

EXPERT COMMITTEE ON STATE-SPECIFIC REFORMS

**STRUCTURING OF APDRP, REFORM FRAMEWORK
and
PRINCIPLES OF FINANCIAL RESTRUCTURING OF SEBs**

**MINISTRY OF POWER
GOVERNMENT OF INDIA**

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CHAPTER 1: INTRODUCTION

1.1 Background

The Government of India regards the restoration of financial viability of the power sector as one of the foremost challenges, not only for the sake of the sector but also for the fiscal health of the state governments and the overall performance of the economy. States too are acutely aware of this challenge and have undertaken efforts, including the establishment of independent regulatory commissions and restructuring of State Electricity Boards (SEBs).

The Ministry of Power (MoP) has already initiated several measures towards reforms and performance improvement. The prominent initiatives among such efforts included the Electricity Regulatory Commissions Act 1998, and the Accelerated Power Development Programme (APDP), started in February 2000, with the objective of initiating a financial turnaround in the performance of the State owned power sector.

In addition, pursuant to one of the resolutions adopted at a meeting of the State Chief Ministers held by the Prime Minister in March 2001, the MoP constituted an Expert Group under Shri Montek Singh Ahluwalia, the then Member (Energy), Planning Commission, to recommend measures for the one-time settlement of outstanding dues of the SEBs towards the Central Public Sector Undertakings and suggest a strategy for capital restructuring of the SEBs. Of the recommendations of this Group - headed subsequently by Shri N. K. Singh, Member (Energy), Planning Commission - the one-time settlement scheme has already been accepted and a start has been made to facilitate reform in the Union Budget 2002-03 as the Accelerated Power Development and Reform Programme (APDRP). While proposing an allocation of Rs. 3,500 crore, the Union Budget stipulated that access of the States to the funds under APDRP will be on the basis of agreed reform milestones, the centre piece of which would be the narrowing and ultimate elimination of the gap between unit cost of supply and revenue realisation within a specified time frame.

The MoP has therefore decided to constitute an Expert Committee to assist in developing state-specific reform programmes to rapidly restore and sustain the financial viability of the power sector and effectively harness the funds under the APDRP and other sources. A list of the Members of the Committee is provided at Annex 1.

1.2 Terms of Reference

The Committee's Terms of Reference are as follows:

- (a) Examine the ongoing efforts under the existing APDP, with focus on the distribution segment, and suggest improvement measures;
- (b) Identify the reform approaches that are currently being pursued by the States, ascertain their rationale for preferring a particular approach vis-à-vis other options, and critically evaluate these approaches;
- (c) Based on (b) and an assessment of international best practices, devise a reform approach or a menu of reform approaches to restore and sustain financial viability of the sector; and
- (d) For 5-6 selected States, devise State-specific reform programmes, in consultation with the respective state governments, that are fair and equitable to all the major existing and prospective stakeholders in the power sector. For each State, the reform programme shall
 - (i) Provide a specific reform approach;
 - (ii) Provide a timeline for major reform milestones; and
 - (iii) Make a quick assessment of the transition support required and the extent and the manner in which APDRP and other funds could be deployed for achieving the reform objectives.

1.3 Scope and Intent of this Report

The Committee decided to address the Terms of Reference in two stages. In this Report, organised in five chapters, pertaining to the first stage of the Committee's work, the Committee applied itself to (a) reviewing the APDP and suggesting measures for improvement to be incorporated in the APDRP as part of a consolidated reform approach; and (b) evolving a reform framework and broad principles for the financial restructuring of SEBs, based on a review of reform experiences in India and abroad. While the Committee believes this is an opportune moment to indicate a specific framework that could deliver substantive improvements in performance, it considers it the prerogative of each state to determine the way it wants to run and fund its power sector. The Committee's recommendations regarding the linking of support from APDRP are therefore tied mainly to "actual improvements" and not to the adoption of any specific approach. However, in the second stage, the Committee intends to draw upon the aforementioned reform framework and principles of financial restructuring, as a starting point for developing state-specific reform programmes, in consultation with the respective state governments and other stakeholders.

CHAPTER 2: REVIEW OF APDP AND STRUCTURING OF APDRP

This Chapter contains a review of the APDP, and outlines the modalities for the operationalisation of the APDRP.

2.1 APDP

2.1.1 Description of the Scheme

In February 2000, the Government of India introduced a new scheme, the Accelerated Power Development Programme (APDP), with the objective of initiating a financial turnaround in the performance of the State owned power sector. The APDP was formulated to finance specific projects relating to:

- a) Renovation and Modernisation, Life extension, Upgrading of old thermal and hydel plants; and
- b) Upgradation & strengthening of sub-transmission and distribution network (below 33kV or 66kV) including energy accounting and metering in the distribution circles.

