CHAPTER-III

PRIVATISATION OF POWER SECTOR:
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3.1. Introduction

Despite significant progress in power generation since independence, the demand for electricity continues to outpace the supply resulting in energy and peaking shortages, which plagues the economies of India and Pakistan. Further, with the increasing pace of economic development facilitated by the reforms initiated by the Government in early 1990s, the demand for power both in the rural and urban areas is likely to increase rapidly in the coming years. Keeping this in view, Governments of India and Pakistan have opened this sector to private sector intending to generate more electric power in their respective countries along with eliminating the other problems related to power sector. It may be reminded here that earlier power had been the monopoly of the Governments since independence with little contribution coming from the private sector.

3.2. Privatisation of Indian Power Sector

The Government of India in 1991 formulated a policy to encourage private sector for greater participation. The policy was initiated in 1991 with the objective of mobilizing additional resources for power generation, transmission and distribution. This was enabled with the amendments to the Electricity Generation Acts, namely, the Indian Electricity Act, 1910, and the Electricity (Supply) Act, 1948. This was amended in 1991 to facilitate the raising of capital from domestic and foreign markets and to provide a more liberal, financial and legal environment to allow the private investors to set up generation capacities or operate as Licensee (Distribution) companies, which was hitherto
a monopoly of the State Electricity Boards (SEBs) or public sector undertakings. The policy issued under these Acts provides the framework for private sector participation in the electricity sector.

In 1998, Government of India brought Electricity Regulatory Commission Act, 1998 enabling centre to set up Central Regulatory Commission (CERC) and guiding the state governments to bring similar acts to set up State Electricity Regulatory Commission (SERC) with the primary view to regulate tariff not only at the distribution level but also at the transmission level. The regulatory commissions, at the federal and state levels are expected to bring more transparency, rationalisation of tariffs, and more informed debates on the issues of subsidies, reforms and restructuring. A strong and independent regulator will instill greater confidence in investors and hasten the pace of reforms. Also, these agencies are expected to balance and protect the interests of the public and power sector players.

Finally came the Electricity Act, 2003. In order to simplify the administrative procedures, the Electricity Act, 2003 integrated the provisions of the earlier three acts, viz., the Indian Electricity Act, 1910, the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commissions Act, 1998. In fact, the Electricity Act 2003 has retained all the provisions of the earlier three Acts. As such, retaining the provisions of Electricity Regulatory Commissions Act, 1998, the Electricity Act 2003 only changed the name of the CERC as Central Commission and SERC as State Commission. The Act provides a legal framework for enabling reforms and restructuring of the power sector. As such, the other features of the Act includes, the Central Government to prepare a

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National Electricity Policy in consultation with the State Governments, thrust to complete the rural electrification and provide for management of rural distribution by Panchayats, Cooperative Societies, Non-Governmental Organisations, franchisees, etc, generation being delicensed and captive generation being freely permitted (except hydro), State Commission as a mandatory requirement, metering of all electricity supplied made mandatory, provisions relating to theft of electricity made more stringent and an Appellate Tribunal to hear appeals against the decisions of the Central Commission and State Commissions, etc. However, over the years from 1991, Government has been streamlining and simplifying procedures to encourage more and more private participation. All these policies will be discussed in detail in this section.

3.2.1. Broad Feature of the Policy on Private Power Development

The new policy is so complex that its details can only be listed. As such the broad feature of the Private Power Policy of the Government of India are indicated below:

1. The Indian Electricity Act, 1910 and the Electricity (Supply) Act, 1948 have been amended to bring about a new legal, administrative and financial environment for private enterprises in the Electricity sector.

2. Private Sector can set up thermal projects (coal/gas/naphtha and other liquid fuel based), hydel projects and wind/solar energy project of any size.

3. Electricity Projects where total outlay does not exceed Rs. 100 crores need not be submitted to the Central Electricity Authority (CEA) for concurrence. The limit has been further raised to Rs. 400 crores in case of generation projects to be set up by generating companies selected through competitive bidding.
4. Private sector companies can set up enterprises to operate either as licensees or as generating companies.

5. All private companies entering the Electricity Sector hereafter will be allowed a debt-equity ratio up to 4:1.

6. Promoter's contribution should be at least 11 per cent of the total outlay.

7. To ensure that private entrepreneurs bring additionality of resources to the sector, not less than 60 per cent of the total outlay for the project must come from sources other than Indian Public Financial Institutions.

8. Up to 100 per cent foreign equity participation can be permitted for projects set by the foreign private investors.

9. The condition of dividend balancing by export earnings, which is normally being applied to cases of foreign investment up to 51 per cent equity, will not be applicable to foreign investments in the power sector.

10. The rates of depreciation in respect of assets have been liberalised.

11. With the approval of the government, import of equipment of power projects will also be permitted in cases where foreign supplier(s) or agency(ies) extended concessional credit.

12. The custom duty for import of power equipment has been reduced to 20 per cent and this rate has also been extended to machinery required for renovation and modernisation of power plants.

13. A five-year tax holiday has been allowed.

14. The excise duty on large number of capital goods and instruments in the power sector has been reduced.
15. Up to 16 per cent return on foreign equity included in tariff can be provided in the respective foreign currency.

16. Fixed costs can be recovered at 68.5 per cent plant load factor (PLF) in case of thermal power plants and 90 per cent Availability Factor for hydel plants. Attractive incentives are prescribed for performance beyond this PLF level.

17. Tariff can be fixed in deviation of norms stipulated in March 1992 tariff notification provided that the per unit tariff does not exceed the per unit tariff worked out on the basis of the norms.

18. Since Renovation & Modernisation (R&M) is recognized as the alternative offering much cheaper and quicker way to add capacity, it has been decided to accord the highest priority to this area. The R&M policy has been announced by the government, which outlines some of the options available for encouraging private investment in this vital area.

19. As a short-term measure, the government has announced the fuel liquid policy, which permits use of certain hydrocarbon fuels for power generation subject to the project meeting certain locational criterion.

20. To facilitate setting up of large capacity plants in the private sector, the government has recently announced its mega power project policy. The necessary support structure is made available to promote such projects.

21. State governments have also been advised to consider setting up of barge-mounted power plants.

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2 The policy prescribed that Government will recover the fixed costs of the Generating Companies if they operate the thermal plants at 68.5% plant load factor and hydel plants at 90% availability factor.

3 Barge-mounted power plants are short gestation projects to meet the immediate power shortages to be set up by the coastal states wherever economically feasible. For barge-mounted power plants it should be ensured that due care is taken regarding off-shore fuel arrangements and on-shore transmission of power. Such projects would reduce the burden of in-land transportation of fuel.
22. The government has also made efforts to streamline the process of project approval. CEA has adopted a two-stage process for appraising a project proposal. Detailed guidelines for submission of Detailed Project Report to CEA have also been issued. In addition, number of clearances required for CEA’s Techno-economic approval have been reduced.

23. In order to encourage captive, including co-generation, power plants, guidelines have been issued to the state governments for creating institutional mechanism for early clearance of such proposals and also to ensure effective measures such as purchasing or wheeling surplus power from such plants.\(^4\)

The above-mentioned policies are general in nature. Besides, there are certain specific incentives. In fact, there are two specific incentive schemes i.e., (i) specific incentives for generating companies, (ii) specific incentives for licensees. The details of these two are described below:

(i) **Specific Incentive for the Generating Companies**

1. Normative parameters notified which *inter alia* provide for 16 per cent return on equity at 68.5 per cent PLF and up to 0.7 per cent return on each incremental 1 per cent PLF for thermal power plants.

2. The tariff norms for hydroelectric projects have been liberalised such as providing Capacity charge, incentive of up to 0.7 per cent rise in return on equity (RoE) for each percentage point increase in availability of installed capacity beyond 90 per cent.

3. Generating companies operating coal based, gas based and hydro projects can sell power on the basis of a suitably structured two-part tariff.

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4. The tariff and other norms specified are the ceiling norms and allow Boards and Generating Companies to agree on improved norms.

5. Premium raised by the Generating Company while issuing share capital and investment of internal resources created out of free reserve of existing company shall also be eligible for return of equity provided such amount is actually utilised for meeting capital expenditure for power generation project and forms part of the package approved by the Authority.\(^5\)

(ii) Specific Incentive for Licensees

1. Licences of longer duration of 30 years in the first instance and subsequent renewals of 20 years instead of 20 and 10 years respectively as it was before.

2. Higher rate of return of 5 per cent in place of the previous 2 per cent above the Reserve Bank of India (RBI) rate.

3. Capitalisation of Interest During Construction (IDC) at actual cost (for expansion projects also) as against 1 per cent over the RBI rate as it was before.

4. Special appropriations to meet debt redemption obligations.\(^6\)

These policies as pointed out underwent some changes subsequently. All these changes in policy will be discussed below in detail.

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\(^5\)Ibid., p. 10.

\(^6\)Ibid., p. 10.
3.2.2. Policies in Detail

A two-part tariff notification in March 1992 governs the tariff for supply of power by the generating companies. This was further modified in January 1994 enabling the policy more attractive. The two-part tariff system for power projects to be put up by the Independent Power Promoters (IPPs) has been designed to cover the fixed costs and variable energy cost in electricity pricing. This, *inter-alia*, provides for 16 per cent Return on Equity at 68.5 per cent Plant Load Factor for thermal plants (coal/lignite/gas) and 90 per cent availability factor for hydro-plants. To encourage efficiency in plant operation, an incentive scheme based on capacity utilisation has also been formulated.

Government of India made it mandatory for Coal India to supply washed coal to the non-pithead fast track power projects. This intends to reduce the ash content in the coal, which has been the demand for long by the private power producers. In this respect Coal India has taken two alternative options to set up the washeries. Coal India will either set up the washery with private participation in which case a tripartite agreement will be signed between power developing company, private company setting up the washery, and Coal India, or if the Coal India set up the washery by itself, it would sell the washed coal to the fast track projects at a higher cost.7

The projects based on coal, hydro and non-conventional energy sources have been allowed automatic approval by Ministry of Power for 100 per cent foreign equity. They can set up power projects and repatriate profits without any export obligations. This approval could be given by the Reserve Bank of India and need not be referred to the Foreign Investment Promotion Board (FIPB) or the Cabinet Committee on Foreign

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7 *The Economic Times*, 7 August 1996, New Delhi, India.
Investment (CCFI). The policy allows liberal capital structuring and an attractive return on investment. The policy permits private developers to set up power projects of any capacity and of any type (coal, gas, hydro, wind or solar).

Realising the fact that most of the projects on-line will take time to come up due to their very nature of long gestation period, Government of India announced the liquid fuel policy to set up liquid based power plants in certain area of country to tide over the immediate severe power crisis. As such, the policy permits private sector units to set up diesel engine generating (DG) units of reciprocating type and using heavy fuel oils such as, Heavy Petroleum Stock (HPS), Low Sulphur Heavy Stock (LSHS), Heavy Furnace Oil (HFO), Furnace Oil and natural gas wherever available as primary fuel. No HSD (Diesel) will be permitted as fuel. Subsequently it was decided to permit the use of petroleum coke and vacuum residue as primary fuel for power generation in the private sector. Later on Government of India permitted HSD (Diesel) for power generation only as a special case in inaccessible and isolated areas where small diesel based capacities are sought to be set up and where use of other fuels is not accessible.

The exemption limits for CEA clearance has been raised substantially recently. As such, Ministry of Power, Government of India exempted all power projects with investments up to Rs. 1000 crores, approximating 250 MW capacity from the mandatory techno-economic clearance of the CEA. This limit was raised from the previously prescribed limit of Rs. 400 crores, approximating 100 MW. This enables state

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8 The Economic Times, 22 August 1996.
governments to clear power projects quicker. In other words, this process delegates powers to the State Governments to give such concurrence. The measure would apply only for those projects promoted by the state governments and SEBs on the basis of competitive bidding. In fact, this limit was fixed at Rs.25 crores in 1991. Later, it was raised to Rs.100 crores and then to Rs.400 crores\textsuperscript{12}.

Also, Government of India in 1996 exempted all renovation and modernisation programmes of power plants costing up to Rs.100 crores, which was given clearance by the CEA\textsuperscript{13}. Subsequently, in 1997, the limit for renovation and modernisation of existing power generating station has been raised to Rs. 500 crores\textsuperscript{14}. However, these power plants need to be cleared at the state level. The exemption limit requiring CEA's techno-economic clearance has been increased keeping in mind to expedite power generation by these plants quickly. CEA's techno-economic clearance is not required if the capital expenditure does not exceed Rs 20,000 crores in case of projects prepared by the Generating Company, not wholly or partly owned by the Central Government or any State Government for supply of power to more than one state. Also, CEA's techno-economic clearance is not required for captive power plants generating primarily for captive consumption for an industry or a group of industries and sale of power, if any, to the State Electricity Board, does not exceed 50 per cent of the total installed capacity of the power station if the cost of capital expenditure does not exceed Rs. 3,000 crores. In relation to other schemes, Rs. 250 crores has been kept as the upper limit. But all

\textsuperscript{12} Centre for Monitoring Indian Economy, Economic Intelligence Service, India's Energy Sector, September 1996, p.19.


hydroelectric schemes utilizing water of inter-state rivers are to be submitted to the CEA for its concurrence.\(^{15}\)

Since the inception of private power policy in 1991 the private sectors in the field of electricity generation, transmission and distribution were allowed not more than 40 per cent of the total outlay to come from Indian public financial institutions (IPFIs) thereby implying the remaining 60 per cent should be met from other sources (other than IPFIs).\(^{16}\)

For the relaxation of the limit of the IPFIs Government had received a number of representations. Finally Government lifted the bar to the extent of domestic debt raised by a project developer, subject to the need of maximizing financing from external sources and prudential norms exercised by IPFIs, allowing a higher domestic debt component for projects which are developed based on indigenously sourced plant and equipment, would be more desirable.\(^{17}\)

In order to incentivise the private sector, on 19th January 1996, the Ministry of Power announced the new guidelines reducing the number of clearances for setting up private power project. These guidelines entrusted that thermal projects would now require five clearances; hydro electric projects would require four clearances and transmission and distribution projects would need just two clearances. Prior to that, a private power promoter required to get 13 statutory clearances and four non-statutory clearances before setting up a project.\(^{18}\) However, the modified clearances are:


\(^{18}\) Centre for Monitoring Indian Economy, op. cit. n. 12, p. 20.
For Thermal Projects

1. State Government and SEB clearance,
2. Clearance of water availability from state government or the Central Water Commission/ Ground Water Board,
3. Fuel linkage approval from the Ministry of Petroleum and Natural Gas or the Ministry of Coal,
4. Pollution and environmental clearances from the Ministry of Environment,
5. Chimney height from the National Airport Authority.

For Hydel Projects

1. State government and State Electricity Board,
2. Water utilisation clearance from the Ministry of Water Resources,
3. If the Project is inter-state or inter-country, clearance from the state government for rehabilitation and resettlement of displaced families by land acquisition,

Transmission and Distribution Projects

1. Clearance from SEB,
2. Clearance from state government\(^ {19} \).

Ministry of Finance also has worked out a separate eligibility criterion for the State Electricity Boards where the fast track projects would be set up. As such these conditions are:

1. A minimum 3 per cent annual rate of returns for the SEBs.
2. Prudent management of SEBs finances.
3. Limiting payables and receivables between two and three months.
4. Signing of operation, finance and action plan with the Power Finance Corporation\(^ {20} \).

\(^ {19} \) Government of India, *op. cit.*, n. 4, p. 70.
\(^ {20} \) Centre for Monitoring Indian Economy, *op. cit.*, n. 12, p. 20.
Initially, private power projects were encouraged through Memorandum of Understanding (MoU) route. This was based on direct negotiation with the producer encouraging them to come up during the time when India was facing acute power shortage. Of late, the Government of India made competitive bidding mandatory for the development of new projects.

3.2.3. Mega Power Policy

Considering that the coal resources are concentrated in certain parts of India, a policy called mega power policy has also been evolved to facilitate the setting up large-sized power plants located at pitheads in India in order to derive the benefits of economies of scale. In fact, mega power projects in order to achieve economy of scale were inevitable for the government in the wake of increasing demand. This was intended to set up by the private sector, since public sector had virtually no money to invest in such big projects. As such, projects having a capacity of 1000 MW or above, and supplying power to more than one state in the region or in the country has been identified as the mega power project by the government. Projects, which cater power to a single state, irrespective of the size, would not come under this category. Besides, the guidelines outlined that CEA is to identify the potential project location/sites for setting up such mega projects and NTPC would prepare feasibility reports and obtain initial clearance required for the projects. The task to undertake the pre-qualification and selection of Independent Power Promoters (IPPs) on competitive bidding basis has been entrusted to the POWERGRID. POWERGRID would provide escort and facilitator

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services to IPPs while finalising the Power Purchase Agreements (PPAs) with the SEBs.

Subsequently, the mega power policy was revised to develop mega power projects in both the private and public sector and besides thermal plants the policy allowed hydel plants to be set up under this arrangement. While formulating the mega power policy for the sale of power to more than one state from a private sector mega power projects, it was considered necessary to develop a single power purchase entity. Therefore, the revised mega power policy envisaged establishment of a company called Power Trading Corporation (PTC) with majority equity participation by Power Grid Corporation of India Ltd. (PGCIL) along with NTPC, Power Finance Corporation (PFC) and other financial institutions. Concerned state governments/ State Electricity Boards would also be co-opted, if found feasible. The PTC would purchase power from the identified power projects and sell it to the identified SEBs. Security to the PTC would be provided by means of a Letter of Credit (LoC) and recourse to the State's share of Central Plan Allocations and other devolutions. The setting up of PTC would enable mega projects to negotiate with one buyer only and would eliminate mega-projects risk regarding payments. Such security would substantially bring down the tariff from such projects.

With the introduction of revised mega power policy in 1998, the government planned to set up big projects with capacity over 1000 MW for thermal plants and over 400 MW for hydel plants. The Power Ministry planned to add about 15000 MW to 20000

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22 Ibid.
MW of power through this route within a short span of time. The mega power projects were free from customs duty payments, which would help lower equipment costs and hence keep capital expenditure low. Since these projects were meant to supply power to more than one state at the competitive tariffs and would be more affordable to the purchasing states, the power ministry had proposed that this power would be made available to those states, which undertook SEB reforms.

3.2.4. Captive Power Policy

To meet the growing industrial demand for electricity encouragement to the captive/co-generation plants by the industries has been suggested as an alternative. The policy suggest that in addition to their requirement they can sale excess power to the grid as per mutually agreed rates, access to transmission grid of the state on payment of wheeling charges, third party access for direct sale of power, etc. Government of India has issued the clarification to the state governments that captive power/co-generation plants require the approval of the SEB only, who have to simply refer the proposal to the CEA for consultation in cases where the capacity exceeds 25 MW. This clarification is expected to accelerate the process for setting up of larger captive/co-generation plants in different states. Also, Government of India decided to permit setting up of captive power plants fully dedicated to an industry or group of industries by an independent power company without having to go in for competitive bidding for selection of the IPP.

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Captive power plants in the past were installed primarily as a backup management but now more and more businesses are looking at them as base load source. Lenders find captive power plants as the better option. This is because of the amount required by these plants is lower, the number of players involved is fewer and the balance sheet of the promoter or host is more important. Since SEB creditworthiness is not an issue here, captive projects are generally more bankable, financiable and likely to get off the ground much faster26. Moreover, Government in order to encourage this captive power generation provided incentives like preferential duty treatment, a five-year tax holiday, etc. They are also permitted to sell the surplus power to the SEB or other industrial units for which PPA can be negotiated by the plant developer himself27.

3.2.5. Power Purchase Agreement

As the name implies, Power Purchase Agreement (PPA) is a contract regarding the sale of power produced by the IPPs. These generating units can sale power only to the SEB in their respective state of operation. The PPA contract terms envisages the sale of energy generated from the plant and decides the pricing mechanism for the sale. In a Memorandum of Understanding (MoU) route project, the developer can be compensated for all the fixed costs incurred by him as per the actual expenditure. In a competitive bidding route project, the compensation would be according to the tariff bid by the developers. However, the variable costs are recoverable at actuals. The PPA also

27 Ibid.
specifies a minimum guaranteed off-take, thereby insulating the project against the risk of not finding any buyers for the power generated.\textsuperscript{28}

As such, PPA specifies that fixed costs can be recovered from the SEB at 68.5 per cent PLF in case of thermal plants and 90 per cent availability factor for hydel plants. However, incentive charges will be recovered from Government in relation to the availability factor rather than plant factor. The availability factor will be calculated on the unit of power produced. Beyond the prescribed PLF level, the power producers will be given different incentive payments for peak (0.7 per cent), off-peak (0.1 per cent) and standard settlement (0.3 per cent) periods. Any profits that accrue from building the power station for less than the approved cost will be passed on to the project company. The fuel cost will not only include the cost of purchasing fuel but also transporting it and unloading it at the power station. The cost of the storage and fuel handling will be covered under the operation and maintenance cost. For any shortfall from the contracted capacity, no liquidated damages will be charged from the company. However, there will be a pro-rata reduction in capital cost as a result of the contracted capacity to ensure that the cost of electricity remains unaffected.\textsuperscript{29}

PPA provides a complete and comprehensive counterguarantee (which cover both debt and equity) by the Government of India for all the dues payable to the IPP by the State Electricity Board. It was decided that all the eight fast-track projects would be given this cover. The Enron-promoted 740 MW Dabhol Phase-I fast-track project and 216 MW


\textsuperscript{29}Centre for Monitoring Indian Economy, \textit{op. cit.}, n.12, p. 21.
GVK-promoted Jegurupadu achieved financial closure\textsuperscript{30} based on this security mechanism. The 208 MW Spectrum-promoted Godavari fast-track project went ahead for financial closure without waiting for this cover\textsuperscript{31}. For three more projects i.e., Visakhapatnam Thermal Power Project (1040 MW) of M/s Hinduja National Power Company Ltd (HNPCL) in Andhra Pradesh, Bhadravati Thermal Power Project (1082 MW) of M/s Central India Power Company (CIPCO) in Maharashtra and the 250 MW single unit lignite based Neyveli Thermal Power Project of M/s ST-CMS Electric Company in Tamil Nadu, the Government of India also provided counter-guarantee. The promoters of the Neyveli Thermal Power Project have achieved financial closure and have commenced construction activities. In case of Visakhapatnam TPP and the Bhadravati TPP, the counterguarantee issued has since expired, as the project promoters were unable to achieve financial closure. The other two fast-track power projects are Ib Valley Thermal Project (500 MW) of M/s AES Ib Valley Corporation in Orissa and Manglore Thermal Power Project (1000 MW) of M/s Cogentrix Energy Inc. in Karnataka. Government of India specified certain stipulated conditions to be fulfilled before issuing counterguarantee to these two projects.

\textsuperscript{30} Financial closure implies tying up the financial requirements of the project cost from different sources before construction.

Since issuing counterguarantees increases the contingent liabilities of the
government, which may affect the country rating, it was decided that for the next
generation of projects, counterguarantees would be phased out completely\(^{32}\). Moreover, the Government of India provided this counterguarantee only to the fast-track projects. For other projects some other mechanism like escrow was designed.

### 3.2.6. Escrow- the Guarantee Mechanism

Of late, escrow has been opted as the alternative guarantee mechanism for the lenders. Escrow is an account by the SEB for the benefit of IPPs. An independent escrow agent developer, usually a bank, administers it. A three-party agreement is entered into, which includes IPP, the SEB and the escrow agent. The cash flows (receivables) of the SEB from selected customers/ distribution circles are deposited directly into the escrow account instead of being paid to the SEB. The agent manages this account. The money could come into the escrow from different sources. While some IPPs have opted for an SEB’s high-tension customers, others have preferred an SEB’s accounting regions or distribution circles\(^{33}\).

Under normal conditions, the money from the escrow account is given to the SEB and the SEB uses it to meet its IPP and other payment obligations. However, if the SEB defaults on the IPP payments, the flow of funds from the escrow account to the SEB would be stopped and the escrow agent would make payments from the escrow account directly to the IPP. Transfer from the escrow account to the SEB would only resume

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\(^{32}\) Ibid.

when all outstanding payment obligations to the IPP have been met\textsuperscript{34}. Escrow mechanism is also not free from controversy—be it Madhya Pradesh or Karnataka. The options alternative to escrow being considered include direct sale to a 'third party', IPPs are being made the collecting agent of the distribution zone and IPPs being given the option to sale power to PTC\textsuperscript{35}. Linking the reform process with the funds sanctioned is also a viable option that the financial institutions are seriously pondering over\textsuperscript{36}.

\section*{3.2.7. Renovation & Modernisation}

One of the most-effective options to bridge the growing demand-supply gap is to undertake renovation and modernization (R&M), including life extension programmes (LEPs), of existing units, both thermal and hydro. R&M projects cost less than greenfield projects and can be executed faster\textsuperscript{37}. The phase-II R&M programme for 44 old thermal power stations was taken up in 1990-91. In fact, during phase-II no central loan assistance was provided to these plants due to shortage of funds with public sector\textsuperscript{38}. In order to accelerate the progress, this field has been opened to the private sector. In this respect, the Government of India has suggested three alternatives to the State Electricity Boards and state authorities for private sector participation. These are:

1. lease, rehabilitate, operate and transfer (LROT);
2. sale of plant; and
3. joint venture between SEB's and private companies\textsuperscript{39}.

\textsuperscript{34} Ibid.
\textsuperscript{35} Except the captive power plants all the IPPs are supposed to sale power to the respective SEBs where they are operating, of course the mega power projects are suppose to sale to the PTC. The IPPs asked the state government to allow them to sale to the 'third party' like direct sale to consumer/industrial users.
\textsuperscript{36} IPPs, Security Enhancement Mechanism: Various Alternatives...and Road Ahead, op. cit., n. 31.
\textsuperscript{39} Ibid.
In absence of central assistance, Government of India asked the Power Finance Corporation to provide assistance to the State Electricity Boards for R&M works\(^{40}\). This scheme envisaged an additional generation of 7,864 MW per annum from renovated units. Also, plants that are on the verge of retirement are being taken up for extension of their lives by induction of latest technology\(^{41}\). Apart from thermal power plants, hydro power stations have been taken up for renovation, modernisation and uprating (RM&U). As such CEA has identified 55 hydro power stations with an aggregate capacity of 9653 MW (210 generating units) under this coverage\(^{42}\).

3.2.8. Recent Power Policy Development

In order to exploit the hydropower potential, Government of India of late announced hydropower development policy, which encourages greater private investment through IPPs and joint ventures. New policies for development of hydro power to raise its declining share in electricity generation and for setting up of mega projects with tax-holiday and other concessions have also been framed. During 1998-99, Government of India announced a policy on hydropower development with a view to exploiting the vast hydropower potential available in the country at a faster rate. During 1999-2000, guidelines were issued simplifying the procedure for techno-economic clearance by the CEA, reducing the normative availability factor for hydropower stations from 95 per cent to 85 per cent, allowing the sale rate of secondary energy at the same rate, which is applicable for a primary energy in order to provide an additional incentive for attracting

\(^{40}\) SEBs, *New Lease of Life: National Perspective Plan for R&M of Thermal Units*, October 2000, op. cit., n. 37, p. 1/3


investment in hydroelectric projects\textsuperscript{43}. As such, incentives like tariff for hydro projects has been rationalized, procedures for transfer of techno-economic clearance have been simplified, the ceiling limits for techno-economic clearance by CEA of hydro projects on MoU has been enhanced and notified, a mechanism to cover geological risks has been evolved and small hydro projects up to 25 MW capacity has been transferred to the Ministry of Non-conventional Energy Sources (MNES)\textsuperscript{44}.

The passage of the Transmission Bill is another of the major recent developments. The bill paves the way for private sector participation in transmission projects. This will help bring in the much-needed investment for strengthening the transmission and distribution network in many states\textsuperscript{45}. As such for privatisation of transmission, initiative has been taken for encouragement of private sector participation in transmission. For this, two routes have been identified viz. Independent Power Transmission Company (IPTC) and Joint Venture (JV). In IPTC route, private investors are allowed to own 100 per cent equity and tariff shall be decided through International Competitive Bidding process with the approval of CERC. In JV route, private investors would hold 26 percent equity sharing by POWERGRID in the project and receiving tariff on cost plus basis also with the approval of CERC\textsuperscript{46}.

In 2000-01, the Government has initiated a new Plan Scheme namely the Accelerated Power Development Programme (APDP) to provide financial assistance to the states for undertaking Renovation & Modernisation Programs of Thermal and Hydro

\textsuperscript{44} Government of India, op. cit., n. 42, p. 177.
\textsuperscript{45} IPPs, Better than late Never: Despite Slow Starts, Projects Begging to Take Off, August 1999, (http://www.indiapoweronline.com), p. 3/5.
power stations and also for strengthening and improvement of Sub-transmission and Distribution network. Under this scheme, a focused investment program has been initiated in 63 identified distribution circles that would be developed as Centre of Excellence in the first phase of the APDP program.

The Government of India realized the need for a focused approach to address the issues afflicting States with special reference to their circumstances. The State Governments are thus being encouraged to sign Memoranda of Understanding with the Government of India. So far 19 States (Karnataka, Uttar Pradesh, Madhya Pradesh, Gujarat, Haryana, Andhra Pradesh, Maharashtra, Rajasthan, Assam, Punjab, Uttaranchal, Himachal Pradesh, Jharkhand, West Bengal, Orissa, Chattisgarh, Bihar, Kerala and Goa) have signed MoUs with the Government of India. The MoUs are broadly joint commitments of the State Government and the Government of India to undertake reforms in a time-bound manner.

The Government has set an objective of providing 'Power for all by 2012' and has launched a "Mission 2012- Power for All" in this direction. A comprehensive Blueprint for Power Sector Development has been prepared outlining the problems and suggesting integrated solution and strategies for achieving the objective of Power for All.

The primary resources for electrical power generation being unevenly disposed in the country, bulk transmission of electrical power over long distance becomes necessary for supplying the loads. The country's power system has been organised into five regional

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48 Ibid., p. 214.
49 Ibid., p. 216.
Grids, each of which is well integrated, and now with a view to deriving further economies, and increasing reliability, strong interconnections between the Regional Grids are planned thus creating a strong National Grid. It is anticipated that National Grid would be accomplished in a phased manner and by the end of the 11th Five Year Plan (2011-12); a strong National Grid will exist in the country.\(^50\)

3.2.9. Privatisation of Distribution

There is recent shift in the emphasis of the policy from generation to distribution. After a decade-long persuasion of generation-oriented policy, the policy makers realized that the power sector reforms might be better served by addressing distribution issues. If revenue stream can be assured, investors would be more willing to put in money into generation projects, even without counterguarantees and escrow cover.\(^51\) The Finance Minister in his budget 2001-02 speeches highlighted need for 100 percent metering, commercialization of distribution, elimination of power thefts and energy audit. The key issue in power sector, he said was "levy of appropriate user charges".\(^52\) This implies everybody drawing power had to pay an appropriate amount for it.

To attract foreign investment in the power sector, the Government of India considered privatisation of each SEB. Unbundling the vertically integrated power utility, like SEBs into generation, transmission should be the starting point in power sector reform. Followed by this, the privatisation of distribution should preoccupy. This is primarily because theft and transmission and distribution losses the utilities are facing.

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\(^50\) Ibid.
\(^51\) SEBs, Setting Reforms on Track: Focus Shifts from Generation to Distribution, (http://www.indiapoweronline.com), p. 1/3.
\(^52\) Government of India, Budget 2001-02 Speech of Finance Minister, New Delhi: Ministry of Finance.
The union power ministry estimates that only about 55 per cent of the power generated in the country is actually billed. Of the power that is generated but not billed, 20 per cent is attributed to theft. The balance 25 per cent is attributed to technical losses during transmission and distribution. The only effective solution to power theft and inefficiency that lead to such enormous loss during transmission and distribution is privatisation of distribution. A couple of states that have already undertaken or have initiated serious reform exercise will be discussed in the following pages.

3.2.9.1. Orissa Power Sector Reform

Orissa was first state in India and also in South Asia to implement a comprehensive power sector reform programme. It is pertinent to mention that World Bank with loan assistance guided the reform programme in Orissa. As a part of the privatisation programme, Orissa Power Generation Corporation, which was responsible for thermal generation was privatized in 1997. Orissa State Electricity Board (OSEB) was vertically unbundled into three companies for generation, transmission and distribution. All the hydropower-generating plants of Department of Energy and OSEB were vested with Orissa Hydro Power Corporation. The transmission assets of OSEB were vested with Grid Corporation of Orissa. The Grid Corporation of Orissa was responsible for transmission, coordination of system planning and operations of bulk power procurement. Though the Government of Orissa initially owned the Grid Corporation and Orissa Hydro Power Corporation, they were gradually expected to attract private participation.

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As a part of privatisation of distribution, Government of Orissa formed four zones as separate distribution companies (Discom). These four companies were incorporated as subsidiaries of Grid Corporation in November 1997. Privatisation was introduced in distribution by offering 51 per cent of the equity in these companies to private investors. The investors were selected through international competitive bidding on the basis of their financial and technical capability, track record and commitment to the improvement of electricity system. After privatization Grid Corporation held 39 per cent of the equity in the distribution companies, while 10 per cent of the shares held by employees. Though the investors were given full managerial autonomy, they were required to honour the terms and conditions of employment of the employees of the distribution companies. However, the privatization process for the distribution companies was completed in the first half of 1999. Legislation was enacted to govern the power sector after reform. As a result, an autonomous regulatory commission called the Orissa Electricity Regulatory Commission was constituted for power sector regulation in the state.

3.2.9.2. Haryana Power Sector Reform

Haryana has become the second state in the country after Orissa to disband the state electricity board. The Haryana Electricity Regulatory Commission (HERC) has also been set up in August 1998. Just prior to setting up of HERC, the Haryana SEB was unbundled into four entities: Haryana Power Generation Corporation Limited (HPGCL for generation), Haryana Vidyut Prasaran Nigam Limited (HVPNL for transmission) and

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56 A. Thillai Rajan, op. cit., n. 54, p. 659.
two distribution companies, Uttari Haryana Bijli Vitaran Nigam and Dakshini Haryana Bijli Vitaran Nigam.\footnote{SEBs, 

World Bank assists privatisation programme of Haryana. In fact, the first tranche ($60 million) of the World Bank is already available to HSEB. The World Bank is extending the loan under a new type of lending instrument called the Adaptable Programme Lending (APL). Under this scheme, used for the first time in the World Bank’s history in India, the Bank is releasing a series of loans totaling $600 million over eight to ten years, but will release the loans only when the state government has achieved the specified targets. The first target was unbundling and corporatisation, which Haryana has undertaken successfully. Haryana Government has been inviting private sector participation through joint ventures in distribution. In regard to generation of electricity, almost all the small liquid fuel IPP projects are stuck because of either fuel or financing issues. Only one project- 25 MW Magnum has managed to start operations.\footnote{SEBs, *State of SEBs: Progress Last Year*, September 1999, (http://www.indiapoweronline.com), p. 2/4.}

### 3.2.9.3. Andhra Pradesh Power Sector Reform

Andhra Pradesh (AP) is one of the progressive states in terms of power sector reforms. APSEB has been split into separate entities for generation, transmission and distribution. In fact APSEB has been unbundled into two entities- AP Genco and AP Transco in February 1999. The State Electricity Regulatory Commission (SERC) is also been set up in Andhra Pradesh. In December 2000, the SERC issued licenses and notifications to four-distribution companies- each operating in eastern, central, northern and southern parts of the state. They were to come into effect from 1\textsuperscript{st} April 2001. In IPP
front also Andhra Pradesh encouraged lot of private projects. Of the eight fast-track projects, three are located in the Andhra Pradesh. The state continues to suffer from the effect of heavy subsidies introduced earlier in the decade. The World Bank aids the state's restructuring programme. In order to intensify vigilance to prevent thefts and impose very punitive penalties on those indulging in theft, Andhra Pradesh Government has enacted a separate legislation for this purpose.

AP also arranged alternative security mechanism to finance six IPPs. Under this arrangement, financial institutions will undertake financing of six IPPs amounting to about Rs.100 billion without insisting on escrow at the time of financial closure. The six projects that have been short-listed in the memorandum of agreement (MoA) by all stakeholders are the 464 MW Gautami power, the 492 MW Vemagiri CCGT, the 445 MW Konanseema, the 230 MW Jegurupadu Stage-II and the 220 MW BSES Andhra. All these projects are gas based. The only coal-based project considered is the 520 MW BPL Ramagundum. These six projects constitute electricity generation of 2371 MW. Unlike the earlier efforts to promote private power generation on the basis of counter-guarantees by the center, the efforts in these projects are based on more realistic commercial terms. In effect, all stakeholders have been encouraged to take on more risks in order to achieve progress on these projects. The traditionally risk-averse lenders earlier who had been disbursing funds with the comfort of escrow cover or central counter-guarantees, now under this arrangement intended to disburse funds without the comfort of both. The

59 The response of the private promoters to the private power policy in Andhra Pradesh will be discussed in Chapter IV.
60 SEBs, State of SEBs: Progress Last Year, op. cit., n. 58, p. 1/4.
lenders, however, will have a charge on the cash-flows of AP Tansco during the construction period. Only one month before the commercial operation date the lenders will be given escrow cover by the transmission corporation. In fact, such a move will free up funds to further power reforms, rather than tie them down in escrow commitments from the beginning.62

3.2.9.4. Delhi Power Sector Reform

The rationale for privatisation of power sector in Delhi is same as for the other states. To pursue privatization of power sector, Delhi Government formed Delhi Electricity Regulatory Commission (DERC) in 1999. Delhi Government enacted the Delhi Electricity Reforms Act in 2001, leading to the unbundling of Delhi Vidyut Board (DVB) and the privatization of distribution system in Delhi. The transfer of Delhi's power distribution sector to Mumbai-based Bombay Suburban Electricity Supply (BSES) and Tata Power Limited was formalized on 27.06.2002 when the two companies signed shareholding agreements with the Delhi State Government.63 As per the agreement, Delhi Government keeping 49 per cent equity in the three distribution companies, on July 1st 2002, passed all power distribution activities like supplying electricity, metering, billing, controlling power thefts and transmission and commercial losses to the private companies.

In Delhi, Tata got 51 per cent share in the north-northwest discom worth Rs.920 crore. The BSES got 51 per cent share in the central-east discom worth of Rs.290 crore, and west-south discom worth Rs.1, 150 crore. The BSES is catering to 17 lakh consumers in south, west, east and central Delhi. Tata Power is selling power to nine lakh consumers in north and north-west Delhi. As the outcome of this privatisation of distribution drive, it would be the prime responsibility of the private players to bring down the aggregate technical and commercial losses. Delhi Government also invited private sector participation in generation.

3.2.9.5. Gujarat Power Sector Reform

Gujarat government is also committed to privatise its power sector. As a matter of fact, Gujarat Electricity Board (GEB) will have to be segregated into different companies looking after generation, transmission and distribution. Government of Gujarat established State Electricity Regulatory Commission. In its bid to improve the transmission and distribution losses including thefts, Gujarat has in mid 2001 taken a decision to replace over 4,50,000 meters in the state. The exercise is especially focused at domestic and farm consumers. The move is likely to mop up additional revenues for the SEB. Meanwhile private promoters have been encouraged in Gujarat as a result of private power policy.

Asian Development Bank (ADB) is the principal international financial agency in Gujarat to provide loan to carry out its reform programme. ADB for disbursing its $350

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64 Ibid.
66 The response of the promoters to the private power policy in Gujarat will be discussed in Chapter IV.
million loan to Gujarat imposed a number of reform preconditions, basically to ensure that the funds provided are utilized efficiently, and that sector reforms receive an impetus. The loan from ADB’s ordinary capital resources will be provided under two main heads- a policy loan and a project loan. The policy loan would be $150 million whereas the project loan would be $200 million. The policy loan was likely to be disbursed after Gujarat meets certain conditions towards privatization of power sector. The project loan is for the sector development programme in the state.67

3.2.9.6. Karnataka Power Sector Reform

Karnataka has initiated the reform and restructuring process with World Bank aid. The Karnataka Reform Bill has been passed in their state legislative assembly. It envisaged splitting Karnataka State Electricity Board (KSEB) on similar lines as Orissa.68 As a matter of fact, Karnataka SEB was unbundled in August 1999 in two separate corporations, the Karnataka Power Transmission Corporation Limited (KPTCL) for T&D and Visveswaraya Vidyut Nigam for generation. Long back in 1970s, the Karnataka Power Corporation Limited (KPCL) was created and most of the states generating capacity was transferred to it. However, KPTC was expected to complete the identification of distribution circles by the end of 2001. The distribution circles are expected to include Bangalore, Mysore, Chitradurga, Gulbarga and Mangalore.69 It has also Karnataka Power Transmission Corporation Limited to transmit the power in the

68 SEBs, State of SEBs: Progress Last Year, op. cit., n. 58.
69 SEBs, Setting Reforms on Track: Focus shifts from Generation to Distribution, op. cit., n. 51, p. 3/3.
state. Also, the Karnataka Electricity Regulatory Commission (KERC) has been placed in the state.

There has been some progress on the IPP front\(^\text{70}\). But many of the projects are facing problems. Among the IPPs that are facing problems are the 1,000 MW Nagarjuna Power project, the 1,000 MW Mangalore Power project and the 200 MW Bidadi project being set up by the KPCL and Unocal. Cogentrix left the 1,000 MW Mangalore Power project. This has also affected the proposed Manglore-Banglore transmission project. The small liquid fuel-based projects are finding it difficult to get finances. A number of other IPPs are facing protests. The state has also been affected by the escrow controversy\(^\text{71}\). Most of the IPP projects in the state are facing problems in raising finances owing to the lack of security packages. Karnataka too expects that the price of power produced by IPPs would be unattractive in comparison to generation of power from KPCL units. With the SEB incurring huge losses and also going through the reform process, it looks difficult for the KSEB to purchase power from the IPPs\(^\text{72}\).

To mop up the power pilferage/leakage including theft, Karnataka is also implementing replacement of better meters in the state. The state during 2001 has taken up the massive task of acquisition and installation of 4 million electronic meters. In the area of collection and billing, the state is in the process of introducing a scheme wherein the consumers will be encouraged to read their own meter, obtain the electricity bill at the nearest office and remit the amount\(^\text{73}\).

\(^{70}\) The response of the promoters to the private power policy in Karnataka will be discussed in Chapter IV.

\(^{71}\) SEBs, *State of SEBs: Progress Last Year*, op. cit., n. 58.


\(^{73}\) SEBs, *Experience So Far: States Forge Ahead towards 100 per cent Metering*, op. cit., n. 65.
3.2.9.7. Madhya Pradesh Power Sector Reform

With the assistance of Asian Development Bank, Madhya Pradesh State Electricity Board (MPSEB) has embarked a restructuring exercise. As per the plan, MPSEB is to be unbundled into one transmission company, three generation companies (one hydel and two thermal) and five distribution companies. In a significant step, the MP government has decided to reverse some of its populist decisions. From January 1, 2002, it had decided to stop the free supply of power to farmers in the state, except to those belonging to the scheduled castes (SC) and scheduled tribes (ST). Besides, the state cabinet has passed the Madhya Pradesh Energy Assessment Compounding and Recovery Act, which seek to curb the illegal use of power. The Act empowers anti-theft squads to enter and search consumers' premises and seize material for evidence. Simultaneously, an extensive metering exercise is being undertaken⁷⁴.

The MP electricity reform, which was embroiled with escrow controversy from July 1997, was finally settled with the Supreme Court verdict in early 2000. Supreme Court upheld the Madhya Pradesh Electricity Board's "least tariff" criterion. It has also upheld its priority of projects based on this criterion, except for Pench, which has been disallowed on the grounds that the project cost was not properly evaluated, rendering it unfit for comparison. The projects Madhya Pradesh government was finally able to announce the escrow cover following the court verdict includes, 1070 MW Korba East (Daewoo), the 500 MW Bina, 400 MW Maheshwar, and the 347 MW STI Power projects. While the first three projects featured in the Supreme Court's escrow priority, the last managed to get a foot on account of disqualification of Pench Power by the apex

court. Apparently the STI Power had the least cost among the proposed liquid fuel projects in the state. According to the promoters, what clinched STI's entry was the fact that the project was almost on the HVJ pipeline, which made it much easier for it to switch to gas in future. This would enable the project's tariff to be competitive with that of a coal project.\footnote{IPPs, *MP Escrow for Four IPPs: STI Power finds a Berth*, April 2000, (http://www.indiapoweronline.com), p. 1/5.}

Following this selection, these four projects were to start financial closure. But this was not easy, as MP government while announcing escrow to these four projects had also said that the actual escrow agreement would only be signed at the time of financial closure. This no doubt would bring IPPs back to square one, as lenders may insist on assigned escrow agreement as a prerequisite for lending, and may therefore hesitate to give firm commitments. Besides, these four IPPs, the state government also proposes to purchase 500 MW from the upcoming Hirma project (mega power project) in Orissa for which MPSEB would have to provide a guarantee to the Power Trading Corporation for purchase of power.\footnote{Ibid.}

3.2.9.8. Maharashtra Power Sector Reform

Maharashtra has imbibed the privatisation policy in power generation. It is the Dabhol Power project (Phase I- 740 MW) - a fast-track power project, in the private sector, which started generation in Maharashtra, and Phase-II (1,444 MW) has achieved financial closure.\footnote{The other private power projects came up in Maharashtra as a result of private power policy will be discussed in Chapter IV.} The Dabhol's Phase-I was backed by counter-guarantee while Phase-II did not have the counter-guarantee.

Enron promoted Dabhol project (Phase-I) was riddled with issues and controversies from day one. The controversies are Enron's favourable PPA terms, high cost of Dabhol power, and Dabhol Power Corporation's (DPC's) invocation of guarantees\(^78\). The PPA made Maharashtra State Electricity Board (MSEB) to pay Dabhol for power, irrespective of whether MSEB purchased power or not. As per contractual obligations, Maharashtra (its Electricity Board) has to buy 90 per cent of Dabhol's installed capacity of 740 MW at tariff that guarantees a 16 per cent rate of return of Enron regardless of whether the state's pattern of demand justifies this. Anticipating payment difficulties at the state level, Enron had demanded and received a commitment form the Centre, known as a counter-guarantee that the dues would be paid if Maharashtra defaulted. Enron project was sanctioned on the basis of Enron's claimed costs, instead of competitive bidding on the lowest tariff\(^79\).

However, many factors worked against the expectations resulting into the current crisis. The variable cost has been very unbearable as its two important constituents, such as "fuel cost" and the "rupee-dollar exchange rate" passes through in the tariff. Both these costs have gone up significantly leading up to a high variable cost and therefore the final electricity tariff. As such, the average Dabhol tariff since commissioning, from May 1999 to October 2000, has been Rs.4.84 per unit. This is because of the naphtha being used as a fuel to produce electricity. Moreover, the economy did not pick up as much as expected. Many industrial users, due to lack of reliable and quality power from the grid,


have shifted to captive power\(^80\). The price of naphtha skyrocketed since the PPA was signed, and the cost of fuel being a pass through, the increase in the price of naphtha was fully passed on to the tariff, subsequently to MSEB. In addition, by denominating the tariff in dollars, with MSEB bearing the foreign exchange fluctuation risk and the rupee's steady decline against the dollar, the tariff became unrealistically high.

Madhav Godbole Committee, which was set up in 1995, recently submitted its review report on the Dabhol project establishing some irregularities and recommended that both phases of the project be renegotiated\(^81\). The project is in doldrums. If the project could not succeed, it is not that Enron has to be blamed. It is also the responsibility of state government, MSEB, center, financial institutions/ lenders, PTC who are equally responsible. Therefore, the issue is how to arrive at an amicable solution. Therefore, the Dabhol issue can be resolved, but only if all concerned parties try to look beyond their very narrowly perceived self-interest. However, the DPC controversy has not stopped Maharashtra government to go ahead with the IPP projects. It awarded six more liquid fuel projects for development by IPPs. However, Maharashtra did not take initiative to privatise the distribution network.

3.2.9.9. Rajasthan Power Sector Reform

In 1999 Rajasthan had passed the power sector reform bill in order to pursue privatization of its power sector. In its bid to increase revenue of the SEB, it had been increasing the tariff of the electricity in the state. The tariff increase, which came with


effect from 1st November 1999, after a little over two years, apart from internal compulsion of the state to raise revenue, it is believed that World Bank was insisting on reform prior to approval of a Rs. 22 billion loan. Another compulsion also had come from the Power Finance Corporation, which wanted tariff to be hiked before it released Rs. 4 billion loan for the Suratgarh thermal plant.\(^2\)

Restructuring of the erstwhile Rajasthan State Electricity Board (RSEB) was achieved with the notification of Transfer Scheme in July 2000. This paved the way for corporatisation of the RSEB and its functions into five companies. These five companies created by unbundling SEB in 2000 are; a generation company, a transmission company and three regional distribution companies: Jaipur Vitran Nigam, Ajmer Vidyut Vitran Nigam and Jodhpur Vudyut Vitran Nigam. Unlike other states, Rajasthan has separated the transmission from the distribution functions. This was done keeping in view that inviting private sector investment in generation is not the correct way to begin. The reforms talks of divesting 51 per cent share of the distribution companies to a strategic partner from private companies. The state government has had set itself the target of privatizing all three companies by 2002. However, the IPP development in Rajasthan has been rather poor.

3.2.9.10. Power Sector Reform in Other States

UPSEB with the World Bank assistance has initiated steps towards reform and restructuring. The state has begun inviting private sector participation in distribution in zones with high industrial activity. In fact, in January 2000, the UPSEB was split into a

thermal generation company, a hydro generation company and the Uttar Pradesh Power Corporation Limited for T&D. The plan is to first privatise the distribution in cities like Moradabad, Agra, Lucknow and Varanasi and then undertake privatisation of distribution in zones such as Allahabad, Gorakhpur, Meerut, Bareilly and Jhansi. Also, IPP development in UP has not been encouraging.

Tamil Nadu is among the more progressive states in terms of development of IPP. Apart from IPP development, however, there has been very little movement on the reform and restructuring front. However, Tamil Nadu has formed "anti-power theft squads" in order to strengthen vigilance to contain transmission losses.

3.2.10. Role of International Agencies in India

It has been seen that international aid donor agencies like World Bank (WB) and Asian Development Bank apart from providing aid to the state governments they have guided how to proceed with the privatisation programme. It has been observed that when state governments failed to proceed with the programme they have become tough.

Although the Chautala Government in Haryana has indicated its willingness to undertake tariff hikes, it is unwilling to privatize distribution. This has prompted the World Bank to cancel its $600 million loan to the state. Haryana had established its SERC in August 1998, following up this by the unbundling of its SEB into generation, transmission and distribution companies. But its reluctance to take the next step of privatization has led to the present situation.

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83 SEBs, Setting Reforms on Track: Focus Shifts from Generation to Distribution, op. cit., n. 51, p. 1/3.
Also, the WB does not seem to be happy with the progress of power sector reforms in Orissa. Although it was the first state to embark on power sector reforms in 1996, for which it received a $350 million loan from the World Bank, the Bank has later decided to suspend part of this loan. The decision came in the wake of the breach of agreement made by the state government. Although the WB has already disbursed $135 million (Rs.6.5 billion) to the Orissa Government for rehabilitation of the state's transmission and distribution system, the state government has not yet released about Rs.700 million to the Grid Corporation of Orissa and the four distribution companies in the state despite several reminders sent by the Bank.\(^{85}\)

Another state that may be affected by the World Bank's new tough posture is Karnataka. The Bank has earmarked a sum of $150 million for restructuring the state's power sector. It has had, however, asked the Karnataka Government to stick to a firm deadline of December 2001 for completing the privatization of Karnataka Power Transmission Corporation Limited (KPTCL), before it disburses any funds.\(^{86}\)

### 3.2.11. IPP Funding in India

For IPP development the debt equity ratio has been 70:30 implying 30 per cent of the project costs should come from the developers themselves and rest 70 per cent from the financial institutions both domestic and international. Among the international financial institutions Export Credit Agencies (ECAs) have been very active in India. Traditionally, the Exim bank of US and Japan (JExim) have been the most active ECAs in the country, followed by Hermes of Germany and Export Credit Guaranty Department

\(^{85}\) *Ibid.*
\(^{86}\) *Ibid.*
(ECGD) of the UK. The Export Development Corporation of Canada (EDC), COFACE of France, SACE of Italy, the Korean Export Insurance Corporation (KEIC), as well as the lending agency of Norway have also been part of financing foreign debt. JExim is the only Exim Bank in India that provides loans, which are not tied to the procurement of goods and services. Untied loans are extended to foreign governments and foreign financial institutions for high-priority projects.

Among the domestic sources, Power Finance Corporation (PFC) since its inception in 1986 has been playing a pivotal role in the financing of power sector. Besides, the Corporation is providing technical and managerial services towards achieving integrated development in the power sector not only to the SEBs but also to the IPPs. The governing principle of PFC for lending to SEBs is based on an operational policy, which requires each state utility have to have an operational and financial action plan, agreed to by the borrower, the state government concerned and the PFC. Being basically a financial institution it raises its resources both from domestic and international markets. It also gets credit form institutions like Asian Development Bank and others. One of the positive aspects of the PFC is that it has been able to raise funds on the strength of their balance sheet, without any government guarantee, both in domestic and international markets, at low rate. Besides, many commercial banks in India do finance to the Indian IPPs.

3.3. Privatisation of Pakistan Power Sector

In view of the key role played by electricity in national growth and development, reform of the power sector through restructuring and privatisation is high on the agenda of the Government of Pakistan (GoP). The Government is committed to pursuing a far-reaching privatisation and reform programme for the power sector to help meet the country's substantial power needs and to solve long-standing problems in the power sector. Implementation of that programme will bring about a gradual transition of the power system for integrated, state owned utilities to a decentralized system with separate generation, transmission and distribution entities, having substantial private ownership and management, reflecting and encouraging a commercial and competitive operating environment.

However, Pakistan electric sector is also not free from production inefficiencies at every level. Officials estimate that 1 billion of production is lost every year in Pakistan due to load shedding. In Pakistan, transmission losses are estimated to be as high as 30 per cent, which skews the Government's official production figures. This implies that as much as 3,000 MW of electricity is lost annually due to the dilapidated distribution system and theft of power. One of the important reasons for such losses is that the majority of transmission wires in the Karachi area are made up of steel, and not the more conductive copper, mainly due to a steel plant's proximity to the power plant and relatively cheaper purchasing price of steel. This led to a proliferation of steel transmission lines in Pakistan. However, the steel wires were not only substandard to international norms, but are responsible for the higher losses. Moreover, it is very

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common for thieves to cut and steal most of the neutral lines and sell these to the steel scrap dealers. Due to the transmission and distribution losses in WAPDA and KESC system Government of Pakistan was compelled to resort to power privatization policy.

The International Resource Group (IRG) Ltd. prepared WAPDA's Strategic Plan for privatisation of Pakistan's Power Sector. The Strategic Plan had envisaged privatisation of distribution and thermal generation. In order to achieve this end, the Strategic Plan had recommended that WAPDA be converted into a holding company and its thermal units as subsidiaries of WAPDA. Also, the plan had recommended for a National Regulatory Authority to be established which will determine tariffs and regulate distribution and thermal generation activities in the power sector.

In 1994 WAPDA Act, 1958 was amended to privatise or otherwise restructure any operation of the WAPDA except the hydel generating power stations. The People's Party of Pakistan (PPP) Government amended the WAPDA Act allowing the privatization of WAPDA's thermal generation units and area electricity boards. In fact, WAPDA was first to be corporatised and then privatized and its role in power sector limited to the development of hydel power resources. KESC was also scheduled for privatisation. The role of WAPDA after corporatisation was entrusted to the development of hydel power apart from the hydel power sector opened for private sector.

89 Ibid.
3.3.1. Private Power Policy in Pakistan

Pakistan in mid-1980s, faced serious shortages of power supply both due to inefficiency of WAPDA and lack of funding for new projects. The international donor agencies were not willing to give loans to Pakistan to install more power generating capacity in the public sector, mainly due to failure of WAPDA to complete projects on time in the past. This raised the cost by several times. Though the first policy to encourage private investment in the energy sector was announced in 1986, it did not attract any national or international firms. The policy was further amended in 1992, but still nobody showed much interest.

The existing capacity during end of 1993 was insufficient to meet the demand on a year round basis, as such at different times of the year particularly during the period of low river flows, consumers have to be subjected to load shedding (forced power cuts). The magnitude of this shortage is around 2,000 MW during peak load hours. Of course, Pakistan had no problem with the base load. The system is characterised by high degree of suppressed demand. During the end of 1993 the conservative projections for annual average increase in the demand are nearly 8 per cent per annum for the next 25 years, which means that approximately 54,000 MW of additional generation capacity will be needed up to the year 2018. Minimum annual additional capacity requirements are the order of 900 MW in year 1994, increasing to 1,300 MW in year 2000 and 5,000 MW in year 2018. Such an ambitious programme cannot be financed in the public sector due to ceilings on Public Sector Development Programme (PSDP), and resource mobilisation in the private sector is essential for meeting these development targets. This forced the

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Government of Pakistan to constitute a high-level task force on the power sector in 1994, which formulated the "Policy Framework and Package of Incentives for Private Sector Power Generation Projects in Pakistan". This policy is also popularly known as 1994 policy. The salient features of this policy are given below:

1. **Choice of Site, Fuel/Energy Source & Technology**

The investors are free to propose the site and opt for the technology and fuel including residual furnace oil, diesel oil, natural gas, LPG etc. for the project depending upon the availability of fuel, cooling water, infrastructure, environmental impacts and economics of the tariff. Investors may also propose projects based on hydro, or other renewable and/ or non-conventional sources of energy such as solar, wind, geothermal etc. However, hydro power projects on the main river Indus will not be open to private sector because of water regulations and flood protection functions.  

2. **Tariff for Bulk Purchase of Power**

WAPDA/ KESC shall purchase the power under a long-term contract covering the concession period. The Government of Pakistan offers a Bulk Power tariff of US Cents 6.5/kWh (to be paid in Pakistan Rupees) as an average for the first ten years of sale of electricity to WAPDA/ KESC. A levelized tariff of US Cents 5.9/ kWh (Rs. 1.776/kWh) over the life of the project has also been calculated as a final parameter for acceptance of the tariff. It will provide flexibility to the sponsors to work out year-wise tariff (resulting into the required levelized tariff), which match their annual debt-service requirements. A premium of US Cents 0.25/kWh based on the energy sold to

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94 Ibid, p. 2.
WAPDA/KESC during the first 10 years of project operations, will be allowed to the projects above 100 MW which are commissioned under this scheme by 1997\textsuperscript{95}.

The Bulk Power Tariff will apply to all BOO thermal power projects, all hydro projects up to 20 MW and all other projects based on non-conventional/ renewable energy sources. In case of hydel units, the levelized tariff will be applicable for the first 30 years of the project life. For the hydro projects exceeding 20 MW, the tariff will be decided on project-to-project basis on a 25 per cent rate of return on equity. The tariff of US Cents 6.5/kWh is an indicative tariff which has been calculated on an annual plant factor of 60 per cent. The actual payment of the tariff will comprise two components, i.e. capacity price and energy price. Capacity price will be paid on monthly basis and covers the debt servicing, fixed operation and maintenance cost, insurance expenses and return on equity. The payment of capacity price on monthly basis will keep the investor's profit insulated against variations in the quantum of energy purchased by WAPDA/KESC. The energy price will be paid as rupees per kWh based on actual energy sold to WAPDA/KESC. This includes an element of fuel price as a "pass-through" item. As the capacity payment is assured as per terms of the Concession Agreements, there will be no guarantee for purchase of a specified amount of power. However, as mentioned earlier, non-purchase of electricity will not affect the smooth operations and investors' profits as envisaged in the base tariff profile\textsuperscript{96}.

The capacity price is paid even when there is no sale or generation of electricity. In capacity price, the debt servicing is a non-escalable component, whereas others like operations and maintenance, costs of insurance and administrative costs and return on

\textsuperscript{95} Ibid, pp. 2-3.
\textsuperscript{96} Ibid, pp. 3-4.
equity of 17-18 per cent are escalable component. The third component is the foreign exchange risk insurance, which covers the premium payable to the State Bank of Pakistan.

3. **Financing Arrangements**

a) BOO projects will involve limited recourse financing, which means that the funds for the projects will be raised without any direct sovereign guarantee of repayment. Instead, the investors in, and lenders to, the project company must look to the revenues earned by the sale of electricity for their returns on equity and the servicing of their loans.

b) The minimum requirement for equity investment is 20 per cent of the total capital cost of the project.

c) The Government has established a Private Sector Energy Development Fund (PSEDF) with the assistance of World Bank, USAID and other multilateral lending agencies, which may provide up to 40 per cent of the capital costs of the project, at a fixed interest of 14 per cent per annum with a maturity period of up to 23 years including a grace period of up to 8 years.

d) To facilitate the creation and encouragement of a corporate debt securities market essential to raise local financing for power development projects, the following provisions have been made:-

i. Permission to power generation companies to issue Corporate Bonds. These can be both bearer and registered.

ii. Permission to issue shares at discounted prices to enable venture capitalists to be provided higher rates of return proportional to the risk.

iii. Permission to foreign banks to underwrite the issue of share and bonds by the private power companies.
iv. Same tax facilities for private sector instruments as those available to Non-Banking Financial Institutions (NBFIs) as financial institutions.

v. Recommendation by GoP to State Bank of Pakistan for modification of Prudential Regulations to allow 80:20 debt equity ratio.

vi. Removal/reform of Section 13 of 1947 Foreign Exchange Regulation Act to enable non-residents to purchase securities issued by Pakistanis without State Bank of Pakistan permissions.

vii. Abolition of 5 per cent limit on investment of equity in associated undertakings.

viii. An independent rating agency is being allowed to commence operations, so that individual investors can make informed decisions about the risk and profitability of the Bond/ Term Finance Certificates (TFCs)\(^7\).

4. Fiscal Incentives

a. The private power companies are exempt from corporate income tax.

b. The companies are allowed to import plant and equipment without payment of customs duties, sales tax, Iqra, Flood Relief and other Surcharges as well as Import License Fee.

c. The companies are allowed to register anywhere in Pakistan to avail reduction in stamp tax and registration fee for registration of loan documents by Federal Government.

d. Repatriation of equity along with dividends is allowed freely.

e. Exemption form income tax in Pakistan for foreign lenders to such companies.

f. Although the GoP encourages participation of local investors in the power sector, it is not mandatory, and foreign companies/investors are free to set up projects without local partners.

\(^7\) Ibid, pp. 4-5.
g. The companies can obtain Foreign Exchange Risk Insurance (FERI) on standard terms from the State Bank on the foreign currency loans contracted by them. The current premium rates of FERI are included in the bulk tariff but any change in FERI will be considered as a "pass-through" item.

h. The companies have been exempted from the requirements of obtaining insurance only from the National Insurance Corporation (NIC) under NIC Act of 1976 if they are funded by multi-lateral lending agencies like World Bank, ADB etc. Now private power companies can get insurance as per requirements of lenders and utilities.

i. The power generation has been declared as an industry and the companies are eligible for all other concessions, which are available to industrial projects.

j. The private parties may raise local and foreign finance in accordance with regulations applicable to industry in general.

k. For local engineering and manufacturing companies, the present Statutory Revisionary Order (SRO) 555 (1)/90 has been made applicable to private power plants.98

l. Orders received by local engineering and manufacturing companies from private power companies will be treated as an export for refinance under the State Bank Finance Scheme for Exports.99

98 A number of exemptions and fiscal incentives were already in existence, while certain new incentives have been proposed under the 1994 policy. A separate Statutory Revisionary Order (SRO) is issued for private sector power plants so that incentives and concessions given in various regulations and directives are placed together and consolidated to facilitate understanding and implementation of the incentives package.

99 Government of Pakistan, op. cit., n. 93, pp. 5-7.
5. Security Package

i. Model Implementation (Concessions) Agreement, Power Purchase Agreement (PPA) and Fuel Supply Agreements (FSA) have been prepared for private power projects to eliminate the need for protracted negotiations between GoP and sponsors.

ii. The long term PPAs, typically for 15-30 years with WAPDA/KESC are guaranteed by the GoP for performance obligations of these utilities.

iii. In case the fuel is to be supplied by a public sector organisation, the performance of the fuel supplier will be guaranteed by the GoP under the terms of FSA.

iv. For the power projects, the Government will:
   a. Provide protection against specific force majeure risk.
   b. Provide protection against changes in certain taxes and duties.
   c. Ensure the convertability of Rupees and remittability of foreign exchange to cover necessary expenses of the projects.

v. The PSEDF loans are subordinated in certain respects to the other commercial lenders.\(^{100}\)

As per the security package, in case the fuel is supplied by the public sector organization, the GoP will guarantee the performance of the fuel supplier. Otherwise, private investors will be responsible for arrangements of fuel for their power plants. They are free to opt either making their own importation and transportation of fuel (oil, LPG and LNG) for their power plants (including development of import handling and

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\(^{100}\) Ibid, p. 7.
transportation infrastructure, if needed). In any case, fuel price will remain a "pass-through" based on the price changes made by the public sector (GoP) in the same fuel.

The 1994 policy also embarked for the constitution of a Private Power Infrastructure Board (PPIB) so as to facilitate one window operation. The PPIB will be responsible for coordinating with all the agencies and Ministries concerned and taking decisions, monitoring the performance of private sector projects in accordance with the agreements, and safeguarding the interests of the consumers. The Government of Pakistan in this 1994 policy provide incentive to set up self-generating plants in the industry with the guarantee to buy back the surplus power from the self-generating plants.

3.3.2. Transmission Policy for Private Sector

Both the State owned electric supply utilities, namely WAPDA and KESC need to develop, reinforce and augment their transmission lines to meet the requirements of the upcoming power stations. Their distribution networks too are old and inadequate, and suffer from high line losses and power theft. KESC's transmission and distribution line losses are around 35 per cent, with an additional 5 per cent loss from power theft, while WAPDA's losses are about 27 per cent. In addition, the collection on bills by both utilities is extremely poor, resulting in a severe liquidity crunch. Constrained as well as by a lack of financial resources, Government of Pakistan in March 1995 announced a transmission policy inviting private sector participation. The name of the transmission policy is "Policy Framework and Package of Incentives for Private Sector Transmission

Line Projects in Pakistan, March 1995. This policy is expected to attract huge local and foreign investment in Pakistan. This has been intended to lessen the burden of WAPDA, which was already over-stretched and unable to inject resources for the expansion of a much needed transmission system.

The transmission policy specified that the projects would be offered as packages, will comprise one or more transmission line sections. Some of the important salient features of the packages are:

i. Transmission policy lay down that the projects would be offered on build, own and maintain (BOM) basis, comprising of EHV Overhead Transmission Line (OHL) and Grid Stations (G/S).

ii. A transmission package will comprise EHV OHL, associated G/S plant and equipment, and where required, inter-bus transformers, and shunt reactors.

iii. The sponsor will be eligible for submitting application(s) for any one or the entire Package.

iv. The minimum design and functional performance requirements for these projects will be prepared by the utilities to ensure compatibility with the existing systems.

v. LoI/LoS will be issued to the proposal satisfying the qualification and economic criteria set by PPIB on International Competitive Bidding basis.

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104 There is no difference between BOO and BOM. In fact, both are the same and are used interchangeably.

105 EHV is defined to mean 220 kV and above.
vi. The exact route/corridor for the packages and locations of Grid Station would be
determined by the GoP or its designated agency, which will be responsible for
acquisition of the legal right of way and securing the physical land and its access.

vii. The sponsors will make the maximum utilisation of indigenous material and
expertise and it is expected that for the purpose of transmission lines and grid
stations construction a nominated local sub-contractor will be part of the project
sponsors team.

viii. All equipment and machinery for the projects shall be new.

ix. The Transmission Service Agreement (TSA) and Implementation Agreement will
include provisions to ensure that the transmission package is completed on time
and to technical and performance specifications as laid down by GoP106.

As a part of incentives, the fiscal arrangements and financial incentives as
available to the generation projects in 1994 Policy is equally available to the transmission
projects to be developed by the private sector under this Transmission Policy of March
1995. Drafts of Model Implementation (Concessions) Agreement and Transmission
Service Agreement (TSA) have been prepared for independent power transmission
projects to eliminate the need for protracted negotiations between GoP and sponsors. The
long-term TSA, typically for 30 years with WAPDA/KESC are guaranteed by the GoP
for performance obligations of these utilities. The sponsor will be insulated from the
uncertainty of daily despatches and will be paid service charges covering capital and
maintenance cost including return on equity. The PPIB will be responsible for

coordinating with all the agencies and ministries to ensure one window operation. It will also be taking decisions, monitoring the performance of private sector projects and safeguarding the interest of the consumers.

3.3.3. Hydel Policy of 1995

The Government of Pakistan to encourage proposal for power generation based on indigenous resources, namely its hydel resources announced "Policy Framework and Package of Incentives for Private Sector Hydel Power Generation Projects in Pakistan" in May 1995. This policy is also popularly known as hydel policy of 1995. Hydel power being cheaper will provide tariff relief to the consumers, utilise indigenous resources, involve Pakistani entrepreneurs and provide benefits of economic growth to the relatively backward parts of Pakistan. Therefore, Government of Pakistan has devised an attractive policy package to evoke response of the private sector similar to that of thermal power. The salient features, viz. financing arrangements, fiscal incentives, security package as provided in 1994 policy is also applicable for the hydel policy of 1995. However, the additional and distinguishing features as announced under this policy for hydel sector development is presented below.

The investors are free to propose hydel power plants on tributaries and canal systems at any location and opt for any type of equipment. However, hydropower plants with seasonal storage will be allowed only on streams and tributaries. The policy will cover all feasible hydropower plants having capacities up to 300 MW, either of run-of-the-river type or with nominal poundage for absorption of daily flow fluctuations. Plants requiring reservoirs for seasonal poundage on all rivers, except on streams, and tributaries
as well as plants located on the main rivers (Indus, Jhelum, Chenab, Ravi and Sutlej) are to be excluded from private sector. However, hydropower plants of capacities above 300 MW which do not disturb downstream users' water rights and do not undermine the optimum development potential of a site, would be considered on a case-to-case basis irrespective of the location.\textsuperscript{107}

Before a hydel site is developed by the private sector a detailed feasibility study of acceptable international standards has to be prepared. The feasibility studies may however be carried out in the public or private sector. In public sector a number of feasible sites have been identified through a series of studies. The feasibility studies undertaken in the public sector by WAPDA, Sarhad Hydel Development Organization (SHYDO) and other organizations, would be made available to the private entrepreneurs as public document against a fee. A further price as reflected on the books of the concerned agency as cost of the feasibility study will be chargeable from the private entrepreneurs at the time of issuance of LoI and will be passed to the agency, which conducted the study. For studies completed in the public sector, the private investor should verify any or all aspects of the feasibility study and may carry out his own project appraisal. For ongoing feasibility studies the investor may, at his own cost, associate his expert(s) with the study being carried out by the government agency/consultant. In the private sector, the private investors may carry out their own feasibility studies, at their own expense complying with the criteria for the selection of consultants as laid down by the World Bank or Asian Development Bank.\textsuperscript{108}


\textsuperscript{108} Ibid, p. 2.
The additional financing arrangements in the hydel policy of 1995 in comparison to policy 1994 is that, to facilitate the pace of feasibility studies, the Government will initiate preparation of feasibility studies in the public sector for many more sites so that, after a few years a number of feasibility studies become available. These feasibility reports can be implemented by the private sector on competitive basis. Towards this end, funding for feasibility studies has to be provided to the concerned Federal as well as Provincial agencies, a Hydel Planning Fund in the sum of US $30 million will be created by the Federal Government to meet the expenditure over the next 5 years. In additions, the Government of NWFP has established a provincial hydel development fund from its own resources. The investors may utilise this fund as a topping-up recourse for feasibility studies. The amount will be available as a loan on standard commercial terms\textsuperscript{109}.

The additional fiscal incentives in the hydel policy of 1995 in comparison to policy 1994 is that import of construction equipment by private power companies for hydropower plants would be exempted from levies; however, a custom duty of 2 per cent on imported machinery will be payable. In addition, the Provincial Government would endeavor to develop infrastructural facilities required for access to site depending on provincial resource position. Further, the additional security package as available in the Hydel Policy of 1995 is that since the life of a hydro project is much longer than that of a thermal plant and because the operational cost of a hydel station is nominal, the ownership of the project will be transferred to the Government (BOOT-type) free of charge after 25 years of its operation. The Government will further lease out the

\textsuperscript{109} Ibid, p. 4.
operation and maintenance of the station for which the original entrepreneur will have the first choice\textsuperscript{110}.

Unlike the one-window procedure followed for thermal power generation, issuance of LoI and LoS would be dealt with by the Provincial Governments as per the hydel policy of 1995. LoI and LoS issued by Provincial Government will not bind the Federal Government and PPIB to execute IA/PPA only after it was satisfied that (1) the interconnection of the project to the National Grid was technically and economically feasible, and (2) the feasibility of the project met the criteria laid down in the policy. The Provincial Governments will designate a window to specifically deal with, and process, all investor proposals and queries. The window to be notified separately by each province will be modeled on the pattern of PPIB\textsuperscript{111}. The window is generally called as Provincial Window or Provincial Private Power Cell (PPC).

The Provincial Governments view hydropower potential as an important resource to generate funds for development. A nominal price for use of water has therefore been proposed in the Bulk Power Tariff at the rate of US Cents 0.233/kWh. The power shall be purchased by WAPDA under a long-term contract covering the concession period. The price will be paid in equivalent rupees throughout the period of PPA. It will be payable to the concerned Province as consideration for use of its natural resource and to provide resources for investment in the sector. The bulk purchase tariff is an indicative tariff, which has been calculated on an annual plant factor of 50 per cent. The energy available from hydropower plants will be given highest priority in load despatch. The payment will be made on the basis of actual energy sold to WAPDA during a month or, in case of non-

\textsuperscript{110} Ibid, pp. 5-6.
\textsuperscript{111} Ibid, pp. 6-7.
despatch by WAPDA, for 95 per cent of the energy that could have been generated by the hydropower plant (based on the average hydrology for that month). The bulk power tariff would be payable on monthly basis\textsuperscript{112}.

3.3.4. The 1998 Power Policy in Pakistan

Government of Pakistan brought another policy in July 1998 called "Policy for New Private Independent Power Projects". Government of Pakistan proposes to restructure and privatise the existing thermal power generation, the power transmission and distribution functions and assets of existing public sector utilities (WAPDA/KESC). WAPDA's restructuring will involve a corporatisation process in which its eight area electricity boards will be converted into eight public limited companies, its 11 thermal power stations into three public limited companies and its transmission system will become a single public limited company. It is the GoP's intention to privatise the distribution and thermal generation companies. The transmission company may remain in the public sector in the medium term. WAPDA will revert to its original role as an organization responsible for the maintenance of existing dams, the building of additional dams on the main rivers and a generator of electricity from these dams\textsuperscript{113}.

There are some departures of this 1998 policy from its earlier policies. As such, the 1994 Private Policy Framework and the 1995 Hydel Power Policy Framework were based on tariff announced up-front by the government and attracted private investment for over 3000 MW of capacity. While up-front tariff approach greatly simplified and accelerated the process of acquiring new capacity in the backdrop of severe load

\textsuperscript{112} Ibid, p. 11.

shedding, it is not based on the competitive framework for acquisition of new capacity. The 1998 Power Policy Framework is based on setting a tariff as a result of competitive process through which private sector entrepreneurs are invited to offer the lowest tariff per kWh for delivered energy. The second departure is that the previous private power policy frameworks have predominantly resulted in private investment in oil and gas fired power plants, mainly based on imports. The government in this 1998 policy plays a proactive role in promoting the use of indigenous coal and hydroelectric resources in power generation. It is intended that the initial invitations to bid will only be for hydel and indigenous coal based projects. Thirdly, the previous power policy framework had provided almost blanket exemptions from all duties and taxes. This meant that Pakistan's fledging engineering industry and equipment manufactures for power plants could not compete with imports because of the duties paid on their inputs. The 1998 power policy framework is eliminating this inequality.\textsuperscript{114}

With the establishment of NEPRA in 1997, its role in independent private power production will be to approve a tariff for a particular project before a Letter of Support is issued by the PPIB. It may also advise the PPIB or the Provincial or AJK Private Power Cell (PPC), as the case may be, on the maximum acceptable tariff for a project before it is bid. This maximum tariff may then be specified in the Request for Proposals (RFP) as the maximum acceptable to the GoP. PPIB at the Federal level will provide one window support in coordinating with the various governmental agencies, carry out negotiations of

\textsuperscript{114} Ibid, p. 3.
the Implementation Agreement (IA), issue of the Letter of Support, monitor and follow up on progress of the project, etc. It will include representative from each province and AJK\textsuperscript{115}. One window support at the Provincial level would be provided by Provincial and AJK Private Power Cells (PPCs) for the projects located in the respective territories. The Provincial or the AJK PPC, in consultation with PPIB and the power purchaser, will issue pre-qualification documents, pre-qualify the bidders, issue bidding documents (prepared by PPIB in consultation with Provincial or AJK PPC) and evaluate the bids. The issuance of LoS will be the responsibility of PPIB. The Provincial or AJK PPC will also assist the private sponsors in coordination with the Provincial Government Agencies to carry out negotiations on the Water Use Licence/ Agreement\textsuperscript{116}.

The salient features of this policy are that the basis for selection of private project will be minimum levelized tariff through International Competitive Bidding. Variable tariffs over the life of the project will be permitted under terms specified prior to bidding. The process of selection will involve pre-qualification, issuance of a RFP, bidding and evaluation of bids against bid criteria clearly laid out in RFP. It is recognised that without a proper feasibility study for a particular site-specific hydel or indigenous coal based project, it will not be possible to invite competitive bids and receive firm offers. Thus, detailed feasibility studies for such projects will be prepared before bids are invited\textsuperscript{117}. Hydel projects will be implemented on BOOT basis; to be transferred to the province in which it is situated at the end of the concession period, and thermal projects on the BOO basis. Competitive tariffs will comprise an energy purchase price and a capacity purchase

\textsuperscript{115} Ibid, p. 4.
\textsuperscript{116} Ibid, p. 5.
\textsuperscript{117} Ibid.
price with adequate provisions for escalation. The GoP will guarantee that the terms of executed agreements, including payment terms are maintained during and after the transfer the transition to the private sector companies that result from the system restructuring. The above specifications, however, are for the solicited proposals. For hydel and indigenous coal projects, unsolicited proposals will be permitted from sponsors when there does not exist a feasibility study for the project. A sponsor wishing to make an unsolicited proposal must submit detailed proposals to PPIB. PPIB will issue a Letter of Intent (LoI) at this stage provided the project is not in conflict with the existing plans and the pre-qualification criteria are met. The LoI will require the sponsor to carry out a complete feasibility study at an internationally acceptable standard and within an agreed period of time. If the sponsor fails to complete the feasibility study in the specified time period, then PPIB will have right to terminate the LoI with adequate notice in which case no compensation or damages would be paid by GoP or any of its agencies. PPIB will appoint a panel of experts to review the conduct of the feasibility study and its results to ensure that the implementation of the project would be consistent with national and provincial needs. If the feasibility study is approved by this panel, a bidding process will be initiated. However, as the sponsor of the unsolicited bid has provided the feasibility study, he will not be required to submit a bid bond. On the conclusion of the bidding process, the sponsor of the unsolicited proposal will be offered the opportunity to undertake the lowest tariff offered by the bidders. If he rejects this offer the successful bidder will repay the reasonable and independently audited cost of the feasibility study to

\[118\] \textit{Ibid}, pp. 3-4.
the original sponsor before the issuance of LoS\textsuperscript{119}. The unsolicited bids which is permitted for hydel and indigenous coal is also permitted for small hydel power plants and those based on other renewable energy resources without any requirement for competitive bidding.

The successful bidder in either route (solicited or unsolicited) will be required to submit to PPIB on a format specified by PPIB, a mutually acceptable implementation schedule with specific milestones for progress monitoring. Delays in achieving the commercial operation of the power complex by the required date therefore will invite liquidated damages as specified in the PPA. Other penalties may be specified in the Implementation Agreement (IA) for not meeting certain major milestones.

As tariff has two parts: (1) energy purchase price and (2) capacity purchase price, bidders will be asked to quote their tariffs in these two parts. The RFP may specify a maximum percentage of the overall tariff for the capacity component. The capacity purchase price will be expressed in Rs/kW/month; and the energy purchase price in Rs/kWh. The tariff to be paid by the power purchaser under PPA will be bid and paid for energy delivered at the point of delivery. The capacity component will be paid provided the plant is available for despatch. The energy component will be paid based upon the amount of kWh of energy despatched. The energy purchase price will include Water Use Charge (WUC) for the hydel plants. The energy purchase price for thermal projects not based on indigenous coal will include a fuel element/kWh based on the fuel price stated in the RFP or as quoted by the bidders. Bidders may include separate components in the capacity purchase price and the energy purchase price which are subject to the adjustment

\textsuperscript{119} Ibid, pp. 9-10.
for variations in the exchange rate between the rupee and US dollar between the base date and the date of payment. Adjustment for exchange rate fluctuations will be effected quarterly\textsuperscript{120}.

This 1998 policy reiterated the same financial, fiscal and security packages as available in the 1994 policy to the private generators, except the fact that companies are allowed to import plant on payment of custom duties, sales tax, Iqra, flood relief and other surcharges as well as Import License Fee\textsuperscript{121}. However, under the 1995 hydel policy companies were required to pay 2 per cent custom duty on imported machinery\textsuperscript{122}. However, from the load despatch point of view, the private power generators under this policy will get an upper hand. Under this policy the load despatch centre will despatch plants in accordance with optimal despatch criteria (without any bias), which will be on the basis of lowest energy cost component, transmission line loss, system stability and reliability, and other economic considerations. Because of their low variable cost, hydel plants are likely to despatched with the highest priority.

3.3.5. Recent Power Policy Development

The Policy for Power Generation 2002 has been brought out after thorough deliberation and brain storming among all stakeholders over a period of over two-and-a-half years. Mr. Mirza Hamid Hassan, Secretary, Water and Power, Government of Pakistan while forwarding the above policy document mentioned that the previous policy of 1998, had failed to attract the private power investors. Therefore, the Government felt it necessary to create an environment and craft a new set of incentives, which on the one

\textsuperscript{120} Ibid, pp. 13-14.
\textsuperscript{121} Ibid, p. 16.
\textsuperscript{122} Government of Pakistan, op. cit., n. 107, p. 5.
hand, offer attraction to investors and, on the other, keep the consumer prices within affordable limits\textsuperscript{123}.

The objectives of the Policy for Power Generation 2002 are;

1. To provide sufficient capacity for power generation at the least cost, and to avoid capacity shortfalls;
2. To encourage and ensure exploitation of indigenous resources, which include renewable energy resources, human resources, participation of local engineering and manufacturing capabilities;
3. To ensure that all stakeholders are looked after in the process, i.e. a win-win situation for all; and
4. To be attuned to safeguarding the environment\textsuperscript{124}.

The scope of the policy includes projects not only to be developed by the private sector, but also projects to be developed by the public sector. Besides, the scope of the policy also covers public-private partnership projects, and projects developed by the public sector and then divested. In fact, this policy mentioned that of privatisation of power sector is in transition period in the sense that the transformation of the power sector into a privatised competitive electricity industry will be an evolutionary process over a period of time. Initial steps during the transition period will include active solicitation of offers to build new generating plants, selling power under contracts


\textsuperscript{124} \textit{Ibid.}, p. 3.
initially to public sector utilities that can later be assigned to privatised distribution companies, NTDC or legal assigns/ successors of the public sector utilities\textsuperscript{125}.

The policy takes into account the proposed creation of competitive power market in Pakistan through corporatisation and privatisation of WAPDA units, providing greater responsibility of regulation to NEPRA. The policy document states that the combined generation capacity available in the public and private sector is sufficient to meet the future power demand up to the year 2004-05. However, it would require augmentation during subsequent years. In view of the long lead-time required to bring new power plants on line, particularly those based on indigenous resources (hydel, coal & gas), work on new power projects has to be started forthwith. It is the Government of Pakistan's intention (i) to solicit bids for hydel and indigenous fuel-based projects, for which feasibility studies are already available; and (ii) to initiate feasibility study work on raw sites for exploiting indigenous as well as renewable resources.

WAPDA has prepared a "Hydro Power Development Plan- Vision 2025" (Vision 2025). Vision 2025 suggests a plan to meet the upcoming deficits through additional power generation. The plan was further updated and a consolidated list of potential projects to be implemented in the short, medium and long term has been prepared. The list of potential projects is given in the Appendix II. The list of projects however, will be periodically reviewed and updated. Identified projects will be implemented by the public sector, private sector or by public-private partnership. The choice of implementing projects by the public sector, private sector or by public-private partnership will depend

\textsuperscript{125} \textit{Ibid.}
upon the urgency of meeting 'demand' while keeping in view the resources availability position\textsuperscript{126}.

The policy envisaged setting up of hydel projects in the private sector will be implemented on \textit{BOOT} basis. Thermal projects in the private sector, however, will be established either on \textit{BOOT} or \textit{BOO} basis. Decision in the matter would be made on a case-to-case basis. The projects based on \textit{BOOT} shall be transferred at the end of concessional period to Government of Pakistan\textsuperscript{127}. As such the concessional period for transfer of \textit{BOOT} projects has been 25-year period in Pakistan.

The bidders will be asked to quote their tariff in these two parts, i.e. (i) Energy Purchase Price (EPP) and (ii) Capacity Purchase Price (CPP). The RFP may specify a maximum percentage of the overall tariff for the capacity component. The CPP in case of hydel projects, which traditionally have a relatively low EPP, will be approximately 60 per cent to 66 per cent and the EPP will be approximately 40 per cent to 34 per cent of the levelized tariff. Moreover, the CPP will be expressed in Rs./kW/month and the EPP in Rs./kWh. The CPP will be paid provided the plant is available for despatch to standards defined in the PPA. The EPP will be paid based upon the amount of kWh of energy despatched\textsuperscript{128}.

The EPP will include the Water Use Charge (WUC). In fact, the WUC will be paid by the Generation Company to the Provincial/ AJK Government for the use of water by the power project to generate electricity. The policy fixed the water use charge per kWh at the rate of Rs.0.15/kWh with the provision to adjust annually for inflation\textsuperscript{129}.

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\footnote{\textsuperscript{126} Ibid.}
\footnote{\textsuperscript{127} Ibid., p. 4.}
\footnote{\textsuperscript{128} Government of Pakistan, \textit{op. cit., n.} 123, p. 16.}
\footnote{\textsuperscript{129} Ibid., p. 20.}
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Bidders may include separate components in the CPP and the EPP, which are subject to adjustment only for variations in the exchange rate between the Pakistan rupee and US dollar, between the reference date and the date of payment. The reference date for foreign exchange shall be the National Bank of Pakistan selling rate of US dollar prevailing 30 days before the required date of bid submission. The specific reference date will be stated in the REP. Adjustment for exchange rate fluctuations will be effected quarterly. Exchange rate fluctuations in excess of 5 per cent during any month will be allowed.

Bidders may include components in the EPP and CPP, which are escalable for Pakistan rupee inflation. Such Pakistan rupee escalation will be effected from the bid submission date by the Pakistan Wholesale Price Index (WPI) for 'manufacturing' as notified by the GoP's Federal Bureau of Statistics (FBS). The reference value of the WPI for 'manufacturing' will be the most recent value notified (not less than 30 days before the date of submission of the bid) unless notified otherwise in the REP. The REP will specify the actual date for this reference value of WPI for 'manufacturing'\(^{130}\).

The Policy for Power Generation Projects 2002 offers the following set of financial incentives:

a. Permission for power generation companies to issue corporate registered bonds.

b. Permission to issue shares at discounted prices to enable venture capitalists to be provided higher rates of return proportionate to the risk.

c. Permission for foreign banks to underwrite the issue of shares and bonds by the private power companies to the extent allowed under the laws of Pakistan.

\(^{130}\) Ibid., pp. 16-17.
d. Non-residents are allowed to purchase securities issued by Pakistani companies without the State Bank of Pakistan's permissions and subject to the prescribed rules and regulations.

e. Abolition of 5 per cent limit on investment of equity in associated undertakings.

f. Independent rating agencies are operating in Pakistan to facilitate investors in making informed decisions about the risk and profitability of the project company's Bonds/Term Finance Certificates (TFCs)\textsuperscript{131}.

All these financial incentives in fact, were already there in the earlier policies like 1994 Policy and 1998 Policy. The Policy for Power Generation Projects 2002 offers the following set of fiscal incentives: -

a. Custom duty at the rate of 5 per cent on the import of plant and equipment not manufactured locally.

b. No levy of sales tax on such plant, machinery and equipment as the same will be used in production of taxable electricity.

c. Exemption is already available from income tax including turnover rate tax and withholding tax on imports, provided that no exemption of income tax on oil-fired power plants.

d. Repatriation of equity along with dividends is freely allowed subject to the prescribed rules and regulations.

\textsuperscript{131} Ibid., p. 18.
e. Parties may raise local and foreign finance in accordance with regulations applicable to industry in general. GoP approval may be required in accordance with such regulations.

f. Maximum indigenization shall be promoted in accordance with GoP policy.

g. Non-Muslim and Non-residents shall be exempted from payment of Zakat on dividends paid by the company.\textsuperscript{132}

In fact, the policy stated that the above set of financial and fiscal incentives will be equally applicable to private, public and public sector projects. Moreover, all projects will have to obtain license from NEPRA. The prospective companies will be required to comply with all NEPRA rules/procedures, inter alia, for grant of license before security agreements are concluded for any project. PPIB will provide a one-window facility for implementation of projects above 50 MW capacity and will issue the LoI and LoS, prepare pre-qualification and bid documents, pre-qualify the sponsors, evaluate the bids of pre-qualified sponsors, assist the sponsors/project companies in seeking necessary consents/permissions from various governmental agencies, carry out negotiations on the implementation agreement (IA), assist the power purchaser, fuel supplier, Provincial/AJK authorities in the negotiations, execution and administration of the PPA, Fuel Supply Agreement, Gas Supply Agreement (GSA), Coal Supply Agreement (CSA), and Water Use license (WUL) respectively. PPIB will issue and administer the GoP guarantee backing up the power purchaser, fuel supplier, Provincial/AJK Government's contractual

\textsuperscript{132} Ibíd.
obligations, and follow up on implementation and monitoring of the projects. The provinces will manage investments for up to 50 MW power projects. For projects above 50 MW, the provinces would be the main drivers and catalysts for marketing and coordinating projects with PPIB\textsuperscript{133}.

A typical schedule to conduct competitive bidding for a private power project with capacity above 50 MW has been fixed for the implementation of projects. As per the schedule, PPIB will invite sponsors for registration and for collection of pre-qualification documents within 60 days and submission of pre-qualification documents to PPIB is also allowed another 60 days. For evaluation of pre-qualification documents and notification to pre-qualified bidders by PPIB, 60 days have been allowed. Thereafter, PPIB is allowed 40 days for invitation of bids and followed by that bidders are allowed 120 days for submission of bids to PPIB together with bid bond and evaluation fee in favour of PPIB. Then, 90 days have been allowed for evaluation of bids including tariff determination by NEPRA and notification of successful bidder by PPIB. Followed by this, 30 days have been allowed for Posting of Performance Guarantee by sponsors and another 30 days for issuance of letter of support by PPIB\textsuperscript{134}.

3.3.6. Role of International Agencies in Pakistan

In Pakistan the role of international aid donor agencies like International Monetary Fund (IMF) and World Bank cannot be ignored for influencing the private power policy. In fact, the World Bank supports Pakistan's Power Sector Reform Programme through policy advice and several projects including the Power Sector

\textsuperscript{133} Ibid.  
\textsuperscript{134} Ibid., p. 7.
Development Project and Ghazi Barotha Hydropower Project. World Bank also provides technical assistance in support of WAPDA's restructuring plan. As such, World Bank, as part of its Power Sector Development Project in Pakistan, is helping the Pakistani Government to privatise the majority of its power sector. According to World Bank Power Sector Development Project Loan and Project Summary in mid-1994, the project goals include restructuring and privatisation, investment, and technical assistance components designed to improve the operations and managerial efficiency of the power system, increasing power supply and quality of service as well as decreasing the environmental damage.\textsuperscript{135}

No doubt, the efforts of World Bank are benefiting Pakistan. During 1998 Ahsan Iqbal, Deputy Chairman of the Planning Commission of Pakistan, had reiterated this that most of the restructuring issues may be on the IMF, World Bank agenda, but some of the restructuring issues are in Pakistan's own interest regardless of the IMF and World Bank. He also emphasized that State-owned enterprises had become a hole in the economy and costing Pakistan billions of rupees, due to past mismanagement, overstaffing and political patronage in State-owned enterprises.\textsuperscript{136}

Asian Development Bank also has had conditionally approved $ 500 million power sector restructuring loan programme for Pakistan linking it with speedy privatisation of the power sector entities. In fact, bank has conveyed to the Government of Pakistan that the first tranche of $ 125 million would be disbursed as soon as the Privatisation Commission completes the privatisation process of the Karachi Electric

\textsuperscript{135} Pakistan Power TED Case Studies, \textit{op. cit.}, p. 88, p. 3/8.

Supply Company. Bank authorities have conveyed to the Pakistani Government that they
would be entitled to request the disbursement of the first tranche of the loan only after the
final bidders for the KESC were selected.\footnote{Asian Development Bank Okays $500 million Power Sector Restructuring Plan, Business Recorder, 9
August 2000.}

International Finance Corporation (IFC) is another financing agency, which is
funding power projects in Pakistan. Gul Ahmed Energy Limited of Pakistan's build, own
and operate 125 MW power plant located in Karachi is the one of the first private sector
power projects in Karachi. The project has an estimated cost of about US$138 million.
IFC will provide a financial package of US$69.1 million consisting of a US$27 million
loan for its own account, a syndicated loan of US$35 million from international banks
and financial institutions, an equity investment up to US$4.1 million equivalent in the
share capital of the company, and a risk management facility up to US$3 million in IFC
exposure to help the company hedge variable interest rate and currency risks.\footnote{IFC

This is the third investment of IFC in private power projects in Pakistan. In fact, IFC is a
member of the World Bank Group and is the largest multilateral source of equity and
loan financing for private sector projects in developing countries. The principal investors
in this project are the Tomen Corporation of Japan and the Gul Ahmed Group of
Pakistan, whose members are shareholders of textile mills. As this project is in Karachi,
the KESC will purchase the power plants output for 22 years and Pakistan State Oil, the
state owned petroleum company, will supply fuel for the 22-years.\footnote{Ibid.}
Apart from the international funding agencies, some of the international communities also have been instrumental in privatisation power sector process in Pakistan. In its endeavour to support the privatisation of power sector in Pakistan, Japan was extending assistance to the power sector through its "official development assistance" (ODA), mainly yen loans, totaling more than 163 billion Japanese yen (about 1.5 billion US dollar)\(^{140}\). Assistance in power sector includes the electrification of farming villages and the improvement of the efficiency of electric power facilities in light of the situation in which the demand for electric power is surpassing the supply. Also, Japanese private sector has been participating most actively through investment in Pakistani power sector. In fact, Japanese companies including Japan Power Generation Limited were involved in the activities of more than 10 independent power producers. The Japan Power Generation Limited has 135 MW plant with an impressive array of 24 generators. The role of Japan Power Generation Limited has been appreciated in Pakistan in settling tariff issue with the WAPDA\(^{141}\).

The 135 MW Liberty Power Project, a 100 percent-owned project of The Nasional Berhad- the Malaysian public sector power utility, was in tariff disputes with WAPDA for several months. The company has, of late, offered a reduced levelised tariff of 5.15 Cents per unit and held talks simultaneously with four other IPPs, which have been cleared by the economic coordination committee of the cabinet\(^{142}\).


\(^{141}\) Ibid.

Also, National Power of UK later on invested in Pakistan power such as in Hubco and Kot Addu power plant. Canada helped Pakistan in setting up its first 137 MW nuclear power plant at Karachi (KANUPP). It also intends to assist Pakistan in developing its energy sector but with the condition that Pakistan signs the nuclear non-proliferation treaty (NPT) and also make an agreement with Ottawa about the use of nuclear technology and its safeguards.

Though World Bank has been the instrumental in privatizing the power sector in Pakistan, it has also been critical at times and blocked/ suspended the assistance/ loan. This particularly happened in 1998 after the nuclear test by Pakistan followed by the test conducted by India. In fact, the World Bank suspended $750 million in power sector loans to Pakistan, which was to be provided during July 1998 to June 1999\textsuperscript{143}. The International Finance Corporation (IFC) had also stopped major funding to Pakistan's power sector. The IFC, an important donor in the World Bank group, had approved $900 million for the nine power projects in Pakistan for fiscal 1998-99. This amount was also under threat of suspension or cancellation. Also the blockade of funds was assigned to the then ongoing Government and independent power projects row over tariff issue as some IPPs were beneficiary of the World Bank funds\textsuperscript{144}.


\textsuperscript{144} Ibid.
In power sector, the main objectives of the Structural Adjustment Loan (SAL) of World Bank's are:

1. To restore the financial viability of the WAPDA and KESC; and
2. To ensure that the NEPRA becomes fully operational in order to regulate corporate entities and provide necessary comfort to investors and consumers\(^\text{145}\).

However, the then Government of Nawaz Sharief was seeking reduction in power tariff charged by the IPPs accusing them of using illegal business practices and payment of kickbacks to get fixed higher tariff. The IPPs denied the allegations\(^\text{146}\). During 1998 the nuclear test in Pakistan resulted in suspension of loans to Pakistan. However, subsequently the ban was lifted and the international communities have resumed giving loan/assistance to Pakistan. The International Monetary Fund resumed lending to Pakistan during early January 1999. IMF approved $575 million payment to Pakistan from a stalled $1.56 billion package. Followed by IMF, World Bank also resumed its loan of $350 million repayable in 20 years. This loan was to be paid in lump sum.

3.3.7. IPP Financing in Pakistan

Apart from the international financial agencies mentioned above, commercial banks (local and international) do finance the power projects in Pakistan. In fact, for the development of IPP, the debt equity ratio has been 80:20 implying 20 per cent of the project costs should come from the developers themselves and rest 80 per cent from the financial institutions both domestic and international. As such about fifty banks have


\(^{146}\) World Bank Power Sector Loans to Pakistan Blocked, op. cit., n. 143, p. 1/1.
been involved in financing arrangements in Pakistan. Also, Export Credit Agencies including JEXIM of Japan, COFACE of France, and MITI and SACE from Italy have been prominent in Pakistan. Commonwealth Development Corporation and several Pakistani banks do contribute to the development of IPP in Pakistan.

3.4. Comparative Analysis

India and Pakistan embarked a policy of reform in their electric power sector during early 1990s. Governments of India and Pakistan have total commitment to the private participation in electric power sector. In order to create an enabling environment for private sector and to facilitate greater private sector participation, the Governments of both the countries have made private power policy transparent. The policies to encourage private participation including evaluating bids and awarding contracts have been transparent.

Availability of information about the power sector, power policy, prospects of power projects, etc. are essential for privatization of power sector, otherwise private sector will not come forward to invest in this sector. In India and Pakistan, there is increased information available about, and more widespread knowledge of the private sector, the power industry, power purchase agreement formats, the cost of capital, and successful bids on power projects in the region. Governments of both the countries have now become more confident about dealing with private sector participation in power sector than they were a few years ago.

Guarantees and credit enhancements are often essential for successful financing of power projects including independent power projects. This is especially required during
their early years and transition from State monopoly to a more market-oriented economic system. This has been offered in both the countries to the IPPs.

Both the countries have Fuel Supply Agreement (FSA) that is signed by the IPP and the Government in case fuel is supplied by the public sector ensuring uninterrupted supply of fuel to the power plant for the period of its operation. Basically Government guarantees the performance of the fuel supplier in FSA. The policy in both the countries also allowed the IPPs to make their own arrangement in case they want to go for non-government supply. They are also allowed to import and transport fuel/oil for their power plants. In such cases Governments are not responsible for the any disruption or whatever problem in the supply.

Financial institutions like banks in both the countries do finance the IPPs. Besides banks, Power Finance Corporation (PFC) in India plays a pivotal role in the financing of power sector including SEBs and IPPs. It also provides technical and managerial services towards integrated development in the power sector. A similar sort of arrangement has been made in Pakistan. Private Sector Energy Development Fund (PSEDF) provides loans up to 40 per cent of the project cost in Pakistan. Both the institutions provide the long-term loans in their respective countries. The PSEDF in Pakistan has been established with the assistance of World Bank, USAID and other multilateral agencies whereas the PFC in India do raise its resources both from domestic and international markets. PFC gets credit from institutions like ADB and others.

Debt-equity ratio has been 70:30 in India whereas it has been 80:20 in Pakistan for the development of private projects. Generally promoters of the project contribute 30 per cent of project cost as equity in India and 20 per cent in Pakistan. The financial
institutions, both domestic and international contribute the rest as debt financing. Among the international financial institutions Exim Banks have been financing in power projects in both the countries. Exim Banks like Exim Bank of US, JEXIM of Japan, Hermes of Germany, COFACE of France, SACE of Italy, Export Credit Guaranty Department of UK, Export Development Corporation of Canada, Korean Export Insurance Corporation have been instrumental in India on Export Credit Agency lending. Some of these Exim Banks like JEXIM, COFACE, MITI and SACE of Italy also have been instrumental in Pakistan on Export Credit Agency lending. From the debt-equity ratio analysis between these two countries, it is evident that India has more equity requirements by the private promoters than Pakistan in the power sector development.

There are lots of concessional duties available in both the countries. There were exemptions from custom duties for all projects in Pakistan in the 1994 policy. The 1995 hydel policy lay that companies were required to pay 2 per cent custom duty on imported machinery. The 1998 policy stress companies are allowed to import plant on payment of custom duties, sales tax, Iqra, flood relief and other surcharges as well as Import License Fee. Further, the "Policy for Power Generation Projects 2002" levied custom duty at the rate of 5 per cent on the import of plant and equipment not manufactured locally. There were also exemptions from sales taxes on plant and equipment and concessional loans for locally manufactured machinery. Government of Pakistan also exempted power projects from Iqra Surcharge, Flood Relief Surcharge, and Import Licence Fees. In India only mega power projects have been exempted from custom duty fee. In case of other projects, custom duty for import of equipment has been reduced to 20 per cent and this rate has been extended to machinery required for R&M of power plants. The excise duty on
capital goods and instruments in the power sector has been reduced in India also. This analysis illustrates that Pakistan has more concessional duties—both customs and sales tax than India.

To facilitate the speedy clearance of the private power projects, Government of both the countries have taken very positive step in this direction. In Pakistan Private Power and Infrastructure Board at the federal level and Private Power Cells at the provincial level have been providing one-window facilities to the investors. Government of India has reduced the number of clearances for setting up private power projects. Now the thermal projects require five clearances, hydroelectric projects require four clearances and transmission and distribution projects need just two clearances against 13 statutory and four non-statutory clearances required earlier for any type of projects. Though, India has reduced number of clearances for setting up private power projects, Pakistan's one-window facilities through PPIB at federal level and Private Power Cell at provincial level would facilitate speedier clearance of projects in Pakistan than in India.

Thermal as well as the hyde sector in both the countries have been opened to the private sector for generation. To invite power producer to generate power in India, Government of India has opted the build-own-operate route (BOO), whereas in Pakistan it is both build-own-operate and build-own-operate and transfer (BOOT) after certain agreed years of operation to the Government has been adopted. However, for transmission of power Pakistan invited private sector on the basis of build, own and maintain, which is similar to BOO. Transmission also has been opened to the private sector in India. In India for privatisation of transmission two routes have been identified viz. Independent Power Transmission Company and Joint Venture. In the former route
private investors are allowed to own 100 per cent equity and in the later private investors would hold 26 per cent equity sharing by POWERGRID. Investors in both the countries are free to choose site, opt technology and size of the power plants. Both the countries did recognize the utility of renovating and modernizing the old plants.

Necessary legal provisions have been taken in both countries to facilitate the privatisation of power sector. In Pakistan changes in the Companies Ordinance have been brought to permit registration anywhere to allow them to avail reduction in stamp duty, registration fees etc. Also, Government of Pakistan removed Section 13 of 1947 Foreign Exchange Regulation Act to enable non-residents to purchase securities issued by national of Pakistan without State Bank of Pakistan permission. WAPDA Act, 1958 has been amended allowing privatization of WAPDA's thermal generation units and area electricity boards. Also, to promote fair competition in the electricity industry and to protect the rights of customers as well as producers and sellers of electricity, the Government of Pakistan has enacted the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (Act No. XL of 1997). The National Electric Power Regulatory Authority has been established under this Act.

Similar legal provisions have also been made in India. Amendments to the Electricity Generation Acts, namely, the Indian Electricity Act, 1910, and the Electricity (Supply) Act, 1948 was done in 1991 to facilitate the framework for private sector participation in the electricity sector. Enactment of Electricity Regulatory Commission Act, 1998, which allowed establishment of CERC and guided states to form SERC is another step in this direction. The passage of Transmission Bill opened the vista for private participation in transmission projects. The Electricity Act, 2003, which integrated
the three Acts, viz., the Indian Electricity Act, 1910, the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commissions Act, 1998 in order to simplify the administrative procedures is also noteworthy. The Electricity Act, 2003 also provides a legal framework for enabling reforms and restructuring of the power sector. Regulatory Commissions in both the countries are to provide investor confidence in the organization and growth of the electric power sector. Their aim is to rationalise electricity rates, check monopoly, ensure that investment in the electricity industry is justified and earns a reasonable return for the investors.

Both the countries when they opened up the power sector to the private participation, they were very keen on bringing more units for power generation. Therefore, apart from giving lot of incentives adopted very easy way of inviting them for participation. One of the easy ways is inviting IPP through memorandum of understanding route (MoU) in India. This route ensures guaranteed rate of return. Pakistan also adopted policy, which guaranteed rate of return to the private projects in case of their installation. This way of inviting IPP in both the countries invited several problems including inflating the costs of the project to ensure better returns by the IPP. Finally, India and Pakistan closed this negotiation route to install power plants by the private sector and resort to international competitive bidding for the same. International competitive bidding process is the best way to select contractors for the electric projects. This process ensures transparency and public accountability. This process has emerged as one of the important components of privatization drive of the power sector in both the countries. As such, Governments of both countries in the process of privatization have
moved toward some form of competitive procurement. This process enables the efficient and best contractors to be selected for the project.

Both the countries have PPA that they sign with the private producers detailing the terms and conditions for power production in the private sector by the IPPs. It also enlists how the power will be purchased by the public entities (SEBs in India and WAPDA & KESC in Pakistan depending upon the area of operation and their connection to the grid). Both the countries have guaranteed to buy back the power generated by IPP in their PPA. Both the countries have faced some difficulties in this regard; in fact, they have made some mistakes, which they realised quite late. The reason being is that they were new to this area and not having any experience, committed mistakes. Between these two countries, India had the wisdom to sit down with IPPs to negotiate, renegotiate in resolving the problem that are beneficial to both the parties. On the contrary Pakistan had gone back on the contracts that it signed. It has made all kinds of excuses in order to get out of the arrangements that it had agreed with the foreign party.

Government of India was providing counterguarantee to the PPA signed by the IPPs and SEBs. Generally PPA is signed for 30 years in India. Also, Government of Pakistan guarantees a long term PPA for between 15 and 30 years with regard to the performance of WAPDA or KESC. In fact, IPPs signed PPA with WAPDA or KESC as the case may be, which is guaranteed by Government of Pakistan. This guarantee by the Government of Pakistan is nothing but something like counterguarantee by Government of India to the IPPs when they sign PPA with the respective SEBs. This is because in Pakistan the power produced by the IPPs is either linked to the WAPDA power grid or KESC power grid that are responsible for power purchase depending upon the area of
 supply their generation to the State Electricity Board where they
depot the fact that mega power projects intending to supply power to more
States supply to the Power Trading Corporation that transmit the power to
ent states. In such cases, PPA is signed between the IPP and respective SEBs, which
was counterguaranteed by the Government of India. Of late, Government of India
(Federal Government) confronting several disputes backed away from this mechanism
and asked the states for an escrow arrangement as an alternative.

In the PPA, tariff for the power generated by the IPPs has been finalised by both
the countries. As such in India two-part tariff to cover the fixed costs and variable energy
cost in electricity pricing has been formulated. This provides for 16 per cent return on
equity at 68.5 per cent plant load factor for thermal plants and 90 per cent availability
factor for hydro-plants. In Pakistan also tariff was divided into two components, such as
the capacity and energy price. Capacity price in Pakistan tariff is nothing but the fixed
cost components of the Indian tariff system and Pakistan's energy price is nothing but
variable energy cost. Pakistan tariff for power generation provides 17-18 per cent return
on equity at 60 per cent plant load factor for thermal plants. For hydel plant, bulk
purchase tariff has been calculated on an annual plant factor of 50 per cent.
Comparatively, Pakistan's incentive of 17-18 per cent return on equity at 60 per cent PLF
of thermal plants (at 50% for hydel plants) is higher than India's 16 per cent return on
equity at 68.5 per cent PLF for thermal plants (at 90% for hydel plants). This implies
Pakistan private promoters are allowed an incentive of 17-18 per cent return on equity if
they operate their thermal plant at 60 per cent plant load factor (50% for hydel) whereas
in India private promoters are allowed only 16 per cent return on equity for which they have to operate their thermal plants at higher PLF i.e. 68.5 per cent (90% hydel plants).

The prices of electricity charged by the private developers should be reasonable and acceptable as well. But, comparatively IPPs in developing countries have been asking customers to pay higher prices of power than their counterparts in developed countries. In Australia and UK, for an example, wholesale prices were 3.4 US cents/ kilowatt-hour (kWh), while the Pakistan's policy of 1994 accepted a charge of 6.5 cents/kWh. Even in India the price charged by IPPs have been considerable. This has been witnessed in case of DPC in Maharashtra. In fact, the average Dabhol tariff since commissioning from May 1999 to October 2000 had been Rs. 4.84/kWh. The PPA agreed by the Maharashtra SEB and DPC was so designed that the price of power if at all increased would pass on to the consumer through Maharashtra SEB. Even the expected price chargeable by the IPPs in Karnataka would be higher. The IPP price has been high due to certain reasons like depreciation in exchange rate and increase in the fuel price globally which are passed through the consumers via the SEBs. This higher electric prices/ charge, apart from dampening electricity demand also raises issues about acceptable rates of return on investments in power projects. In fact, the price charge by Dabhol Power Corporation in Maharashtra in India is much higher than Pakistan per kilowatt-hour of power. This is arrived at converting Pakistan accepted charge of 6.5 cents/kWh into Indian rupee terms taking exchange rate as US1 = Rs. 43.5 as per 1999-2000 dollar value, which became Rs. 2.82 or roughly Rs. 3.

PPA in India and Pakistan are not free from problem. The Enron developed Dabhol Power Corporation (DPC) in Maharashtra has into trouble. The inability of the
Maharashtra SEB to pay for its power to DPC had compelled the DPC to go to the extent of canceling the PPA. But in Pakistan, the Government even cancelled some of the PPAs. This implies Pakistan at times has been harsher in dealing with IPPs in settling their PPAs than India.

Of late, Government of India realised the importance of privatization of distribution after unbundling the activities of vertically integrated SEBs. This is because SEBs in India are responsible for distribution of power amongst the consumers. Therefore, the focus of privatization shifted from generation to distribution in India. As a result most of the SEBs are bringing reform in the power sector including privatisation of the distribution activities. Since in Pakistan WAPDA and KESC are responsible for distribution, their privatisation was deemed necessary and they are on the process.

International donor agencies like World Bank, Asian Development Bank and other have been persuading and at times compelling India and Pakistan to privatize their economy including power sector. Their loans to the power sector in both the countries are directed towards privatization of this sector. In fact, they have phased how to proceed with the privatization for which they have assured the timely disbursement of the loan amount. It has been found that at times they have been tough and blocked or suspended the loan on the eve of the failure to timely implementation.

Both the countries have been announcing power policies as and when required depending upon the timely necessity since the process of privatization of power sector is still underway. They are expected to bring positive result in this regard.