# Uttar Pradesh Power Sector: Past Problems and the Initial Phase of Reforms<sup>1</sup>

# Anjula Gurtoo and Rahul Pandey Indian Institute of Management, Lucknow

## Abstract

UPSEB's poor financial condition and growing power shortages called for radical reforms of the state's power industry. However, our analysis shows that the reforms model being implemented is based on incomplete diagnosis of the Board's past problems. High cost of power purchase, arbitrary depreciation norms, misrepresentation of agriculture consumption and over-reporting of impact of subsidy, were as important reasons as poor maintenance, poor productivity, high T&D losses, poor billing efficiency and high subsidy to agriculture, in affecting financial performance of the Board. Besides lack of recognition of the former set of causes, the reforms process is ridden with other major pitfalls like sabotage-prone gaps in the proposed model and ad-hoc handling of its implementation. These pitfalls are reflected in jettisoning of social objective of equitable electricity distribution, entrustment of enormous authority but little accountability on the regulatory commission, gap between the profile of persons eligible for selection as commission's members and the complex techno-economic knowledge requirements of the job, nonparticipatory approach of the implementing process, and absence of recognition of service concerns and training needs of the Board's employees. It looks as if the proposed reforms model was conceived out of desperation to escape from financial burden imposed by past mistakes, rather than out of a conscious re-orientation of past policies, structures and systems in keeping with international changes in technological and competitive environment.

The Indian power industry is going through a phase of radical reforms, recommended by big institutional lenders like the World Bank (WB) and the Asian Development Bank (ADB), and supported by the Central and State Governments. These reforms have initiated a phase of dynamism and uncertainty in the power sector of many Indian states. This paper looks at the case of Uttar Pradesh power sector. It analyses the problems faced by Uttar Pradesh State Electricity Board (UPSEB), and chronicles the events and issues in the initial phase of on-going reforms, before and after the dissolution of UPSEB into three corporations. This study is based on analysis of data gathered from published and unpublished documents, and interviews /discussions held with officials of Uttar Pradesh (U.P.) Power Corporation Ltd.

UPSEB was established in 1959, under the Indian Electricity (Supply) Act, 1948, as an autonomous corporate body, under state ownership. Immediately after national independence, Indian policy makers decided to keep infrastructure and other core sectors under control of the state. Responsibility of the state to ensure supply of essential products and services to its citizens at affordable prices, particularly because majority of the population was poor, was one of the key motivations behind this

<sup>&</sup>lt;sup>1</sup> Authors gratefully acknowledge the financial support provided by IIM Lucknow for part of this study. Inputs given by Mr. Amarendu are thankfully acknowledged.

decision. Thus, the Acts governing nationalized industries had a social agenda of bridging the socio-economic gap within the nation, besides economic agenda of fueling growth. Features like keeping electric utilities under state ownership, cross subsidization of electricity tariffs, and maximum limit of 3 percent return on net fixed assets for electric utilities, reflected this policy. However, experience of the past few decades has made the government rethink on these policies. By the end of last century, many State Electricity Boards (SEBs), including UPSEB, had accumulated huge financial losses, huge debt, and were on the verge of bankruptcy. U.P. had been witnessing increasing power shortages and inability of UPSEB and the State Government to propel further investments on their own. This posed a serious threat of collapse of power supply system as well as credibility of the Government sto attract further loans for revival of the system. Therefore, the State Government of U.P. has started following the footsteps of other states like Orissa who have implemented power reforms, largely based on recommendations of WB and ADB.

Table 1 shows losses, accumulated loans, interest payable and subsidy receivable over last 11 years. Huge accumulated financial loss and debt had weakened UPSEB's capability to invest in system expansion and upgradation. Undoubtedly, reforms were called for. The state passed its Electricity Reforms Bill in 1999, established a Regulatory Commission, and on January 14, 2000, the Board was dissolved and divided into three independent corporations – U.P. Power Corporation Ltd. (UPPCL), U.P. Rajya Vidyut Utpadan Nigam Ltd. (UPRVUNL) and U.P. Jal Vidyut Nigam Ltd. (UPJVNL) – responsible for transmission & distribution, thermal generation, and hydro generation respectively. Another distribution company, Kanpur Electricity Supply Company (KESCO), was formed as a 100% subsidiary of UPPCL. The State Government also announced it plans of subsequent privatization. The WB has sanctioned a loan of \$ 150 million for the U.P. power sector restructuring project, which is a part of its total loan package of \$ 511.3 million for supporting three projects in the state, the other two being fiscal reforms and public sector restructuring, and health systems development projects (The World Bank, 2000).

The remaining part of this paper is divided in four sections: a) official reasons cited for restructuring and privatization of UP power sector, b) our diagnosis of UPSEB's poor financial performance, c) events and issues in handling of the reform process, including employees concerns and the strike, and d) discussion and conclusions.

## OFFICIALLY CITED REASONS FOR UPSEB'S POOR PERFORMANCE

In early 1990s, the U.P. Government appointed M/s Putnam, Hayes and Bartlett Inc. consultants of the UK to analyse UPSEB's situation and suggest improvements. The World Bank funded this study. Key findings of this study, submitted in 1995, were: a) There was high political interference in UPSEB's functioning, b) Its financial losses were mainly due to existence of high subsidies, low tariffs, high T&D losses and poor bill collection, and c) Causes of UPSEB's poor efficiency included poor financial policies, poor revenue collection and losses, over-staffing, poor service quality and political interference. The study recommended division of the Board into three separate entities – Thermal generation, Hydro generation, and Transmission & distribution.

In January 1998, a High Powered Committee (HPC) headed by an ex-Cabinet Secretary to Government of India was appointed by the Supreme Court to look into the problems plaguing UPSEB. Its report, submitted in May 1999, highlighted political interference as the primary factor responsible for dismal state of affairs in UPSEB. It stated that the top management of UPSEB frequently conspired with politicians and big consumers in corruption and theft of power. It reported that UPSEB witnessed ad-hoc human resource policies, ad-hoc transfers and promotions of employees, large-scale meter-tampering, theft of power, and disgruntled employees. The HPC recommended implementation of the reforms suggested by M/s Putnam, Hayes and Bartlett Inc. In addition, it recommended preparation of terms and conditions of Chairman and members of UPSEB and formation of a selection committee for fresh appointments (UPSEB Engineers Association, 2000).

The U.P. Government maintained that it initiated restructuring and privatization of its power sector as a move to attract capital investments for meeting the growing demand, attract efficient technologies, improve the management of generation, transmission and distribution functions, reduce T&D losses, ensure reliable and uninterrupted supply to consumers, and make the entire operations financially viable. In an advertisement, the government said that it needed to privatise UPSEB because it was facing cuts in loans from the Central Government for its other developmental programs due to its inability to pay back the power sector loans (Appendix I). It further said that the existing price of electricity charged to the consumers did not have any scientific basis, and would be corrected as a result of proposed restructuring. The government cited UPSEB's poor financial condition as the reason for poor maintenance and upgrade of its power plants and equipment.