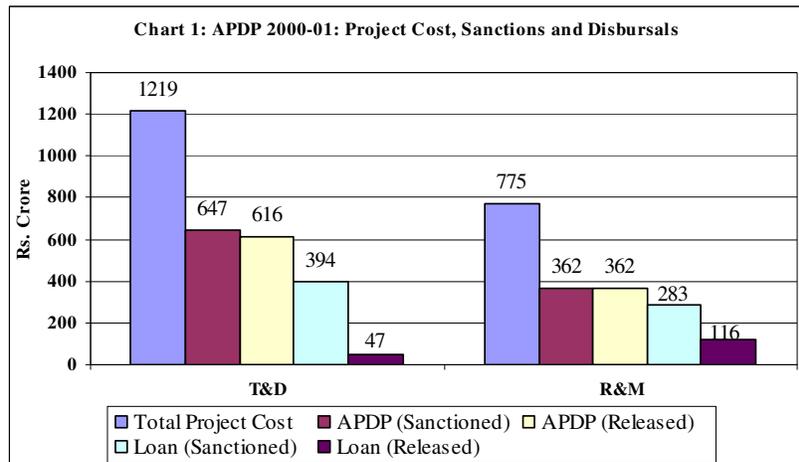
Of this, the upgradation of sub-transmission and distribution network was considered the most important component of the APDP. This is appropriate considering that the sub-transmission and distribution system networks are old and out-dated, thereby contributing both to high aggregate technical and commercial losses (40-45% loss) at the distribution stage and poor quality of power supply (low voltage)/low availability/ low reliability.

2.1.2 Under the Scheme, funds are being provided through a combination of grant and loan to the State Governments as Advance Central Plan Assistance. The Scheme finances 100% of the project cost in Special Category States (all North Eastern States, Sikkim, Uttaranchal and J&K) in the ratio of 90% grant and 10% soft loan. In respect of other States (Non-Special Category), it finances 50% of the project cost and the ratio of grant and loan is 50:50. The balance 50% funds of the project requirement has to be raised by the State.

2.1.3 Scheme Status – Proposals, Approvals and Disbursements

During the fiscal year 2000-01, Rs. 1,000 crore was allocated and disbursed by the GoI to various States, for implementation of various proposals for R&M and upgradation of distribution circles. Of this, as shown in Chart 1, Rs.647 crore was sanctioned to support T&D projects costing Rs.1,219 crore and Rs.362 crore were sanctioned to support R&M projects costing Rs.775 crore. Regarding T&D projects, although Rs.616 crore of the sanctioned money was released, the states/utilities appear to have managed to obtain sanction

for only Rs.396 crore of loans for matching contribution on their part. Of these loan sanctions, only Rs.47 crore was disbursed. Similarly, in case of R&M projects, although the entire amount sanctioned under APDP was released, the states/utilities obtained sanction for loans of Rs.283 crore towards matching contribution, of which only Rs.116 crore was released.



For the year 2001-02, the budgetary allocation of Rs.1,500 crore was made for 63 identified distribution circles and renovation of power plants. A list of the 63 circles is provided in Annex 2. For these circles, Advisor-cum-Consultants (see Box 1 below) were appointed.

BOX 1: CAPACITY BUILDING EXERCISE (ADVISOR-CUM-CONSULTANTS)

Ministry of Power has involved NTPC and PGCIL, who are assisted by other Public Sector/Govt. owned organizations namely, WAPCOS, CPRI, NPC, MECON, etc., as Advisor-cum-Consultants (AcC), for up gradation of sub-transmission and distribution system in the identified 63 circles. This capacity building exercise will mainly include collection and analysis of detailed data upto 11 kV, preparation of project report, supervision of implementation, development of MIS and GIS mapping, evaluation of benefits, etc.

