critical steam technology.

Because the recently notified National Tariff Policy stipulates that all future requirements of new capacity will be met through competitive bidding except for expansion of an existing project or where there is a PSU that has been identified as the developer,<sup>1</sup> it was decided to use competitive bidding to set-up the UMPPs. MoP felt that experience with

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<sup>1</sup> After five years, even PSUs will have to bid for projects.

competitive bidding for such large projects would also facilitate the development of smaller projects by individual states through competitive bidding.

In order to build investor confidence, reduce their risk and to improve the level of response to the competitive bidding, it was decided that before inviting bids, a shell company or special purpose vehicle (SPV) would be set up to carry out the following tasks: (1) acquire land; (2) ensure allocation of coal mines for pit-head plants (such as Sasan); (3) ensure allocation of water for the project; (4) obtain various approvals and clearances required by statutes; (5) take responsibility for carrying out an Environmental Impact Assessment (EIA) and carry out the international competitive bidding.

The UMPP bid solicitations provide three mechanisms to provide payment security to the potential suppliers of power: (1) a revolving letter of credit by the distribution licensees procuring power; (2) escrow accounts providing claims to the receivables of the distribution utilities; and (3) allowance to supply power to a third party in case of a default. Of course, as someone has said, the best security mechanism in India is a low tariff. Further, the UMPPs will be entitled to the special considerations under the mega power policy which include customs duty/ excise duty exemption and deemed export benefits.

Considerable progress has been made in the case of two UMPPs . These are the projects in Sasan (MP) for a pit-head plant and in Mundra (Gujarat) for a plant based on imported coal. Bids for these two projects were opened recently and the winners were announced, and the results have generated considerable excitement in the power sector where good news is rare. Lanco Infratech won the bid for Sasan with a levelized tariff of Rs 1.20 per kWh and Tata Power Company won the bid for Mundra with a levelized tariff of Rs 2.26 per kWh. These bids are backed by a bid bond of Rs. 120 crore which will be replaced by a performance guarantee of Rs. 300 crore by each winning bidder and thus cannot be frivolous. As reported by Infraline News Service, the Sasan bid consists of Rs. 0.90 per kWh for fixed costs and Rs. 0.30 per kWh for fuel (variable) costs. Tata Power's bid consists of Rs. 0.98 per kWh for fixed costs and Rs.1.28 per kWh for variable costs.

### **Importance of Competitive Bidding**

The move to procure power from private parties naturally brings back memories of the massive policy failure involving IPPs in the 1990s, which had resulted in derailing the sector for nearly a decade. At that time, selection of promoters was not done through competitive bidding but instead through closed-door negotiations. The developer was required to obtain all the clearances and approvals on his own. The risk for the developer was further increased by the absence or inadequacy of safeguards which provided surety of payment from the purchaser, almost always an SEB in a financially fragile condition. Uncertainty about obtaining coal linkages also added to the risk.

In contrast, in the case of UMPPs, competition was used to bring down the prices and MoP further enhanced competition by reducing the risk for bidders by offering a 'cleared' project and site for bidding. The results validate the benefits of such an approach.

Despite the Central government mandating the competitive bidding in late 1990s, hardly any state initiated competitive bidding for new power projects. As we mentioned earlier, the National Tariff Policy mandates that procurement of all new generation capacity shall be through competitive bidding. However, several states are not following this mandate. Such deviation from policy results in a significant loss to the states' economy and is a failure of governance. For example, Maharashtra is planning to extend an existing sub-critical steam unit at a cost of Rs. 4.5 crore per MW, and Punjab has recently signed a PPA for a new sub-critical 600 MW coal plant (2 x 300 MW) also at a cost of Rs. 4.5 crore per MW. These prices for sub-critical steam units are high and will lead to tariffs that are considerably higher than those quoted for these UMPPs. It is particularly ironic that on one hand affordability of electricity is a significant issue for many people, while on the other hand states are unwilling to adopt a relatively simple mechanism to lower the cost of electricity. Of even greater concern is that just a few days back the Chief Ministers of some states (Orissa, Jharkhand and Chattisgarh) were requesting that they be allowed to invite IPPs again through negotiated MoUs.

Considering that the tariff from the Sasan bid is about 40 to 50 Paisa per kWh lower than the plants being promoted through non-competitive means, the annual saving from a 4,000 MW plant would be nearly Rs 1200 crore per year! Hence, consumers and the Central Government should not accede to these requests for MoUs and must push for the use of competitive bidding. The state regulators are duty bound to promote "competition, efficiency and economy" in the operations of the power utilities. They also have the

mandate to regulate power purchases by the utilities and therefore, it is their duty to put a stop to non-transparent and non-competitive processes that result in high cost power from new projects.