To summarize the above official reports, oft cited reasons by the State Government and its consultants for poor performance of UPSEB were high agriculture subsidy, irrational tariff structure, overstaffing, poor operations & maintenance (O&M), low plant load factor (PLF), poor billing system, high T&D loss, and political interference.

## **ANALYSIS OF UPSEB'S PROBLEMS**

Table 2 shows the last 11-year data for sales, import, price, capacity, electricity loss, and various cost-components of UPSEB. UPSEB's average tariff has consistently remained below its average cost. This has led to significant accumulation of financial losses, resulting in overall weak financial condition as reflected in huge debt, interest payable and poor working-capital situation. In order to analyse the causes for this poor financial performance of UPSEB, let us look into various components of its expenditure and revenue.

The rate of change in different costs and revenue parameters of UPSEB between 1988 and 1999 have been compared by pegging the respective values in 1988 at index 1. UPSEB's expenditure and revenue in this 11-year period increased at the almost the same rate (Figure 1). In other words, the profitability ratio (or the ratio of loss to revenue) of UPSEB did not change much since 1988 until 1999. In order to make UPSEB profitable, its revenue should have progressively increased at a rate higher than its expenditure. For this to have happened, either its expenditure should have increased at a rate lesser than observed, or its revenue should have increased at a rate higher than observed, or both. Let us look at how the specific components of expenditure and revenue changed over last 11 years.

*Expenses:* In order to estimate relative performance of different cost components, we have looked at their increasing trends over past eleven years and their contribution to total expenditure in 1999. Increase in different cost components from 1988 to 1999, relative to their respective values in 1988, is shown in Figure 2. 'Expense on electricity-import' and 'expense on depreciation' increased at rates far higher than expenses on fuel, establishment, O&M and interest, and also far higher than rate of increase in the revenue. It is surprising and counter-intuitive that both power purchase expense and depreciation expense should simultaneously increase at a high rate. Cost per unit of electricity imported itself increased by about 3.5 times from 1988 to 1999. Therefore, while units of electricity imported increased by about 3.5 times in those eleven years, its expense increased by about 11.5 times in the same period. Depreciation expense increased by over 8 times in this period. In addition to extraordinarily high rates of increase, expenses of electricity-import and depreciation also constituted significant proportions of 29% and 11% respectively, of the total expenditure in 1999. Although expenses of fuel, establishment, O&M and interest contributed to respectively 18%, 16%, 6% and 21% of total expenditure in 1999, they increased at rates lesser than that of the revenue over last eleven years. Therefore, it can be concluded that the two expense components, namely power import and depreciation, were significantly responsible for high increase in UPSEB's expenditure, and consequently, for accumulating losses. If they had been kept in check so as not to increase by more than six times from 1988 to 1999, rate of increase in total expenditure would have been less than that of total revenue, and UPSEB would have progressively gotten rid of its financial losses. Rate of increase in costs of O&M (operations/maintenance of power plants and wages of operators) and establishment (wages of administrative staff and overheads) remained below the rate of increase in revenue. This means that despite huge subsidy, the average tariff had well covered the cost of internal operations and personnel of UPSEB. Thus, the oftcited over-criticism of inefficiency of UPSEB's internal operations and overstaffing compared to other costs was unjustified.

UPSEB witnessed a high increase in cost of electricity-import over the last two decades. During this period, both share of power purchased from National Thermal Power Corporation (NTPC) and its purchase cost, increased significantly. Power was purchased from NTPC at a high price. This was because less than twelve-year capitalization period was assumed for NTPC's plants (as against a standard average of 25 to 30 year plant-life of thermal power plants) while calculating the cost of power sold to SEBs. This resulted in a high annual capital cost of over 20%, and over half of the purchase unit price comprised fixed charges (as communicated by the UPPCL officials). The Post-1980 period saw rise in the financial health of NTPC and decline in financial health of some SEBs who progressively purchased significant proportion of their requirement from NTPC. Study by Das and Parikh (2000) observed that even in case of Maharashtra State Electricity Board (MSEB), power purchase cost increased at a rate higher than all other cost components, between 1991 and 1997. This high import cost was clearly due to imposition by the Central Government. High increase in rural subsidies imposed by the State Government added to the adverse effect of high import cost, resulting in post-1980 decline in UPSEB's financial performance. The other high-increase cost-component, namely depreciation, can be

attributed to arbitrary depreciation policy adopted by the top management of UPSEB and imposition by the government. On one hand, assets like land and building were under-appreciated (compared to market rates), and on the other hand, certain assets were over-depreciated at times by the State Government in order to write-off some of its past loans to UPSEB on the Board's balance sheet.

There is no doubt that technology and management of internal operations of UPSEB, as reflected in establishment and O&M costs, were also inefficient compared to some other SEBs and international standards. For instance, while UPSEB served 89 customers per employee, MSEB and Andhra Pradesh State Electricity Board (APSEB) served 103 and 134 customers per employee respectively, in 1999. However, the overall employee productivity of UPSEB was not bad in comparison with well-performing SEBs like MSEB and APSEB. Sales per employee was 0.33 GWh or Rs. 6.5 lakh (i.e., hundred thousands) for UPSEB, as compared to 0.38 GWh or Rs. 7.7 lakh for MSEB and 0.29 GWh or Rs. 4.8 lakh for APSEB, in 1999.

Although interest cost of UPSEB increased by only about three times between 1988 and 1999, it constituted a significant portion of its total expenditure. This was due to large accumulated debt and inability of UPSEB to pay back past loans. The fuel cost for UPSEB was also high. Reasons for this could be the same as those observed by Das and Parikh (2000) in case of MSEB, viz., hike in cost of coal and reduction in its quality.

However, the fact remained that despite internal inefficiencies in technology, operations, management and personnel, increase in their costs were well covered by the increase in revenue. This was also in spite of huge subsidy for agriculture. Costs of power purchase and depreciation of assets were most importantly responsible for UPSEB's increasing expenditure. Had the annual rate of increase in power purchase cost and depreciation cost of UPSEB been respectively 24 percent and 14 percent less than what they actually were, the Board's losses would have progressively declined and it would have eventually witnessed positive operating profits in spite of subsidy and internal operational inefficiencies. This finding contradicts the official claims that inefficiencies and overstaffing of UPSEB were among the important reasons for its high costs.

**Revenues:** If we look at the revenue-components of UPSEB, we observe that 'nontechnical losses' due to theft (meter-tampering, inefficient billing) are as important reasons as 'subsidy to agriculture' and low PLF in keeping the revenues low. UPSEB's PLF has remained unchanged at about 49% over last 11 years. This was mainly due to poor maintenance resulting in high equipment downtime. UPSEB's billing efficiency too remained unchanged at about 82%, as billing still remains manual. Many influential consumers, including large commercial consumers and government offices/buildings, owed large payments to UPSEB against past consumption, parts of which were gradually written off as bad debt. T&D losses of UPSEB, reported at about 27% (Table 2 & Figure 3), and auxiliary consumption of thermal plants, reported at about 10% (Table 2), did not change much between 1988 and 1999. Hence, there has not been any significant increase in UPSEB's sales as a proportion of the installed capacity. The U.P. State Government's advertisements published in local newspapers in January 2000, as well as UPPCL's official statement of its performance published in 2000, claimed that the actual T&D loss of UPSEB in recent years was over 40%. This is a sudden big jump from the figure of 27% quoted in UPPCL's official statement of 1999. Assuming that the figure of over 40% is real, it implies that almost all of the jump of 13% is theft that was previously being misrepresented as electricity consumption in agriculture – the only un-metered consumer category.