The AcC shall focus on the following activities in the capacity building exercise:

- Strengthening of distribution network
- Improving revenue realizations
- Data collection and consolidation
- Technical loss assessment
- Energy accounting and auditing
- Technical loss reduction
- Commercial loss reduction
- Long term load forecast
- Network expansion planning
- Trouble call management system
- Centralised Power supply monitoring and control system
- GIS based information mapping system
- Management information system
- Project management
- Profit benefit evaluation

Under the prevailing system, States are required to submit their proposals to MoP, based on Detailed Project Reports prepared by the AcCs for the identified circles, along with the prioritisation of schemes by AcCs. Subsequently, subject to signing of MoAs by the

respective States, their proposals are put up to the APDP Monitoring Committee, which on approval of the schemes, requests the Ministry of Finance for release of funds. For new circles, States are required to prepare their bankable and tenderable DPRs on their own and submit them to the MoP after vetting and prioritisation by AcCs. As per the directions of the Ministry of Finance, further funds shall be released subject to the following conditions:

- a) Signing of Memorandum of Understanding by SEBs with the Ministry of Power; and
- b) Prioritisation of schemes by the AcC.

During 2001-02, as against the budgetary allocation of Rs.1,500 crore, only Rs.426 crore were disbursed in April 2002, to support projects costing Rs.4,241 crore. According to the MoP, such low disbursements were a result of strict adherence to the guidelines of the Scheme. For instance, a few states (including Punjab & Delhi) were not given APDP funds as they could not fulfil certain conditions of MoUs signed by them with the Ministry of Power. Also, Arunachal Pradesh, J&K and Meghalaya, have not submitted projects for funding.

It is envisaged that the balance Rs. 1,074 crore of allocation for 2001-02 would be utilized during 2002-03, for which additional budgetary allocation of Rs 3,500 crore has also been made. The scheme is expected to continue till the year 2012 with enhanced outlay from the year 2002-2003 onwards.

Here, it is noteworthy that although Rs.1,042 crore were released under APDP towards T&D projects during 2000-01 and 2001-02, according to information currently available with the MoP only Rs.738.22 crore (about 71%) of the funds were received by the utilities and, in turn, the utilisation of the funds by the utilities amounted to Rs.574.6 crore (55% of the funds released). In a similar vein, of the Rs.362 crore released towards R&M projects during 2000-01, only Rs.241.88 crore (67%) were received by the utilities and the utilisation by the utilities amounted to Rs.238.07 crore (66% of the funds released). For further details, see Annex 3.

The Union Budget 2002-03 has rechristened APDP as APDRP, and enhanced the allocation to Rs.3,500 crore with the stipulation that “*access of the States to the fund will be on the basis of agreed reform programmes, the centre piece of which would be the narrowing and ultimate elimination of the gap between unit cost of supply and revenue realisation within a specified time frame*”. In line with this, the Committee was informed that priority is being given to projects from those States who have committed themselves to a time bound programme of reforms including operationalising the SERC and the filing of tariff proposals, restructuring of the system to make it accountable and profitable, division of distribution

function in the State into a number of zones, and privatisation of each zone or alternatively giving responsibility of electricity distribution to Panchayats/Users Association/Co-operatives, completion of 100% of metering for all distribution circles in a planned manner and promotion of demand side management.

2.2 Review of APDP

The Committee noted that the intention of the erstwhile APDP was also to initiate a turnaround of the electricity system. The Committee based its review on whether the APDP was able to achieve this intent. Based on discussions, it would appear that the APDP has the following limitations:

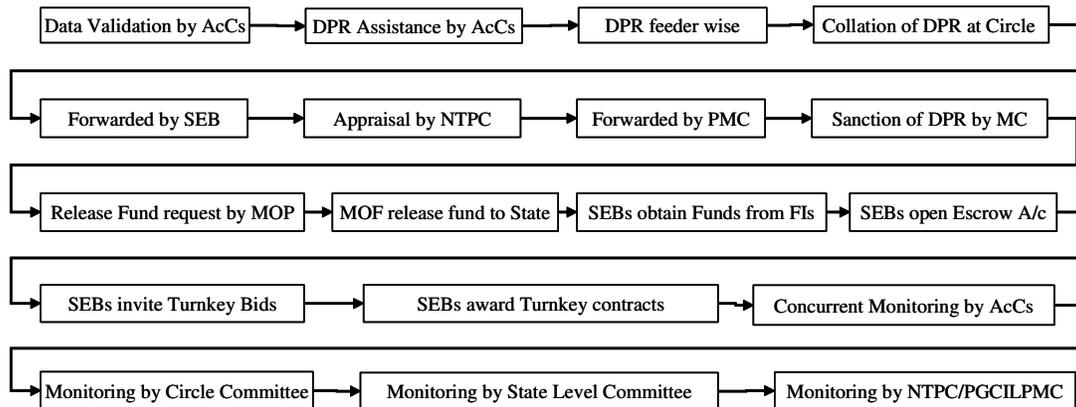
- (i) The programme is perceived as ad-hoc financial intervention.

The Committee often heard that the allocation is too small to take care of the transition financing requirements, whereas in reality, over the last three budgets, the Government of India has provided Rs.6,000 crore, which is not an insignificant amount, especially if these funds are directed towards reducing the commercial losses in the system. The Committee is concerned that this perception affects the nature of projects undertaken, which may be excessively short-term and limited in scope since the possibility of future support is not incorporated in the project design. This concern is especially relevant because it would appear that the Union Government is committed to extend similar or higher support to the States in the next few years, provided there is progress towards the “*ultimate elimination of the gap between unit cost of supply and revenue realisation*”.

- (ii) The programme involves too many agencies and several procedures.

A schematic of agencies involved in the process, especially in the stages pertaining to project selection and funds disbursal, is provided in Figure 1. These features add to the procedural complexity and result in delay. The limited amount of loan funds actually disbursed for the projects is one instance of the effect of these procedures. In addition, it is not clear that these procedures add value and may excessively hamper the utility’s flexibility. It is also not clear whether the AcCs are conversant enough with ground conditions to be immediately effective.

Figure 1: The Present APDP Process



(iii)The programme is project based and input-focused rather than performance/output-oriented.

The programme appears to assume that the problem of poor performance could be tackled with physical investment and technical, financial and consultative intervention. Given the track record and results of the investments thus far under the existing system, there appears to be little reason to believe that the new investments through APDP are likely to deliver material improvements, leave alone results that are sustainable in the long-run unless the utility and the Government, as its owner, are appropriately incentivised towards achieving lasting improvements. PFC’s difficult experience with OFAP is instructive in this regard and particularly underscores the need for choosing performance parameters that are not subject to “interpretation”.

(iv) The programme appears to be focused only on projects in selected circles.

The haemorrhage in the system is so high that the strategy of progressive coverage of the circles over multiple years is unlikely to be adequate to turn around the sector as a whole. The states do not view this as a mechanism that can support them in their endeavours to devise sector-wide strategies that would yield quicker results on a system-wide basis. Furthermore, the experience on the ground seems to indicate that it is difficult to achieve improvements in isolated enclaves, while the rest of the system lacks commercial orientation.

The Committee has endeavoured to take these shortcomings into account while making recommendations for structuring APDRP for supporting reform.

2.3 Structuring of APDRP for Supporting Reform

2.3.1 Establishment of an APDRP Fund

The Committee has been mandated to examine how APDRP funds could be deployed for achieving the reform objectives. It is of the firm view that the future flows from APDRP need to be simplified and targeted towards states in a manner that is clearly focused on the attainment of “reform”. Accordingly, the Committee debated a non-lapsable fund model for

APDRP to start with, in order to enable devising of a comprehensive and credible APDRP. Some of the Members felt that the Union Government should ex-ante commit to a level of funding that would be made available for this Programme over the future say for a period of five years. Some of the major benefits of such a commitment would include:

- a) States and utilities will appreciate that APDRP is not an ad-hoc facility and that performance on their part will enable them to access funds with the progress of reforms.
- b) A more comprehensive programme of reform initiatives can be supported, as compared to the current portfolio of limited circle-level investments.
- c) It will provide a clear signal of Government of India's financial commitment to power reform over a longer period, similar to the commitment to the road programme.

However, some Members expressed concern that constituting an extra-budgetary APDRP Fund would violate budgetary discipline. Moreover, any funds lying idle in such a Fund will adversely impact the fiscal deficit of the Union budget by keeping unspent amounts in a fund outside the Consolidated Fund of India, while the Government resorts to borrowing to finance the fiscal deficit. In any case, the Government has already demonstrated its commitment to power reforms through the Finance Minister's budget announcement with a higher allocation of Rs.3500 crore to APDRP scheme in the current budget. This allocation could be considered for increase depending on the requirements projected by the Ministry of Power depending on the progress made under APDRP. The Committee after considering both the points of view, agreed to the arrangement of annual budgetary release which is in the nature of Central Assistance. However, the Committee, felt that MoP should endeavour to create a fund for financing all reform initiatives. The Committee further recommends that allocations for the programme should be clearly spelt out and the responsibility of sanctions, disbursements and monitoring of funds utilisation under the Programme be vested with a small Empowered Committee, strengthened by independent professionals with financial and technical expertise. In line with this, the Committee suggests that the existing (APDP) Committee under the chairmanship of the Union Minister of Power be vested with broader responsibilities such as establishment of guidelines and periodical review, and, accordingly, be streamlined with the reduction in the total number of members.

2.3.2 Eligibility Criteria for accessing assistance under APDRP

Access to assistance under APDRP should be made contingent on a State signing off on the SEB Dues Settlement Scheme – which was based on the Report of the Expert Group on Settlement of SEB Dues, as modified by the Group of Chief Ministers and approved by the

Cabinet - comprising inter alia, the issue of bonds by the State for past dues and graded curtailment of supply on future default (See Annex 4 for a summary of the key features of the Scheme). In addition, the Committee underscores the need for an ex-ante audit and agreement to continue such audit to fix initial bench mark against which performance will be compared for assessing the access of States and Utilities for the benefits of the APDRP funds.

2.3.3 Support under APDRP

There would be two streams of support under the APDRP– one for investment and the other as an incentive based on reduction of the gap between unit cost of supply and revenue realisation (calculated based on the number of units purchased). Each of these streams has a specific purpose.

The Investment Stream is to support the development of “demonstration projects” which will enable the utility to concentrate resources and build a model where a reform strategy for the entire utility can be tested. For this, the demonstration projects should be such that they permit early evaluation of interventions and that it is feasible to make similar investments in the rest of the utility. This is philosophically congruent with the notion of “centres of excellence” in the APDP. In order to ensure that one can judge results from these investments quickly, it is necessary that the procedures for disbursements of funds be streamlined. In this context, a common problem faced by the utilities is that the existing procedures of APDP support only a portion of the project cost, while additional funds have to be sourced from elsewhere. This delays the execution of these projects and worse, it occasionally leads to undertaking only a part of the project, which does not deliver the anticipated improvements. In view of the utilities’ problems with partial disbursements, it is important to explore alternatives whereby disbursement for “demonstration projects” takes place after they are “financially closed”, i.e., firm commitments have been obtained for the entire requirement for project funds.

As compared to the Investment Stream, the Incentive Stream is to provide a “substantial reward” for States that are willing to go beyond “demonstration projects” and undertake enterprise wide reform for performance improvements. The Committee recognises that such reform need not wait for “demonstration projects” and hence recommends that access to Incentive Stream would be entirely based on performance. Since the “reward” is performance based, which will be demonstrated over the future, the disbursements from this Incentive Stream will be over a period of time. In order to provide a sufficient incentive to the States, it

is essential that funds for the Incentive Stream are credibly committed and are seen to be available to the States.

Here it is important to clarify that the Committee envisages that, in the context of privatisation, distribution utilities under private ownership are likely to become eligible for receiving the aforementioned support. In line with the Electricity Bill 2001 introduced in the Lok Sabha, the Committee too regards privatisation as one of the desirable ways forward in the reform process. Accordingly, it cautions that a crucial initiative like APDRP cannot send signals that steps such as privatisation would deprive the states of support available under the Programme. Hence, it is recommended that funds from APDRP, where applicable, should also be made available to private distribution companies and such assistance be routed via the state government, through a suitable agreement between the respective State Government and Private Distribution Company of the area.

2.3.4 Support for Investment

The Committee recognises that in order to begin to effect improvements, States and utilities need a certain quantum of immediate assistance today, though over a period of time this need should decline. Hence, it recommends that 50% of the first year's allocation of APDRP funds, i.e., Rs. 1,750 crore be made available to the selected states, upon acceptance of the aforementioned eligibility criteria. For subsequent years, the Committee suggests that the decision to retain or alter the share of support for investment should be based on experience. It would be desirable to bring down the share of the support under investment stream and concomitantly increase the share of the support under incentive stream (detailed in the next section). The Committee also recommends that assistance under this scheme should be leveraged by obtaining a matching contribution from the State or utility. In other words, while the Fund should provide 50% of the funds required for a project, the balance 50% funds of the project requirement should be raised by the State or utility.

In order to ensure that investments yield the kind of quantifiable improvements in performance necessary for a demonstration project as discussed in some detail above, the Committee has the following specific suggestions:

- a) Efforts under this segment should focus on areas of compact network and dense urban and industrial loads where substantial results can emerge relatively quickly. For example, States can focus on those of the 63 distribution circles or any other compact electricity business area under the APDP programme that satisfy this criterion.

- b) Substantive weightage should be given to investments that are aimed at reducing commercial losses.
- c) Sanction of new projects should be withheld if performance targets agreed upon for a project already funded are not achieved. Further, where applicable, a portion of the funds may be linked to the achievement of performance targets by the utility in targeted zones.¹
- d) These funds should be made available to the utilities directly and should also be accessible for private distribution utilities, subject to adequate safeguards to ensure that public as well as private utilities pass on the benefits arising out of such investments to the end consumer, as for example, through tariff orders of the respective Regulatory Commission.²

2.3.5 Reform-Linked Incentive Support

The remaining assistance from the Fund, i.e., Rs. 1,750 crore from the first year and the allocations for the remaining years under incentive stream should be disbursed as incentive to states. The Committee debated whether the incentive for reform be linked to **operational performance** of the distribution segment, the reduction of the gap between unit cost of supply and revenue realisation after netting out the effect of changes in average realisation due to: tariff increases, changes in unit cost of supply due to change in power procurement cost and transmission charges. In effect, the incentive to be given only for the overall reduction in the gap at the enterprise level, after adjusting for the aforementioned factors that are extraneous to operational performance.

This issue was discussed threadbare. It was felt that though there is a lot of merit in restricting the incentive only to the efficiency improvement measures, it would complicate the process of calculation and pose difficulties in implementation. . It is imperative to keep the criterion for disbursement simple and as free as possible from multiple (mis)interpretations. Clearly, a simple formula reduces the transaction costs and makes the monitoring exercise less onerous for both those administering the Programme and the States and SEBs/Utilities that would be making claims on the Programme. Moreover, a simple, transparent formula enhances the credibility of the Programme; it diminishes the scope for discretion and consequently any

¹ Such a linkage is expected to focus the attention of the utilities to undertake investments that yield rapid performance improvements and are modular in nature rather than investments that will only yield expected benefits after the entire investment programme is completed. For example, beginning a metering programme with investments at feeder level is likely to not only result in some improvements at feeder level, but also to provide a better indication as to the areas which are likely to benefit more from subsequent investments such as metering at the individual consumer level.

² It is expected that the Regulatory Commission will ensure that the distribution utility does not get an undue relief on account of improvements attributable to these investments which carry a 50% grant component, in respect of their existing obligations.

perception that some states are being unduly favoured. Secondly, there would be states, which are already very efficient, and therefore any future loss reduction can come only from tariff measures. It would be unfair to deny to such states the benefit of the incentive.

Taking all the pros and cons into consideration, the Committee recommends that it would be better to follow a simple method of incentivising gap reduction between overall cost and revenue realised at the enterprise level. The Committee recognises that the measure suggested has a number of limitations, as will any measure. However, on balance, the Committee considers that the simplicity of the measure and the ongoing oversight of independent State Electricity Regulatory Commissions are sufficient counterweights to these limitations. Furthermore, care will be taken while devising guidelines to ensure that the measurement of gap is not effected by 'creative accounting' such as increasing payables by delaying payments to suppliers. 'No- cost' reductions in the gap, e.g. through an increase in subsidy payments by the State Governments would also not be considered for incentive payments. Similarly, the SERCs can be expected to ensure that the gap is not reduced through unjustified tariff increases and administrative reductions in transfer prices (such as the bulk supply tariff from the TRANSCO to the DISCOM).

The Committee also recognises that the suggested incentive scheme will be more favourable to states that have a high level of initial losses. This is because it would be easier to reduce losses when they are high, as compared to when they are lower. However, the focus of this effort is on establishing an incentive mechanism for a financial turnaround of the sector which has lost nearly Rs. 1,53,000 crores in the last 10 years and an amount of Rs. 33,000 crores in the last financial year alone. Therefore, even though there are differences across states, in the Committee's view, based on existing level of financial losses, there exists substantial scope for improvement in all the states and hence most of the states can expect to benefit substantially from the programme money.

Taking into account the present level of losses in the sector and the incentive component of APDRP amount, the Committee recommended a **one-for-two** matching grant based on *reduction of the gap between unit cost of supply and revenue realisation*. However, on review of availability of funds, this proportion of incentives could be considered for improvement. This reduction must be on a enterprise level, where the enterprise is defined as a corporate body or a Electricity Board or Department. For instance, improvement in one part of the utility, such as a circle offset by deterioration in another part of the utility, in another circle, does not qualify for incentive support. However, in a state where the distribution business is

undertaken by different corporate entities, the reduction in gap by each of those entities should be individually eligible for calculation of the incentive. The Committee recommends that the incentive to enterprises be routed through the respective state governments.

In order to reward performance over a reasonable length of time, the Committee recommends that performance be rewarded on a yearly basis, preferably over the financial year. The Committee believes that such an arrangement reduces the demands on managerial time and also monitoring costs because it aligns the information requirements of the Programme with the information that needs to be collected for the normal annual audit. Indeed, if the State Electricity Regulatory Commission agrees, the responsibility for calculating the extent of performance improvement for calculation of incentive could be entrusted to them.

As regards the base year of reference for calculating the improvements eligible for performance improvement, the Committee recommends that 2000-01 be taken as the Reference Year.

For calculating the incentive amount, Financial Year 2000-01 may be taken as the base year and the C&AG accounts / accounts audited by the statutory auditor, wherever, available for the year, should be used as the base figure for comparison of improvement and therefore, quantifying the incentives to be given to a reforming SEB. In case, the C&AG report / accounts audited by the statutory auditor is not available, an independent Auditor, appointed by the Ministry of Power for this purpose, can scrutinise the accounts prepared by the respective SEBs in order to quantify the incentives to be made available to the reforming States/SEBs.

CHAPTER 3: REVIEW OF EXPERIENCES AND REFORM FRAMEWORK

The Committee recognises that in order to sustainably reduce the gap between unit cost of supply and revenue realisation the States would have to embark on a comprehensive reform programme. The Committee envisages that, irrespective of the reform path chosen, the state governments will continue to have a role in policy making pertaining to the sector. While it is the prerogative of each state to determine how it wants to run and fund its power sector, it would be useful to have a framework to serve as a starting point for devising state-specific reform programmes. This is addressed in this chapter and the next. The Committee would like to clarify that the framework outlined in this Report is only “a” template to initiate discussions with the States as part of the Committee’s subsequent work on state-specific reforms. The reform framework that is finally agreed upon for each state participating in the process may differ from this template based on the needs of the state. Furthermore, in case any of the States taken up as part of the subsequent work seeks to propose an alternative reform framework or plan, the Committee would be happy to use that framework as a starting template, based on its merits, limitations, and feasibility.

This Chapter draws upon the experiences of power sector reform in India and abroad, to outline the key elements of a Reform Template.

In India, during the late 1990s, several states embarked on reform programmes that mainly comprised of unbundling, independent regulation and privatisation beginning with the distribution assets. The progress, however, can at best be termed as mixed because Orissa, which has travelled farthest on this path, seems to be caught in a crisis. In view of this mixed progress, the Committee felt that a critical review of these efforts would be in order, to identify the pitfalls that need to be avoided in devising an effective reform framework in the future. In addition, the Committee focused on experience of power sector reform in Latin American countries such as Argentina, Brazil, Chile, and Peru, since, prior to reform, these countries were facing problems that are similar to those being faced by India (See Table 1 below). The Committee also drew upon examples of Rural Electrification from Bangladesh, Indonesia, Chile and the USA, which have enhanced the quality of electricity supply to rural areas, through an effective combination of subsidies and innovative institutional mechanisms.

Table 1: Initial Conditions of Reform in Select Countries

	Parameter	Argentina	Brazil	Chile	Peru	India
1	Poor Financial Situation of Utilities	✓	✓	✓	✓	✓
2	High T&D Losses	✓	✓	✓	✓	✓
3	Large Investment Requirement	✓	✓	✓	✓	✓
4	Complex structure of power utilities	✓	✓	✓	✓	✓
5	Highly subsidised tariff	✓	✓	✓	✓	✓
6	Large unmetered supply	✓	✓	✓	✓	✓
7	Low electricity coverage			✓	✓	✓
8	Low Employee Productivity	✓	✓	✓	✓	✓
9	Poor quality of power	✓		✓	✓	✓

Source: Global Best Practices in Power Sector Reform, 2001, Arthur Andersen and CII.

Considering that these experiences were comprehensively reviewed and documented in several earlier Reports, the Committee directly drew upon these efforts, among them, the Reports of the Ministry of Power’s Distribution Policy Committee, the Expert Group on SEB Dues and Capital Restructuring of SEBs, and Government of Maharashtra’s Energy Review Committee and Arthur Andersen – Confederation of Indian Industry Study on Global Best Practices in Power Sector Reform.

3.1 Key Elements of a Reform Model

For ease of understanding, and at the risk of some loss of richness due to simplification, it is useful to think of a reform framework as adopting a particular approach to the following four critical components:

- a) Market Structure
- b) Distribution Zoning
- c) Regulatory approach
- d) Ownership

While a number of options are available for each of these components, reform experiences till date provide useful insights into the merits and demerits of each of these options. An attempt has been made in the following paragraphs to identify the options that are most appropriate for the Indian context, at this point of time. In other words, taken together, these options will constitute the Reform Template, a starting point for devising the state-specific reforms.

3.2 Market Structure

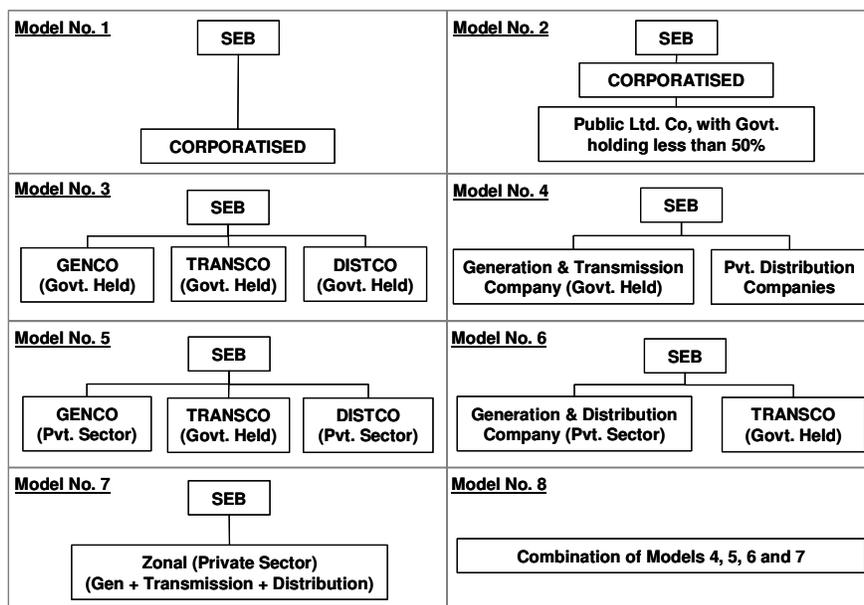
Since the advent of electricity industry reforms in the 1990s, the traditional notion that electricity generation, transmission, distribution and supply are best handled by a vertically integrated utility gave way to the realisation that these segments can be unbundled and owned

and managed by different entities. With the help of developments in technology, unbundling increased accountability in all the different segments of the electricity business and introduced competition in generation and supply segments. Unbundling and introduction of competition were among the principal features of successful reform programmes in several countries including Argentina, Brazil, Australia, and England and Wales. In India too, the reform programmes of states such as Orissa, Andhra Pradesh, Haryana, Rajasthan and Uttar Pradesh have adopted unbundling but have stopped well short of introducing a competitive market for power supply.

3.2.1 Feasible Restructuring Models

The Committee recognises that the choice of a restructuring model and the pace of reform are contingent upon a variety of factors including political will and implementation capacity. Hence, given state-specific variations on these and other parameters, the Committee felt that no one model may be appropriate for adoption by all the SEBs in the country. Accordingly, the Committee sought to lay out various feasible models for restructuring and highlight the merits and pitfalls associated with these models. In terms of preserving the states' prerogative to choose a restructuring model, this approach is in tune with the Electricity Bill 2001 introduced in the Lok Sabha. In this regard, the Committee considers that the eight models identified by the Distribution Policy Committee of the Ministry of Power, to be fairly exhaustive (See Exhibit 1).

Exhibit 1: Models Explicated in the Report of the Distribution Policy Committee



The Committee is also in agreement with the Distribution Policy Committee's analysis of the merits and limitations of these Models. Of the eight models outlined, Model Nos. 1, 2 and 3 "may not be the right models to work with" because they are not amenable for fostering a competitive environment, which is a critical pre-requisite for ensuring benefits to consumers; all these models envisage state control in all three segments of the electricity business, namely, generation, transmission and distribution. All the remaining models, namely Model Nos. 4, 5, 6, 7 and 8 allow creation of a competitive environment, if not direct competition, where in the customers and regulators could compare the quality of services offered by various operating agencies. However, it is noteworthy that all these models also envisage that the distribution side – the service facet of the industry – to be placed with private management, the merits of which are detailed in Section 3.5.

While the Committee considered the variety of market structures outlined above, , for reasons explained in the following sections, it cautions the States that they should avoid the Single Buyer Model and instead, embark on their transition towards competitive power markets through direct contracting, open access provisions and choice to consumers.

3.2.2 Avoid Single Buyer Model

Purchase and sale of electricity should be conducted on commercial considerations and the risk arising thereof should be borne by the selling firms (generating companies) and purchasing entities (distribution companies or major consumers). In order to foster and preserve such commercial discipline in the power sector, the Committee firmly believes that state governments should not engage in purchase and sale of electricity through any entity that is controlled or owned by it – either directly or through guarantees. