CHAPTER 3

CHALLENGES IN INDIAN POWER SECTOR
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Electricity is a concurrent subject. And as all of us know, up to 1975, generation, distribution and transmission, all were handled practically only by the State Electricity Boards. The Central Government has entered this sector only after 1975, and has played an important role by contributing about 32% of the total generation capacity of the country. Out of 1,00,000 ckm. Of high voltage transmission lines, about 50,000 ckm is contributed by Central Government. It will continue to play an important role in future too.

Electricity is key to our economic growth. Adequate power with a high degree of reliability and quality is essential. We need to provide these services at affordable prices.

The importance of power supply to the different sections of the society and to all sectors of industry was never understated in India’s development plans. Despite this awareness, our performance in removing power shortage and in ensuring the quality of power is below expectations. Though there has been some improvement in recent years India has a long way to go. The speed of reforming this sector has to be accelerated if we have to increase the job opportunities and provide a better living to Indian people.
Electricity Act, 2003 and National Thermal Electricity Policy are major legislative and policy initiatives. They do have the potential of transforming this industry in many ways provided they are implemented with right earnestness and required speed. Delicensing generation, open access in transmission and distribution, solving problems of captive power plants, encouraging power trading and ensuring a wider choice of distribution licensees are being thought of presently. These will provide a good framework for future progress. The Central Government, State Regulatory Commissions, and other agencies should act in concert and take timely action to create a new industry structure conducive to meeting the objective of supplying quality power at economic and affordable rates.

Distribution of power is the most challenging task. Its structure and its management had to be set right on a priority basis. Nearly half of what is produced is getting lost. The loss may be due to technical problems of theft or through inefficient billing and collection. Such high level of loss is unsustainable. This defies all logics of running any business. Turnaround of power industry will greatly depend on how we succeed in financial management of distribution of power.

An economic growth rate of 8-9 percent on a sustained basis, is necessary for India to catch up with the rest of the world, in any case, with many of those countries which started their economic development programmes along with India. What is important to underscore is, that with strong determination, and around a set of directions targeted toward achievement of the above objective, India would definitely be in a position
to do so. Development of basic infrastructure will be an essential pre-
requisite for this. Given the situation in which it is placed, power sector
would obviously occupy the central position among the infrastructure group.
Inadequate growth of power sector, particularly in the last 15 years, has led
to a situation of serious mis-matches, both in quantitative terms and also in
qualitative aspects, between the requirement and what is provided.

There are many infirmities. Some of the important ones would
include unreliable power supply to industry and also to agriculture, poor
quality of supply of power, lack of concern for consumers and highly
skewed tariff structure. These deficiencies at the delivery end obviously
affect very adversely not only the efficiency of production, but also of
quality of goods and services in our manufacturing sector.

In spite of over 50 years of existence of State Electricity Boards in almost
all the states, and with constant support from the Governments, many of
them have not been in a position to fully meet even their working capital
requirement to pay for coal they purchase, to meet the bills of rail movement
of the coal, to properly maintain, renovate and modernize their plants &
machinery, let alone creating a reasonable surplus to meet their growth and
expansion requirements. They have been depending heavily on respective
state governments for all these. Annual loss of the order of over Rs. 30,000
crores(cumulative losses exceeding Rs. 100,000 crores) does present such
an uncomfortable picture about the power sector that it has been extremely
difficult to motivate investors to participate in the process of further
development of this industry. Risk perception of development and lenders
has been so high that in spite of its best, private power policy formulated and notified in early nineties, active response was negligible.

**Plant load factor % (Thermal units)**

**During 2004-05**

<table>
<thead>
<tr>
<th>State</th>
<th>Plant load factor %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haryana SEB</td>
<td>69.00</td>
</tr>
<tr>
<td>Punjab SEB</td>
<td>77.50</td>
</tr>
<tr>
<td>Rajasthan</td>
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</tr>
<tr>
<td>Delhi</td>
<td>48.30</td>
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</tr>
<tr>
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<td>73.00</td>
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<tr>
<td>Madhya Pradesh</td>
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<tr>
<td>Bihar</td>
<td>3.30</td>
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<tr>
<td>Jharkhand</td>
<td>86.00</td>
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<tr>
<td>West Bengal</td>
<td>45.46</td>
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# Gross Electrical Generation

**During 2003-04, 2004-05 (GWH)**

<table>
<thead>
<tr>
<th>State</th>
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<th>2004-05</th>
<th>% Increase</th>
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<tbody>
<tr>
<td>Haryana</td>
<td>10865.37</td>
<td>9847.31</td>
<td>-9.37</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>2810.95</td>
<td>2754.36</td>
<td>-2.01</td>
</tr>
<tr>
<td>Jammu &amp; Kashmir</td>
<td>920.00</td>
<td>710.72</td>
<td>-22.75</td>
</tr>
<tr>
<td>Punjab</td>
<td>24047.89</td>
<td>21677.55</td>
<td>-9.86</td>
</tr>
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<td>Uttar Pradesh</td>
<td>22835.51</td>
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<td>Uttranchal</td>
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<td>-31.05</td>
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<tr>
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<td>447.38</td>
<td>206.99</td>
<td>-53.73</td>
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<tr>
<td>Jharkhand</td>
<td>4438.83</td>
<td>4168.29</td>
<td>-6.09</td>
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<td>Nagaland</td>
<td>23.55</td>
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<td>Arunanchal Pradesh</td>
<td>29.00</td>
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<td>Mijoram</td>
<td>10.56</td>
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<tr>
<td><strong>All India</strong></td>
<td>565101.69</td>
<td>594456.20</td>
<td>5.19</td>
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*Source CEA General Review 2006*
Electricity Act, 2003, evolved after extensive consultations across the country spanning over 3 years, addresses many of the problems this industry faces. This has been one of the most important and powerful initiatives taken in this sector in the recent past. It creates an environment under which different segments of the sector can grow, it provides for optional strategies to investors. It has created a framework under which electricity market could ultimately move toward a competitive situation with the primary objective of providing services to consumers they have always deserved, namely, quality of supply. Until the time the electricity market is developed to an extent that there is parity between demand and supply in fact supply exceeds demand—consumers interests can be best safeguarded through appropriate regulatory interventions. When market matures, it is the competition which will drive the prices down—a goal which this sector should be looking forward to. The Act has strengthened the regulatory instruments both at the central level as well as at the state level. The success of this sector will however, depend on how best the regulatory mechanism will give response to the needs and aspirations of investors on the one hand and expectations of consumers on the other.

One lesson from Orissa, however, is very clear that in India private sector today is not equipped to handle adequately rural electricity distribution. The few private sector companies that have been in existence for several decades had their experiences confined to towns and cities. It will take them some time before they could undertake rural electricity supply systems.
Another important area of concern in the power sector is poor performance of the existing power generation facilities. While on the one hand financial resources are scarce for this highly capital intensive industry and on the other assets created are under-utilized. There are, even today, power stations which perform below 50%, and very surprisingly some of them even below 25%. In the recent years, the national average has almost reached 75% Plant Load Factor. More then two dozen power station are performing above 85% Plant Load Factor. A number of power station and organisations have created good benchmarks of performance.

3.1 CREDITWORTHINESS OF OFFTAKERS OF POWER, NAMELY THE SEBS

As mentioned earlier the most important impediment in a smooth takeoff of the Government of India’s private power policy announced in 1991-92 had been the bankability of power projects proposed by IPPs. It is a fact that the buyers of power namely the SEB in general, barring a few exceptions here and there, have serious commercial and financial problems. Setting-up a power project requires massive capital investments and therefore, it is natural that project developers and lenders express their concern about the creditworthiness of the SEBs with whom the IPPs are expected to finalise their Power Purchase Agreements. SEBs have the problem of inadequate tariff structure on the one hand and also the problem of large scale pilferage of electricity resulting in disproportionate transmission and distribution losses on the other. Reported transmission and distribution losses are of the order of 21-22% on an average for the whole
country. There are SEBs where distribution losses are even 40% and in some cases even 50%. These two problems (inadequate tariff and T&D losses) are coupled with the third problem of inadequate collection of bill.

Short-term solutions to this problem include (a) Letter of Credit, (b) Escrow accounts and (c) Government of State Guarantee. Various financial institutions and lenders have also tried to identify, for different States, the amount of capacity they could be in a position to cover through the Escrow mechanism. This exercise has allowed the developers to know and even for the SEBs to be allowed to go ahead with providing Escrow mechanism with bands. Thus, the level of confidence is determined right at the initial stage. This process has resulted in getting power projects on to the track to the extent it is possible to cover through Escrow account in states where such Escrow account ability exists. In states where such Escrow account ability is negligible or doesn’t exist, the extent of interest has been less. Some of the financial consulting firms have also tried to analyse and evaluate the health of various SEbs and have tried to rank them in order of their ability to meet the payment obligation. While there are a number of boards where project development exercise would provide greater degree of risk and therefore, they would be in a position to attract comparatively more costly investments resulting in higher power costs there are states whose financial and commercial health is comparatively better and they will be able to provide for such security of payments and in those cases it will be possible for the developers to take up power projects on a competitive basis.

The private power policy has brought the issue of tariff to the fore and it has been the experience that the frequency of tariff revision as well as
extent of tariff revision in last five years has been significantly higher and larger that in the previous 10/15 years. There is a growing realisation and recognition to the fact that since Government budgetary support for development of the power capacity would be gradually on a declining trend and since the dependence of the power industry has to be more and more on the private investments, it will be imperative that the commercial side of the industry is streamlined. Even in the present framework of the State Electricity Boards as the main institutions to supply and distribute power, SEBs themselves and their respective State Government are recognising the need for reviewing the tariff and also the need for taking several measures to see that the distribution and transmission losses are minimised.

3.2 INADEQUACIES AND LIMITATIONS

a. In the last several decades, the distribution side of the power industry has suffered enormously. It is said that the investment on transmission and distribution side should be as much as investment on the generation side. An analysis of last 30-40 years indicates that the investment on the transmission and distribution side over the years has been not more than half of what was required to be done. As a result, the distribution of power to the customers in all cases has not been possible in the manner it should have been done. To illustrate this point, let us take the situation in the eastern region of the country. It is rather unfortunate that with lowest per capita consumption, we are coming to a conclusion that power has become surplus in this region. There are States in the country where per capita consumption is in the
range of 500 to 600 KW/H whereas the per capita consumption in the eastern region still continues to be about 225 KW/H. With addition of power generation capacity and availability of power, quite often the system frequency is very high indicating that supply is often more than the demand. The main reason for this situation is not that power has become surplus in this region, but investment in distribution networks over the years has been very low and as a result, the distribution networks have not been created adequately to cater to the demands of the region.

b. In most cases, networks are weak and fragile. Several power disruptions, sometimes engulfing the states, sometimes engulfing the total regions, have established that there are large inadequacies and weaknesses in the system.

c. The investigation into failures in many cases have brought out that there are gaps in maintenance planning and implementation of various maintenance procedures.

d. So far as the metering for the consumption by various consumers is concerned, in a large number of cases this is far from being satisfactory. Inadequate and less reliable metering facilities makes the commercial working of the Boards very difficult.

e. It could be safely stated that while in the case of the generation projects it has been possible for organisations like NTPC and some of the SEBs
as well to adopt the most modern technology and control and instrumentation system, there is lack of modernization particularly from the point of view of computerized control and monitoring insofar as the distribution side of the activities is concerned. Some of the States are the distribution side of the operations under SCADA which will facilitate better operation and maintenance and therefore, may lead to better reliability of power supply.

f. Over staffing in the distribution side is a common phenomenon. In some of the States it has been seen that while there is over manning areas where there may be no requirement, there is also shortage of manpower in important areas. An associated issue is also about the skill and knowledge at working levels. Training inputs on the distribution side have been comparatively much less.

**MANPOWER ENGAGED**

<table>
<thead>
<tr>
<th>Name of the Board/Undertaking</th>
<th>Total Regular Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haryana SEB</td>
<td>9993</td>
</tr>
<tr>
<td>Himachal Pradesh SEB</td>
<td>26958</td>
</tr>
<tr>
<td>Punjab SEB</td>
<td>71275</td>
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<tr>
<td>Uttranchal SEB</td>
<td>8872</td>
</tr>
<tr>
<td>Gujrat SEB</td>
<td>52150</td>
</tr>
<tr>
<td>MP SEB</td>
<td>74649</td>
</tr>
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</table>
Pilferage of electricity is a major feature prevalent in most of the States. This could be as high as 25% in certain cases, but even in well-run Electricity Boards the extent of pilferage would be to the extent of 6-7%. As a result of this, the distribution loss account for 15-30% of the electricity supplied to the system. In some of the cases, the loss is as high as 50%. Here a point that needs to be brought out is that in many cases the reported figure of distribution loss is in the range of 20-22%. The real distribution loss would be much higher because, on accounts of inadequate metering particularly in the rural and agricultural areas, the estimate of consumption on the agriculture side may be higher. For the country as a whole, the distribution loss is being shown to be around 21% and agricultural consumption to be
around 30%. The picture could be that distribution loss may be around 28-30% and agriculture consumption may be in the range of 20-25%.

h. Concern for customers is another important aspect which has suffered. It is a fact that there are customers who consume electricity and are reluctant to pay. It is also a fact that there are customers who are willing to pay and who do pay, but they do not receive the right attention and service from the suppliers of electricity. Electricity industry in the last several decades has been supplying power to customers under the culture that the organizations are not “marketing” power but are “giving” power. Giving new connections, solving the problems of supply disruptions or taking care of the issues relating to bills – in all such cases, concern for customers leaves much to be desired. This problem is not limited only to the SEBs. Even the private licenses have not given the required attention to this subject. Though it must be mentioned that the care for customers by and large in these cases is much better, there is considerable scope for improvement to make the customers happy.

i. Some of the other problems, either related to the problems mentioned above or otherwise, could be briefly listed as follows:

(i) Almost 100% overhead network makes the system quite vulnerable to weather conditions.
(ii) Inadequate reactive compensation leading to poor quality of power supply.

(iii) Inadequacy of load management leading to peaks and valleys which are beyond manageable limits.

(iv) Poor reliability of power supply.

j. Lack of a commercial approach leading to poor financial health of the SEBs is another factor which has been the reason for many technical and financial problems of the SEBs. Subsidy has been one of the most important factors. In many cases agricultural supply is free while in many other cases it's highly subsidized. Domestic consumption is also subsidized in most of the cases. Rate of return which was expected to be 3% in the case of SEBs, in most cases has been negative.

k. In many of the SEBs the Plant Load Factor of the power station is lower than 50%, in some cases as low as 30%.

3.3 ROAD BLOCKS AND REMEDIES

1. The programme of the Government of India to add additional 100,000 MW during the 10th and 11th Plan period (2002-12) is indeed a challenging target. While this is, no doubt, the ground reality, it also needs to be recognized that the Expert Committee, which worked out
the demand projection, estimated that about 1,20,000 MW would be required to be added during the 10th and 11th Plan period. The Government is targeting economic growth rate of 7-8% and industrial growth rate of 10-12%. For these targets to be realised, corresponding support from power would be essential and accordingly the growth in electricity needs to be planned at the rate of 9%, if not more.

2. Past experiences lead one to conclude that these targets are virtually impossible to achieve. But given the fact that the sector must made all possible efforts to achieve these, it would be desirable to identify as to why they cannot be achieved and what the toad blocks are -- at the policy level, at the stage of planning and during execution. It would also be important to brainstorm and alternate strategies to remove these read blocks and evolve remedies which can lead to fulfillment of these targets.

3. There are a large number of issues and problems which have emerged as road blocks to power development programmes. These programmes relate to not only creating additional generation capacities but also development appropriate high voltage transmission networks across the country leading to National Grid, renovation and modernizing poorly performing power stations, and augmenting the present highly inadequate distribution system. The programmes would also cover schemes in the related input industries such as coal, gas and transportation systems. From among a large number of issues, the following important ones could be analysed in greater detail:
(i) Electricity is a concurrent subject;

(ii) Bankability of projects in the context of poor financial health of state utilities;

(iii) Sincerity and financial ability of developers;

(iv) Approach of lending institutions;

(v) Fuel linkages;

(vi) Environmental issuer; and

(vii) Coordination among agencies.

4. Electricity is in the concurrent list of Indian Constitution. As a matter of fact, at the cutting edge of this industry namely, the electricity distribution, the subject entirely belongs to the Government in the States. While electricity is the most important of all other infrastructure industries, perhaps this is the only one which is in the concurrent list. Experiences have shown that the industry has suffered heavily, both technically and commercially, over last 50 years, primarily on account of a number of political compulsions at the State level. However, this is not something which can be changed, not in any case at this stage so that electricity could become a central
subject. What is, however, heartening is that the commercial and financial performance of the distribution sector in majority of the State had reached such depths – and deterioration continues – that there is a general consensus across the country the State level, but other developmental programmes of the State government could also be adversely affected in view of the destabilising effect on the budget of the State by the electricity sector. It is, therefore, important that the Ministry of Power undertakes a comprehensive exercise of extensive cooperation between the State Government and the central Government to reform the electricity distribution. What is needed is the business like approach involving identification of specific course of action, laying down agreed time schedules for implementation, predetermining the deliverables, close monitoring of various actions as planned and extensive support from the Central Government to those who adhere to formulation and milestone based implementation of these programmes.

5. The second major road block is with respect to the bankability of the projects due to poor financial health of State utilities. It is now established beyond doubt that though there are other issues like various clearances, financial closure of even power projects having all other clearances has emerged as the strongest obstacle in development of these projects. Financial closure in turn does not move forward because there are un-answered questions as to how the utilities, which contract for power purchase, would be able to provide adequate payment comforts to the developers of the project. Consequently,
developers' ability to provide adequate comfort to lenders gets in question. In view of this, a large number of projects which could happen are not happening and perhaps could not taken off in view of their having gone into such vicious circle. The following courses of action are as remedies:

(i) from among a large number of projects proposed by private developers, we may choose those projects where the States agree to take up time-bound reform programmes and action plans, develop business plans demonstrating that simultaneous with the commissioning of these projects, there would be enough liquidity to provide comfortable payment security. Central Government could monitor these milestone-based reform programmes. We may not get a large number of such cases to start with, there could be very few States which might fall in this category. However, even if a few projects happen in a few States, it would revive the confidence of project developers and lenders. Sincerity of the State government and the concerned State utilities and their commitment to the agreed programme of action would be essential. Lenders would have to be convinced beyond doubt, on these two important requirement that the concerned States and the utilities mean business and that the Government of India has a scheme which recognizes and distinguishes and rewards committed State as compared to those which do not proceed with reform agenda.
(ii) A few power projects which have been waiting only of financial closure merely on account of payment security problem, could perhaps be taken up if the State agrees to allow appropriate distribution to these developers, which will given them control on revenue stream and the projects will happen. Here again, the approach has to be evolved with a positive orientation. The State and the utilities would need to recognize that if these developers are asked to take most difficult areas of distribution, like remote agricultural supply, obviously this initiative might fail even before it is taken up. For this, we need investments from all sources. Our initiative would, therefore, have to be structured on the basis of workable models and principles which have reasonable chances of success.

(iii) Even with (i) and (ii) above, there could be only a few cases of private project development taking place. A few success stories may lead to a chain of such projects. There would, however, be a gestation period and we need not expect that private investments on the basis of above models would start pouring in. they will, at the best during this transition period, be supplemented. Therefore, it would be necessary to depend heavily on Government investment during transition for major portion of the power development programmes.
(iv) These are interim remedial measures. Restoring financial viability of the distribution segment alone can provide sustainable solution. This will require overall restructuring, corporatisation, gradual privatisation (to start with from towns/cities), tariff rationalization, electricity theft control, adequate billing and collection.

6. The third major road block is concerning the sincerity and financial ability of developers themselves. A scrutiny of the list of power projects under IPP category would reveal that the criterion laid down and procedure adopted in a large number of States left a lot to be desired. This resulted in selection of developers, lacking not only in experience in developing power projects, but also in not having sufficient financial capability, and in many cases, even sincerity to develop the projects. Many of them perhaps were interested in securing sanctions and subsequently selling these projects like in good old days licenses used to be sold by non-sincere firms and agencies. The following suggestions could be considered:

(i) Suitable conceived criteria and well-structured qualifying requirements for selecting developers could help in avoiding cases where later on it is discovered that the financial ability of the developers is totally inadequate for undertaking the project intended to be developed.
(ii) One of the problems of these developers not being able to secure borrowing has been the approach of developing these projects on a non-recourse “off the Balance Sheet” basis. These is a need for the developers to have their own confidence in the projects they wish to undertake and in their commercial viability. It is needless to say that if a developer is not comfortable about the viability of the project, he can least expect, the lenders to be comfortable about it, particularly when the lenders’ stake is almost 2-3 times that of the developer. We should encourage projects to be developed on balance sheet so that financial closure is better facilitated and at the same time, terms borrowing are also comparatively softer in the interest of lower tariff of power.

(iii) Government of India and the State Government could also consider approaching various business groups within the country which have established good track record of project development and financial soundness, to consider seriously the enormous opportunities that exist in the power sector. If the system could motivate and persuade a dozen such agencies to start with, it could lead to larger number of agencies coming in.

7. The fourth major road block is the approach of lending institutions. In view of some very bitter experiences, lending institutions have become over-cautious with reference to power sector projects. In the
initial phase of private power policy during 1991-95, legal orientation to documentation, and large number of contracts required in each project, led to inevitable price escalation. The nature and contents of these documents started becoming more important than even other basic fundamentals of taking up projects and doing business. These processes themselves have become impediments in the successful completion of financial arrangements. No other industry experiences the type of approaches and conditionalities which financial institutions have evolved as the power sector has been subjected to. There is a need for a thorough discussion and evolve workable approaches to consider lending for power development programmes.

8. The fifth major road block is concerning the fuel linkages. As stated earlier, there are, on doubt, many projects where fuel linkages exist, but financial closures stand in the way of take-off of the project. However, there are also cases where the process of fuel linkage, successful resolution of contractual arrangement, issues concerning price of fuel and escalation in prices do stand in the way. The following suggestion need consideration:

(i) The process of allocation of captive coal block needs to be made more transparent. There is a perception-it may not be entire true- that only difficult coal blocks are being identified for captive coal mining agencies and the better ones are being retained for public sector coal companies. An agency under the Department, of Coal independent of Coal India perhaps would
inspire better confidence and address to the above perception adequately. It is time that coal mining is allowed by various agencies independent of captive coal mining. In many cases—perhaps in most cases—power project developers would have no experience of doing coal mining. Considering the fact that there would be a gap between what public sector coal companies could do and what is required, it would be necessary to allow private players for development of coal.

(iii) Necessary coordination for quicker facilitation on resolution of commercial issues on fuel supply agreement, by the Ministry of Power could mitigate a number of concerns which the project developers have.

9. The next road block concerns clearances from environmental angle. In the recent past, both coal and hydro projects have been maligned more than they deserve. These projects are based on indigenous natural resources. They are highly cost effective. Individual project development organizations, no doubt, must make efforts to counter various propaganda. However, for both these areas of project development, massive communication exercise is required at the Government level and at the level of major players to counter the rumour and propaganda which are mounted by various agencies against development of large hydro projects and coal project. It is now established that, in view of their price volatility, dependence on liquid fuel and even on LNG may have to be only marginal and coal as well as hydro projects will have be accepted as a matter of necessity for
India as the main sources of generation relatively cheaper power. Given this ground reality, it would be essential that all the issues are properly communicated with press, media and public, nationally and internationally. The present procedure for environmental clearance needs to be revisited for faster disposal. There is enough scope for improvement.

10. Some of the other suggestions which would need consideration for removing various road blocks are as follows:

(i) Disinvestment of public sector power stations at premium and using the fund for creating additional capacity holds good potential for expanding the national power capacity. In the first instance, this could be done through IPO accessing domestic as also GDR and ADR markets. Successively disinvestments to the extent of 49% could fetch considerable fund to be ploughed back. Strategic disinvestments could also be considered.

(ii) For quite some time Indian power system would continue to experience the shortage situation. Energy conservation has not received the right attention it deserves. there are potentials of the order of 15-20%, if not more to save electricity. Concerted efforts are needed, both at the Government of India and State Government levels. National agenda for action on
Efficient use of electricity, production of energy efficient products and gadgets, education of consumers, etc., is needed.

(iii) Inter-connecting regional grids, with the small investment in the short term and major investment in the long term towards National grid, hole enormous potential for improving the existing capacities in different regions which are somewhat under utilized.

(iv) Considering the fact that India does not have a large number of private players in electricity distribution and also the need that we should have multiple players in the medium and long-term, successful public sector power companies may enter into distribution business.

(v) Ministry of Power could also motivate successful business groups of the country to come forward to manage the distribution system so that in the long run consumers enjoy the benefit of competition and get better quality of service they deserve.

(vi) With a view to enforcing and restructuring across the country, Ministry of Power may consider

- Utilization of strengths of NTPC, NHPC, PGCIL & PFC, REC, etc., and the advantages states are getting out of them.
• Allocation of power from new generation stations of the Central Sector to reforming States.

• Packages and schemes to reforming States.

• Packages and schemes of services in the form of technical assistance, grants, soft loans from Government and Power Finance Corporation to reforming States based on their commitment and action.

(vii) Costc plus tariff has helped in improvement of efficiency. Therefore, efficiency linked rate of return would not only motivate efficient operators but in the long run would reduce the tariff burden on consumers. Government of India may consider appropriate tariff policy to balance the interests of investors and consumers and to ensure a unified approach across the country to be followed by regulators.

ALL INDIA POWER REQUIREMENT FORECAST

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<tr>
<th>Year</th>
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