Suspicion of mis-reporting of some part of electricity theft as agriculture consumption gains ground when we look at the indicators for growth of electricity use in agriculture in U.P. Figure 3 shows that electricity consumption by agricultural consumers, as reported by UPSEB, increased by about 70% from 1988 to 1999. In the same period, number of agriculture consumers, number of electrified villages, and number of private tube-wells in U.P. increased by only about 40%. Some part of this difference can be explained by the fact that the reliability of electricity supply in rural areas has increased. However, the effect of increase in reliability of electricity supply to rural areas would, to some extent, be neutralized by the effect of increase in average efficiency of newly installed pump-sets. Further, the Government's statistics themselves do not report any significant improvement in the productivity of food grains and other crops in U.P. over past decade (CSO, 1999). Therefore, a substantially high increase in electricity consumption by agriculture sector can be attributed to mis-reporting of a part of power theft as agriculture consumption. Reddy and Sumithra (1997) have corroborated this finding for Karnataka State Electricity Board (KSEB). Gulati and Narayanan (2000) reported that about half of the agriculture subsidy for power is stolen by non-agricultural consumers. Most of the large-scale theft in UPSEB, reported as agriculture consumption, is by influential industrial and commercial consumers, probably in connivance with the officials of UPSEB's and the State Government. This is also corroborated by the unexplained anomaly that 'electricity consumption per MW of connected load' declined for commercial and industrial consumers by 23% and 10% respectively, but increased for agricultural consumers by 14% over last 11 years. It is difficult to believe that increasing use of captive power by industries and increase in reliability of supply to rural areas can account for such large differences in consumption patterns. These conclusions, however, need further investigation.

While reporting theft as non-technical losses (as part of T&D loss and billing inefficiency) leads to under-reporting of total physical sales figure, mis-reporting theft as agricultural consumption has an effect of under-estimation of average tariff since agricultural tariff is very low compared to industrial and commercial tariffs. Both effects lead to loss of reported revenue. In addition, the second effect also artificially enhances the adverse impact of subsidy. Assuming that mis-reporting of electricity consumption by higher tariff consumers (industrial, commercial, residential) as consumption by agriculture accounts of 13% of generation, it translates into a loss in the range Rs. 400-800 crore in 1999. This is 25-50% of the annual operating loss of UPSEB in 1999.

Clearly, most of such 'non-technical T&D and billing losses' and 'inflated reporting of agricultural consumption' cannot occur without connivance of the top officials of UPSEB and the State Government in such mal-practices. There has not been any serious attempt by UPSEB's top management to either upgrade billing/metering method from manual to electronic or calculate transmission loss in each feeder-cable in order to better analyse the extent and areas of losses. 'Large-scale theft of electricity', 'mis-reporting of theft as agriculture consumption' and consequent 'overreporting of effect of subsidy' were rarely mentioned as important reasons for poor revenue by official statements of the State Government or its consultants. Thus, official statements highlighting high subsidy to agriculture, irrational tariff structure, low PLF and high T&D losses, did not present the complete picture for explaining poor revenue of UPSEB.

*Strategic and Policy related factors:* Factors like 'very high debt:equity capital structure' and 'provision of large subsidy to farmers without adequate arrangement for replenishment by the state' adversely affected UPSEB's financial condition. Absence of a clear financial policy at UPSEB and a high degree of political interference in its functioning were obvious reasons behind these factors. As stated earlier, Board and the State Government resorted to large debts for investments mainly because of the Board's poor financial condition, which was due to reasons like political interference and mal-practices by the State Government and the Board. Further, 'subsidy to farmers' looked bad mainly because its significant portion was being swindled away, which could not have been without knowledge of the Board's management. Thus, the policy of 'subsidy to farmers' by itself did not hit the performance of the Board adversely. Rather, it was the misuse of such policies through political interference and mal-practices at the top levels that was primarily responsible for creating the Board's financial mess.

A significant portion of the accumulated loans to UPSEB was from the Central Government, given under the Rural Electrification and Emergency Relief schemes. The UPSEB's management felt that most of this loan should have been given as 'grant' since it was for a social cause and did not earn revenue. However, the Government gave all such money as loans at annual interest rate of over 14%. Such liabilities of UPSEB, imposed by the Central Government, adversely affected its balance sheet. A large portion of this loan has recently been waived at the cost of writing off equal amount of receivables (mainly from large consumers) as bad debt – a classic case of punishment without any fault.

Of all the prominent factors leading to poor revenue or excess expenditure of UPSEB, 'rural subsidy' and 'low PLF' are the only factors that can be attributed to policy and internal operations respectively. All other factors, namely 'high import cost', 'arbitrary depreciation method', 'irrational capital structure', 'large-scale theft', 'misrepresentation of consumption figures' and consequent 'over-reporting of subsidy', can be attributed to political interference and mal-practices at the top levels of both the State Government and the Board. All these factors have together made UPSEB look financially bankrupt. While it is true that the efficiency of technologies, efficiency of operations in UPSEB and the tariff structure had a significant scope for improvement, there were many not-officially-quoted and more important reasons for UPSEB's poor financial performance. Such reasons were rarely cited either by the State Government or its official consultants. Thus the reforms models proposed by the consultants was based on an incomplete diagnosis of past problems.

## **EVENTS AND ISSUES IN THE REFORMS PROCESS**

This section attempts to touch upon various events and issues during the reforms process so far. It begins with a brief description of the small experiment with

privatization of electricity distribution carried out by the U.P. Government in 1993-94, even before the formalization of reforms model in the state was given a serious thought. This is followed up with a discussion of the key apprehensions of UPSEB employees about the proposed reforms model while it was being considered for implementation by the State Government, along with a summary of events and issues during the employees strike that occurred immediately after formal announcement of the new industry structure. Finally, we outline major developments that have taken place as part of the reforms process until December 2000.

## **Early Efforts at Privatization**

The Central and U.P. Governments started contemplating privatization of electricity distribution in early 1990s. The first experiment began in 1993-94 with the privatization of distribution of greater NOIDA region, a small region in western UP. Greater NOIDA was treated as a test case for privatization. About 77 percent of consumers in greater NOIDA were industries, and the rest were households. There was almost no subsidy offered in that area. An agreement was signed, in 1993, between UPSEB and a private company, NOIDA Power Company Ltd. (NPCL), to sell UPSEB's assets valued at over Rs. 10 crore to NPCL. Before selling distribution rights to NPCL, UPSEB was charging about Rs. 2.40 per unit from NOIDA's industrial consumers, and its average tariff (including the domestic consumers too) was above its average cost of about Rs. 1.60 per unit at that time. The agreement between UPSEB and NPCL stated that NPCL would purchase electricity from UPSEB at Rs. 1.66 per unit. However, disagreement erupted soon afterwards, and UPSEB and NPCL could not arrive at a consensus over the power purchase price. An arbitration committee, set-up for review, recommended the purchase price to be fixed at Rs. 1.59 per unit. This was not agreed to as NPCL desired a lower price while UPSEB wanted a higher price. The 1993 deal required that NPCL would start its own generation facility of about 90 MW by 1997-98, after which this deal would no longer remain valid. However, even in 2000, NPCL has not built its own generation facility and continues to buy electricity at a base-price of less than that recommended by the arbitration committee. NPCL's purchase price has not increased much, whereas UPSEB's cost increased to about Rs. 2.60 per unit in 1999. This development thus forced heavy loss on UPSEB. In November 2000, UPPCL (ex-UPSEB) maintained that it had accumulated receivables of over Rs. 100 crore from NPCL on account of selling electricity at a rate lower than Rs. 1.59. This matter is still not settled and UPPCL officials do not look back at the 1993 agreement with a positive light. Thus, the first experiment with privatization in U.P. power sector has still not streamlined successfully.

Until 2000, NPCL was the only private power distributor in U.P. Talks of privatization of another urban distributor, Kanpur Electricity Supply Authority (KESA), began in mid 1990s, following the formation of NPCL, and still continue after the Board's restructuring.

## **U.P. Electricity Reforms Act**

The U.P. Electricity Reforms Act was formulated in mid 1999, and the U.P. Electricity Reforms Bill was passed by the Advocate General in August-September

1999. Salient features of the U.P. Electricity Reforms Act, 1999 are given in Appendix B.

As is evident from Appendix B, the UPERC enjoys enormous powers and little accountability. It can decide the regulations, norms and standards as per its own yardsticks, and will still have the powers of a Civil Court to enforce its orders. The fact that its members will be senior bureaucrats whose selection will be influenced by the State Government, and these members will enjoy exclusive authority in taking decisions that require expert understanding of economic dynamics of a complex industry has grave socio-economic implication. It amounts to vulnerability of the Commission and the state's power sector to tampering by bigger forces. Decisions regarding tariff structure, investment approvals and performance benchmarks will influence the long-term technology-mix, fuel-mix, import content, prices and environmental emissions in the power sector. This will, in turn, affect the competitiveness of electricity intensive industries like aluminum, cement, textiles, steel, fertilizer, chlor-alkali, paper and sugar, of which the first three are present in moderate capacity in U.P. Over 98% of the industries in U.P. - belonging to traditional sectors like leather, glass, brassware, locks, handloom, etc, or modern small-scale sectors like electronics, computers, automobiles, mechanical spares, etc badly need improvement in process efficiency for sustaining their competitiveness. Tariff decisions will affect efforts of these industries towards modernization. Tariff and investment related decisions in power sector thus require an understanding of multiple options on both supply and demand sides, global trends in technological progress and its determinants, local and global environmental implications of various options, complex inter-linkages with other industries, and long-term uncertainties in technology development, economic growth, prices of internationally traded fuels and global environmental policy regime. Hence, it is important that the decision making structure in the power sector is transparent enough to involve inputs from expert energy-economy modelers, policy analysts, environmental activists, and feedback/criticisms of different sections of consumers. The proposed decision structure is likely to curb this tendency.

Further, there is no provision in the Act for promoting efficiency, conservation and energy management at the consumers' end. For an economy like India's, that is ridden with increasing electricity supply shortage and weak ability for aggressive capacity investments, demand side management should be an important policy option along with exploring avenues for capacity expansion, for meeting its power crisis. Options like time-of-use tariff aimed at inducing consumers to switch non-critical load to offpeak hours, provision of incentives to consumers for improving efficiency of end-use devices, promotion of general awareness about energy conservation, are actively pursued in many developed countries partly under market pressures and partly by the government's intervention. However, the electricity industry's structure proposed in the reforms model in U.P. and other Indian states does not provide any incentive that can facilitate such behaviour on part of either consumers, suppliers (licensees), regulatory commission or the government.

## Apprehension of Employees and The Strike

Apprehension of employees: A key apprehension of the UPSEB employees towards restructuring and privatization of UPSEB related to the uncertain status of their

General Provident Fund (GPF) and Pension Fund. The UPSEB, being an autonomous body, had its own schemes for GPF and Pension Fund, independent of the Government. These funds were payable by UPSEB when the employee retired. These employee funds, totaling about Rs. 3000 crores, were completely used up over time by UPSEB's management and the State Government to make new investments on fixed assets. Though this method of investment made practical sense (using the inhouse liquidity available), by Indian law it was illegal for an organization to use employees' insurance and pension funds for asset investment. Although UPSEB employees did not object to this policy in the past, they were not consulted or taken into confidence when the State Government planned to restructure and privatize the Board. Employees feared that since the use of employee fund for asset investments was illegal, if UPSEB was privatized, no private organization would take up the burden of putting in their money in rebuilding this huge fund. Since over half of the 87,000 strong workforce was due to retire within 5 years, there was apprehension among the workers about ever getting back their GPF and Pension Fund. The workers felt cheated that the State Government made plans of privatizing assets bought from their money, without even consulting them.

Second employee concern was the sudden withdrawal of advantages they had of the three divisions, of generation, transmission and distribution, being under one organization. First, employees of large organizations have more bargaining power for demanding better service conditions. Second, large organizations have the capacity to adjust and absorb shocks better, hence provide a greater sense of security to the employees. Third, after serving in remote areas for about 5 years in the rural thermal and hydro electricity generation plants, employees had the choice of shifting to the cities, in the sub stations, transmission or distribution division. This was important from family point of view as it gave employees' children an opportunity for better education and shifting to urban centers opened up other opportunities for the family that were missing in remote rural areas.

The employees were disturbed that despite announcing restructuring of UPSEB, no operational norms and terms had been evolved for the three proposed organizations, no solution was being considered for the problem of empty GPF and Pension fund, and no policies had been formulated regarding their service conditions.

The experience with the similar restructuring and privatization of the Orissa State Electricity Board (OSEB) had not been encouraging. Until restructuring, the OSEB was reeling under huge losses and debt. Post restructuring, the Transmission Corporation was the only state-owned organization, while generation and distribution were opened to private players. The fact that the financial condition of Transmission Corporation in Orissa worsened after restructuring, added to the apprehension of UPSEB employees.

**The Strike:** In March 1999, UPSEB Engineers Association filed a Public Interest Litigation in the State High Court against the latest purchase price decided for NPCL and the threat it gave to the survival of UPSEB. The employees had been formally informed about the State Government's contemplation on restructuring and privatization of their organization, but no formal or informal discussion had been initiated with the employees on this matter. Many UPSEB employees struck work immediately after the Electricity Reforms Bill was passed. However, the State Government succeeded in crushing that strike within a couple of days by summoning

the Army, invoking the Essential Services Maintenance Act (ESMA) and the National Security Act (NSA). In response to employee apprehension, the State High Court passed an order assuring employees that their interests and rights will be honored. Despite court orders, the State Government did not initiate any discussion with employees, and did not design an implementation plan to replenish the GPF and Pension fund or to formulate their post-reforms service conditions. In December 1999, U.P. Power-men Joint Action Committee (UPPJAC), consisting of engineers, staff and operators, decided that all except the shift employees would go on strike if the board was restructured.

Soon after the State Government's announcement of restructuring the UPSEB into three separate organizations, the three organizations were put under the Companies Act regulations. All UPSEB employees (operators, engineers and staff) went on strike from 14<sup>th</sup> Jan 2000 to protest against the trifurcation and placing the three organizations under Companies Act regulations. The State Government again responded with repressive actions but was not able to contain the employees' agitation this time. This strike grew on to become one of the most important actions of organized workers in India after the railway strike of 1974.

According to the General Secretary of a Trade Union, "Dissolution of SEB was an emotional issue for most. In this act we saw the end of our organization. Further, this division has led to apprehension among our minds about the Pension Fund and GPF. Coming under the Companies Act regulations, our jobs are no longer safe."

Following is a chronological summary of events during the strike (Gurtoo, 2000):

Jan 14<sup>th</sup>, 2000: The State Government broke the UPSEB Board into three separate corporations of Thermal generation, Hydel generation, and Transmission & distribution. In protest about 80 percent of the 87,000 strong work-force did not go to work. Talks between government and striking employees begin through mediators (press and some senior UPSEB employees). The striking employees demanded that the government revert the decision to trifurcate, secure their Pension fund and GPF, initiate a discussion on service conditions, and decision for privatization be deferred.

*Jan 15<sup>th</sup> and 16<sup>th</sup>, 2000:* The State Government declared the strike illegal (Appendix B) and began large-scale arrest of employees under the provisions of National Security Act (NSA) and Essential Services Maintenance Act (ESMA). Power generation in the state fell to 820 MW. Six union leaders were detained and 1700 employees put under house arrest.

*Jan 17<sup>th</sup>, 2000:* Chairmen of all SEBs in the northern states of India met to work out detailed schedules of drawl of power in order to prevent any grid collapse in UP.

Jan 18<sup>th</sup>, 2000: The Union Energy Minister assured the UP government of Central help to meet any situation arising out of this strike. He said that these reforms had become necessary for the state and it was wrong to suggest that these reforms were at the behest of the World Bank. Houses of striking employees were raided and people picked up for questioning by the state police.

*Jan 20<sup>th</sup>, 2000:* Negotiation talks between the government and UPSEB employees continued. UP Government terminated services of 208 striking engineers and declared that there would be no going back on the trifurcating of the Board.

*Jan 21<sup>st</sup>, 2000:* Negotiation talks failed. The state High Court restrained the State Government from 'disturbing the privacy of striking employees by visiting their houses at odd hours'. That halted the police raids. The Union Power Minister declared that the strike was being sustained by the Mafia and threatened to refer UPSEB to the Board for Industrial and Financial Restructuring (BIFR) incase the strike continued.

Jan  $22^{nd}$ , 2000: Government gave ultimatum to the employees that if they did not resume duty by Jan  $24^{th}$  they will be dismissed from service. The police arrested more Union leaders.

*Jan 23<sup>rd</sup>, 2000:* Stalemate in talks persisted. Government started fresh recruitment in lieu of the sacked employees. It advertised for clerks, technicians and labourers and dismissed 495 engineers and arrested 6279 power operators.

Jan 24<sup>th</sup>, 2000: A one-day token strike was organized by electricity workers and engineers across India to express solidarity with the agitating employees. The four major Central trade unions – All India Trade Union Congress (AITUC), Bharatiya Mazdoor Sangh (BMS), Center of Indian Trade Unions (CITU), Hind Mazdoor Sabha (HMS) – came together to express solidarity with the UPSEB's striking employees. Fourth round of talks began in the morning and failed by night. UPPJAC demanded release of some of their key leaders so that talks could be held in a democratic way. The UP government invoked NSA and ESMA again and resorted to large-scale dismissal and mass arrest.

*Jan 25<sup>th</sup>, 2000:* The eleven day power strike ended with the employees accepting the trifurcation of the board and the government agreeing to defer further privatization that was to start from Kanpur Electricity Supply Company, discuss the service conditions and review trifurcation after a year of its implementation. The state government also agreed to pay Rs. 1000 crore towards the employees' GPF before 30<sup>th</sup> April, 2000 and to pay the remaining part subsequently.

Events during the strike like imposing NSA, large-scale arrests of employees, and publishing of one-sided advertisements in local newspapers with criticism of employees and partly incorrect portrayal of reasons behind UPSEB's problems (Appendix 1), highlight the autocratic and non-participatory approach of the State Government. Concerns of employees about the status of GPF, pension fund, new work roles and authority structures after a radical change were genuine. The State Government's handling of the strike was autocratic particularly because it had not taken employees into confidence or attempted to understand their concerns before finalizing its plans of restructuring.

## The Year following the Strike

Although the Board is divided into three corporations, it continues to function as in pre-trifurcation days for most of its operations. It will take a year or two before UPPCL, UPRVUNL and UPJVNL, in association with UPERC, will come up with clear set of new policies and norms for inter-organizational transactions, operations, administration and workforce issues. Developments until December 2000 are summarized in Appendix C.

Following activities are going on in the current phase of reforms in U.P.: a) finalization of commercial and trading arrangements of UPPCL, UPRVUNL and UPJVNL, e.g. tariff and revenue filing to UPERC, b) defining technical interfaces between generation, transmission and distribution, c) finalization of accounts of three corporations, finalization of employees' service conditions and policies, and d) privatization of KESCO and a few other distribution zones.

There is enormous uncertainty among various stakeholders regarding the evolving shape of reforms and their impacts on consumers, employees, and corporations' performance. Not only the operators and engineers, but also many senior officials of UPPCL, including some who are involved in the reforms management process, are apprehensive about the reforms model and skeptical about its success. The next phases of reforms, probably spanning 6-8 years, are likely to be as follows:

- i) Horizontal division of generation corporations (hydel and thermal) into smaller generating companies (probably power station wise).
- ii) Privatization of generation companies through competitive bidding.
- iii) Division of transmission corporation into two corporations GRIDCO (for owning and managing grid assets) and UPPCL (for managing system coordination and commercial activities, i.e., mainly a distribution corporation).
- iv) Division of distribution corporation into smaller distribution companies.
- v) Privatization of distribution companies.

## **DISCUSSION AND CONCLUSIONS**

The case of UP highlights the following shortcomings in the power sector reform process: i) 'inadequate ground-work before recommendation of the reforms model' as reflected in inadequate official diagnoses of UPSEB's financial problems and lack of recognition of important causes like high cost of power purchase, arbitrary depreciation norms, mis-representation of agriculture consumption and over-reporting of impact of subsidy, ii) 'major sabotage-prone gaps in the proposed model' in terms of jettisoning of the social agenda of equity of distribution from the Electricity Reforms Act, entrustment of enormous powers with little accountability on the Regulatory Commission, and selection of senior bureaucrats as members of the Commission, and iii) 'ad-hoc handling of implementation of the model' as reflected in the undemocratic manner in which the State Government and the Board's top management acted before, during and after the employees' strike.

An important theme that emerges from the study of the history of UPSEB is the impact of weaknesses in the 'administrative/political system' on performance of a large state-owned organization. The reasons cited by the government and its consultants for poor financial performance of UPSEB do not show the complete picture. In fact, two of the most important reasons for extraordinarily high expenditure, namely 'high power purchase cost' and 'arbitrary depreciation methods' were almost never officially mentioned. Additionally, reported agricultural subsidy amount was highly inflated. A significant portion of it was actually electricity theft. Although 'high subsidy to farmers' and its adverse effect on UPSEB's financial performance was criticised both by the World Bank-supported consultants and later by the State Government, the fact that a significant part of this effect was 'made-up'

and due to mal-practices by officials of the State Government and the Board, was rarely highlighted. In comparison to these, causes like inefficiency of internal operations and overstaffing were unduly exaggerated. The combined factors of political interference and mal-practices point to a deeper malaise of weak governance institutions rather than fault of previous power sector policies. Besides inadequate diagnosis of past problems, there was no official attempt to estimate the losses borne by UPSEB on account of selling electricity to NPCL and analyse what went wrong in that first experiment with privatization.

The manner in which the reforms model has been implemented so far in U.P., points to an extremely serious concern of breakdown of institutions of democratic governance and possibility of similar and more autocratic subversions in future. The undemocratic handling of reforms has been manifested in the behaviour of the State Government before, during and after the employees' strike. Neither the employees nor the consumers were consulted and taken into confidence before official announcement of restructuring. The State Government handled the union leaders and employees of UPSEB in a dictatorial manner, as reflected in unilateral imposition of NSA without much justification, large-scale arrests, and publishing of advertisements with onesided and incorrect information in local newspapers. Even a year after the strike, the State Government has defaulted on its official promise given to the High Court of filling in the GPF gap up to the extent of Rs. 1000 crore before 30th April, 2000. So far there has not been any formal thinking in terms of providing training to employees as part of preparation for taking up new job roles, working in new organizational structures, and dealing with new technologies that are likely to emerge as a result of reforms. Our observation that even many senior officials of UPPCL, including those entrusted with responsibility of implementing reforms, expressed concern over the reforms model, does not portend well for the future of the state's power sector.

Due to its mammoth size and age, restructuring and privatization effort of UPSEB was like breaking of an institution. The consequent strike by employees was an emotional response for an organization that was the center of their identity. Few people had thought that the State (seen as a protector, more so due to its socioeconomic objectives) would let go of them so suddenly. Over the years, UPSEB's management and its employees had developed a consensual relationship. It was this relationship that allowed the use of GPF and pension fund money in building assets, without any employee raising an objection. They viewed the organization as their own. This relationship collapsed when the State and Central Governments unilaterally decided to privatize UPSEB without taking the employees into confidence or attempting to understand their concerns. It was this absence of participatory approach that made the implementation of reforms look like an imposition. The employees perceived that an unspoken contract and faith had been shattered. The cause of the strike was situated less in the specific issues and more in the institutional breakdown that was to take place because of restructuring and privatization and the ad-hoc nature of these change efforts. UPSEB's experience provides critical lessons for policy makers. The Indian public sector is facing multiple problems like accumulated inefficiencies and financial losses. But the fact that it is aged, huge and heterogeneous in terms of workforce, technological and other assets, and organizational structure cannot be ignored. Any radical change in its structure and ownership status, implemented with haste and without careful preparedness in terms of diagnosis of its

problems, assessment of implications for the society and taking various stakeholders including employees into confidence, is not likely to succeed.

An important point of thought is whether restructuring and privatization of the kind being carried out in case of U.P. power sector is a desirable model of change. The fact that UPSEB was ridden with a deeply rooted crisis, and a systemic change was required, is beyond doubt. However, sudden restructuring and transfer of ownership, without a comprehensive diagnosis of past problems, may not be a solution to the ills facing state owned enterprises of developing countries. Privatization or restructuring of a large state owned enterprise is also a sociological transformation for the organization. With gradual reduction in cross subsidy, manpower and non-viable operations, and progress towards privatization, as proposed by the government, the organization will shift from its previous 'socio-economic' orientation to a purely 'economic' orientation. With the shift in orientation a different set of issues and circumstances, like purely economic focus to operational issues and change in promotion and other human resource policies, will come into play for the employees. An individual will need training and time to adjust to the changing environment. No study has come to light, which examines the effect of privatization and organizational restructuring of a huge organization like UPSEB, on its employees. A few studies on reforms in Indian public sector enterprises suggest that several changes for promoting efficiency and economy may not need privatization as a pre-condition (Ramanadham, 1989; Reddy, 1989).

## Table 1: Financial Performance of UPSEB between 1988 and 1999\*

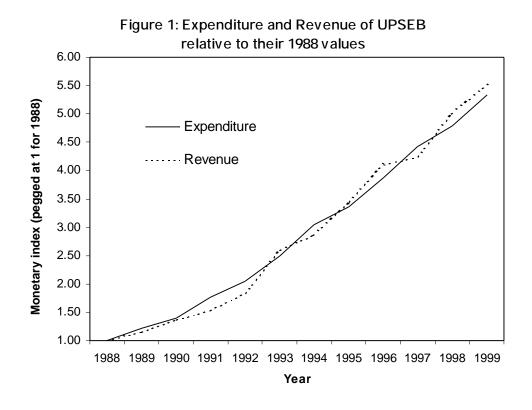
Indicator	1988-89	1990-91	1992-93	1994-95	1996-97	1998-99
Operating revenue	1124	1152	2631	3486	4251	5635
Operating expenditure	1562	2233	3321	4452	5637	7382
Operating loss	438	681	690	966	1386	1747
Cumulative loan from Govts.	+	+	7623	9016	10477	12300
Cumulative interest	+	+	632	2315	4308	6706
Cumulative subsidy receivable from Govt.	+	246	1934	4331	7404	11266
* All figures in Rs. Crore	•	I	•		•	

All figures in KS. Crore.
+ Figures not available.
Source: U.P. Power Corporation Limited, Statistics At A Glance 1998-99.

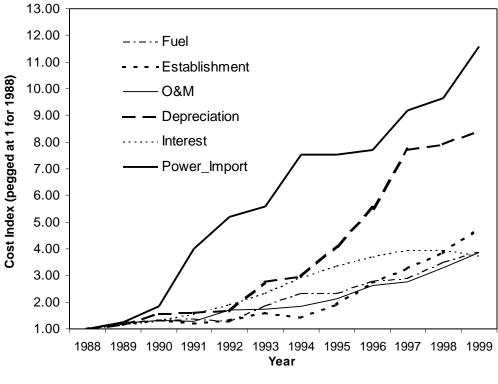
Indicator	1988-89	1990-91	1992-93	1994-95	1996-97	1998-99		
Average price (Rs./KWh)	0.66	0.72	1.08	1.24	1.46	1.80		
Average cost (Rs./KWh)	1.05	1.23	1.55	1.80	2.26	2.59		
Sales (billion KWh)	16.1	19.7	22.3	25.8	27.0	28.5		
Generation (billion KWh)	17.1	17.8	16.6	20.1	21.8	23.1		
Import (billion KWh)	4.8	8.9	12.8	12.9	14.0	15.9		
Generating capacity (MW)	4966	4987	5059	6049	6049	6065		
T&D losses (%)	26.4	26.1	24.1	21.7	24.6	26.8		
Auxiliary consumption of thermal plants (%)	11.1	11.6	11.2	10.2	9.7	9.9		
Fuel expense (Rs. Crore)	449	479	656	821	1014	1355		
O&M expense (Rs. Crore)	130	138	185	227	297	414		
Establishment & admin expense (Rs. Crore)	285	296	391	470	798	1166		
Power import expense (Rs. Crore)	230	728	1018	1373	1676	2133		
Depreciation (Rs. Crore)	108	152	263	392	735	804		
Full interest (Rs. Crore)	482	639	944	1358	1601	1529		
Source: U.P. Power Corporation Limited, Statistics At A Glance 1998-99.								

Table 3:	Targets	for	UPPCL
----------	---------	-----	-------

	1999- 00	2000- 01	2001- 02	2002- 03	2003- 04	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09
T&D loss (%)	41.5	40.5	39.5	38.5	35.5	32.5	29.5	26.5	24.0	22.5
Billing (%)	82	83	84	87	90	92	93	95	97	97
Aid from State Govt (Rs. crore)	1138	2105	2198	1781	906	264	-	-	-	-
Annual rates o	f increase	in tariff (%	):						•	
Bulk consumption	0	16	16	16	16	6	6	1	1	1
Light & fan	0	14	16	18	18	6	6	1	1	1
Commercial	0	10	10	10	10	6	6	1	1	1
Industrial	0	10	10	10	10	6	6	1	1	1
Public lighting	0	16	16	16	16	6	6	1	1	1
Agriculture	0	16	16	16	16	6	6	1	1	1
Source: Intro	ductory no	ote on U.P.	Electricity	Reforms T	ransfer Sch	neme and fi	iture targei	ts, by B.S.	Goyal, 200	).







Year

Prayas-Focus Event on Power Sector Reforms

## Appendix A: Sample advertisements issued by the UP Government in local newspapers in Jan 2000 (translated from Hindi)

## WHY IS THE POWER SECTOR IN U.P. BEING RESTRUCTURED?

Because...

- n UPSEB suffers loss of Rs. 2,500 crores every year.
- n Accumulated loss of UPSEB stands at Rs. 10,600.
- n UPSEB owes Rs. 19,000 crores to the State Government.
- n PLF is 40%. Therefore cost of generation per unit is very high.
- n Technical/non-technical line loss (theft) is 42%. Hence excessive capital is being lost.
- n UPSEB's total external debt is more than Rs. 6,000 crores. The Central Government has reduced the loan granted to the State Government because UPSEB is not able to pay back for the purchases of electricity from NTPC and NHPC.
- n Existing power tariff does not have a scientific basis. Hence consumer is suffering the burden of power sector's inefficiency.
- Future power need in the state will be an additional 14,500 MW. This will require Rs. 69,000 crores. Existing generation of electricity is only 5,886 MW against the connected load of 13,994 MW.
- n The state has been refused new loans by financial institutions because it has not been able to pay back its existing loans.
- n UPSEB is incapable of maintaining its equipment because of its poor financial health. However, the power infrastructure urgently needs modernization.

### UPSEB EMPLOYEES' STRIKE IS ILLEGAL

In the people's interest, following decisions have been taken with respect to the power strike:

- n UPSEB employees' strike is illegal under the Essential Services Act.
- n No pay without work.
- n The striking employees will have to bear the cost of alternative arrangements of meeting the increased electricity supply shortfall during the strike period.
- n Obedient/working employees will get complete protection.
- n Severe action against those engaged in destructive activities.
- n Strict action against striking employees.
- n Services of those employees will be considered automatically withdrawn who do not report for work in the newly created corporations.

### Appendix B: Salient Features of the U.P. Electricity Reforms Act, 1999

- **§** Formation of U.P. Electricity Regulatory Commission (UPERC), a corporate body comprising three members (including the Chairman), to oversee the process of reforms and regulate the State's power sector.
- **§** Members of UPERC to comprise two senior bureaucrats and a High Court Judge, who are to be selected by a three-member selection committee set-up by the U.P. Government.
- § Key functions of UPERC include determination of tariffs for sale of electricity, use of transmission facility and procurement of power from generating companies, issue of license to utilities, regulation of working of licensees, promotion of privatization, competition, efficiency and economy in the State's power industry, setting of standards for technical performance of utilities (licensees), regulation of investment approval, adjudication of disputes between licensees, publishing of demand forecast data and requiring licensees to publish data, and supporting the State Government on overall power sector's planning.
- **§** UPERC to have powers of a Civil Court while performing its adjudicatory functions and enforcing its orders to the licensees.
- **§** UPERC to have the authority to change the terms and conditions of a licensee, and to revoke the license of any licensee on any ground it deems fit.
- **§** Any dispute between the State Government and UPERC, over whether the State Government has a right to issue directions on a certain matter, to be referred to the Central Electricity Regulatory Commission (CERC).
- **§** Powers of the State Government include decisions with respect to subsidies provided the State Government contributes the amount to compensate the affected licensee.
- **§** Formation of the U.P. Power Corporation Ltd. (UPPCL), a company registered under the Companies Act, 1956, for the purposes of procurement, transmission and supply, and having powers of the Board under the Electricity (Supply) Act, 1948. All properties of the Board to be transferred by the State Government to UPPCL or generating company, as per the terms set by the State Government.
- **§** UPERC to decide tariff norms and guidelines for the purposes of encouraging efficiency, economics, optimum investments, and interest of consumers. UPERC can depart from such purposes provided it records the reasons for such departure.

Source: U.P. State Gazette (1999)

## Appendix C: Developments in UP Power Sector Reforms until December 2000

- § Four organizations, besides UPERC, have been formed by the State Government for management of reforms – a Steering Committee headed by the Chief Secretary of the U.P. Government; Implementation Task Force headed by the Principal Secretary (Energy) of the U.P. Government; Board Restructuring Committee headed by the Director (Finance) of UPPCL; and Reforms Project Management Organization (RPMO) headed by a Chief General Manager of UPPCL. These organizations will work together with UPERC.
- **§** A power purchase tariff of Rs. 2.15 per unit has been proposed for private players bidding for KESCO. This could become a benchmark for future biddings. Privatization of KESCO is presently under consideration. Besides Kanpur, talks of privatization of distribution of Moradabad and Agra zones have also begun.
- **§** The State Government has signed a few power purchase agreements (PPAs) with independent power producers (IPPs) for new projects, including two thermal, one hydro and seven small hydro generation projects.
- **§** In its first tariff petition to UPERC, UPPCL envisaged a loss of Rs. 1561 crore for 2000-01, and proposed to recover Rs. 1041 crore of this gap by increasing its tariff by 25% for last 8 months of the year. UPERC subsequently increased UPPCL's consumption forecast and decreased some of its costs related to power purchase, wages and bad debt, and lowered the projected loss to Rs. 399 crore. It has allowed UPPCL an increase of 10.17% in its average tariff to cover this loss (UPERC, 2000).
- **§** The State Government has so far (until December 2000) deposited only Rs. 100 crore in the employees' GPF, as against the Rs. 1000 crore promised in the agreement with unions. The State Government has not come up with any plan for how it would repay the remaining amount of about Rs. 2900 crore.
- **§** Under the U.P. Electricity Reforms Transfer Scheme, over Rs. 16,000 crore of UPSEB's loan and interest liabilities have been written off by the State Government. The State Government has reinvested Rs. 2,639 crore of its past loans to UPSEB as equity in the three new corporations. In exchange of writing off UPSEB's loan and interest liabilities, its entire subsidy receivable (about Rs. 11,000 crore) from the State Government and about 90% of receivable (about Rs. 6,000 crore) from consumers have been written off, and its fixed assets have been depreciated by about 10%. There is little scientific rationale behind these changes. It looks as if there is an artificial attempt to make UPPCL, UPRVUNL and UPJVNL look financially attractive to prospective private bidders. The gross fixed assets of three corporations together have been book-valued at over Rs. 14,000 crore in the Transfer Scheme. The actual market value of these assets is expected to be significantly higher than this.
- **§** UPERC has directed UPPCL to reduce its T&D losses and improve its billing efficiency. The T&D losses of UPPCL have been shown as 41.5% in 1999-2000, as against 26.8% recorded by UPSEB in its audited balance sheet of 1998-99. This is probably due to acknowledgement of the mis-representation of some portion of theft as agricultural consumption and also due to an effort by UPPCL to get a higher tariff approved from UPERC. Table 3 shows, for next 10 years, UPPCL's targets for reducing T&D losses and improving billing efficiency, as recommended by Reforms Project Management Organization (RPMO), RPMO's proposal for increase in tariff for different consumers, proposal for UPPCL receiving certain subsidy from the State Government until 2004-05.

After this UPPCL hopes to recover its entire costs from sales. However, there is no mention of how the improvement targets will be achieved.

- **§** The UPSEB employees have demanded that the precedence set by a similar case of transfer of GPF, Pension Fund and other benefits during absorption of about 500 Central Electricity Authority (CEA) employees in Power Grid Corporation of India Ltd. (PGCIL) in the past should be followed in their case too. The GPF contribution of employees made in CEA was paid in cash, and the pension on the basis of their service and pay in CEA was started in PGCIL. Other employee benefits also continued as per the governmental service procedures.
- **§** No major decision has been taken by UPERC with respect to tariff, except that the minimum payment requirement (against minimum consumption guarantee) for domestic consumers has been abolished. Since the billing and metering has not yet improved, this change has already resulted in about 10 percent reduction in revenue collection until December of this year as compared to same period of last year (as communicated by UPPCL officials). Orders for purchase and installation of new meters have been placed.
- **§** UPERC has blamed bad tariff structure, cross-subsidies, bad investment, poor billing/metering, T&D losses, and bad debt treatment policies of UPPCL (ex-UPSEB) for its poor financial condition. It claims to correct these inefficiencies through its orders with respect to tariff structure, finance-handling norms and performance norms.

Sources:

### 1. UPERC, 2000

- 2. Kumar, 2000
- 3. Goyal, 2000
- 4. Communication with UPPCL officials

#### References

Cherns, A.B (1976): 'The Principles of Socio-Technical Design'. Human Relations, 29 (8).

- CSO Central Statistical Organisation (1999): Statistical Abstract India 1998, Department of Statistics and Programme Implementation, Government of India, New Delhi.
- Das, A and J Parikh (2000): 'Making Maharashtra State Electricity Board Commercially Viable', *Economic and Political Weekly*, 35(14).
- Dhar, P (2000): 'Reforms Progress Apace', Indian Infrastructure, 3(5).
- Goyal, B S (2000): 'Introductory note on U.P. Electricity Reforms Transfer Scheme and future targets', Unpublished note, UPPCL, Lucknow.
- Gulati, A and S Narayanan (2000): 'Demystifying Fertiliser and Power Subsidies in India', *Economic and Political Weekly*, 35(10).
- Gurtoo, A (2000): The UP Power Strike, Unpublished teaching case. IIM Lucknow.
- Kumar, D (2000): 'Corporate Governance of UP Power Sector'. A Note, Prepared by Dy. G.M., RPMO, UPPCL , Lucknow.
- Macavoy, P W, W T Stanbury, G Yarrow and R J Zeckhauser (1989): *Privatization and State Owned Enterprises*, Kluwer Academic Publishers, USA.
- Pasmore, W C, C Francis, J Haldeman and A Shani (1982): 'Socio-Technical Systems: A North American Reflection on Empirical Studies of The Seventies', *Human Relations*, No. 35, 129-144.
- Ramanadham, V V (1987): 'Studies in Public Enterprise: From Evaluation to Privatization', Frank Cass and Co. Ltd., London.
- Ramanadham, V V (1989): Privatization in Developing Countries, Routledge, London.
- Reddy, A K N and G Sumithra (1997): 'Karnataka's Power Sector: Some Revelations', *Economic and Political Weekly*, 32(12).
- Reddy, Y V (1989). 'Privatization in India', In V V Ramanadham (Ed.), *Privatization in Developing Countries*, Routledge, London.
- The Gazette of India (1998): The Electricity Regulatory Commissions Act, 1998, Act No. 14 of 1998, New Delhi.

The World Bank (2000): 'World Bank Provides US\$511 Million To Accelerate Growth And Fight Poverty In Uttar Pradesh, India's Most Populous State', Press Release No. 2000/318/SAS, New Delhi.

Trist E L and K W Bamforth (1951): 'Some Social and Psychological Consequences of Longwall Method of Coal Getting'. *Human Relations*, 4, 3-38.

U.P. Power Corporation Limited, (2000): Statistics at A Glance 1998-99, Lucknow.

UP Power Corporation Limited, (2000): Statistics At A Glance 1997-98, Lucknow.

UPERC, (2000): Power Diary, August, Lucknow.

UPSEB Engineers Association, (2000): Abhiyanta Sangh Samachar, Issue-2, April-May, Lucknow.

- U.P. State Gazette (1999): The Uttar Pradesh Electricity Reforms Act, 1999, U.P. Act No. 24 of 1999, Lucknow.
- Woodward, N (1989): 'Some Organizational Implications For Privatization'. In V V Ramanadham (Ed.), *Privatization in Developing Countries*, Routledge, London.

\_\_\_\_0\_\_\_\_