### **Inefficiencies in Coal Operations**

The low tariffs for power that have been quoted, particularly for Sasan, have set an important benchmark for the cost of power. Particularly striking is the variable costs (or energy) component of the bid for Sasan which at 0.30 per kWh is much lower than what NTPC pit-head coal plants have to pay. For example, the fuel cost of power from pit-head plants such as Talcher 2 or Korba is around 48 to 55 Paisa per kWh, 60% to 85% costlier than what has been agreed for the Sasan plant. Because the coal block near Sasan has been allocated to the power plant and the mining will be done by the winning bidder, Sasan will not be subject to the inefficiencies that plague the rest of the coal sector and this is the likely reason for its fuel costs being low. Thus these results from the bid solicitation highlight the gross inefficiencies that exist in the coal operations in India and also show that contrary to present belief that the use of domestic coal can be more economical than imported coal.

In a nut shell, the UMPP bids have highlighted two major issues: (1) the massive cost people have had to bear due to the unwillingness of power utilities to adopt competitive bidding of a well laid out project; and (2) the large potential gain from improving the efficiency of coal mining. Both these issues put together are on par with the issue of power theft which is very well recognized. Furthermore, for a government, it is much simpler to sign good contracts, which is a one time event compared to the essential but more difficult task of controlling theft. On the flip side, the concept of UMPP has some limitations too, and these are discussed next.

### **Social and Environmental Impacts**

The UMPPs are behemoths, nearly twice the capacity of Enron's infamous Dabhol plant. Such large power plants have very significant social and environmental impacts. The colossal neglect of people displaced by Narmada dams, and protests from people who would be affected in Maharashtra, Karnataka and other states point to our overall apathy to this problem. Sites for UMPPs should be selected so that these impacts are minimized. Furthermore, in order to reduce the bias in favor of large power plants, financial benefits

that are being given to UMPPs and mega plants should be extended to all power plants irrespective of size.

### **Increasing Dependence on Coal**

Many people are concerned about the increasing dependence on coal symbolized by the UMPPs. But this is a bigger issue and it would be inappropriate to discuss UMPPs in isolation because much of the planning in the power sector is based on coal and large hydro plants. Clearly, there are limits to such an approach. We need to scale-up our efforts to improve the efficiency of energy use and take up this issue on a war footing. Rather than simply carrying out advertisement campaigns, we should ensure that the provisions of the “Energy Conservation Act” are implemented through a strengthened Bureau of Energy Efficiency. Only such actions would reduce our dependence on coal or large hydro plants.

### **Technology Transfer**

Earlier this year, there was some discussion of facilitating transfer of super-critical steam technology to BHEL by awarding the contract of eight super-critical plants of NTPC to BHEL and its technology partner Alstom on a negotiated basis. Because the price for such a contract would not be determined through the market, it was proposed to set up a committee that would develop a benchmark price for the contract. The results from the bidding for Sasan and Mundra provide one such benchmark, and the next few UMPP bid solicitations would further refine the benchmark. As the number of suppliers of high-tech power equipment in the world gets smaller resulting in increased concentration of ownership, it is essential that India has access to this more efficient technology and develops manufacturing capacity for it. The prices quoted by the winning bids could be used to assess the economic cost of such a technology transfer.

### **Conclusions**

The euphoria generated by the results of bidding for the first two UMPPs seems at least partially warranted and may augur the beginning of a new and successful approach to obtaining badly needed generation capacity in India. The most significant lesson from these results is the importance of using competitive bidding and sharpening competition by obtaining all necessary clearances and linkages before bid-solicitation.

While the initial results from UMPP solicitations are encouraging, we end with some words of caution. First, there can be many surprises as the winning parties firm up engineering, procurement and construction (EPC) contracts and achieve financial closure. Power Finance Corporation (PFC) which is administering the UMPP process, is requesting a “success fee” for its performance in the bidding process. We think the success fee should be partly paid at the time of financial closure and partly at the time the plants come on line, to make sure that bidding results in a low cost plant coming on-line in time. Second, it is distressing that the states have mishandled the power sector and the Central government is stepping in. Capacity additions should be the responsibility of the respective state electric utilities and regulators, but states are not doing much regarding capacity additions or are inclined to pursue the MoU option. Third, as we noted above, large projects such as UMPPs can have serious social and environmental impacts. This is particularly the case for large hydro and coal plants. Even if we use a small part of the large saving achieved through competitive bidding (in terms of tariff reductions) to mitigate the social and environmental impacts, we would radically reduce the suffering of lakhs of project-affected persons.

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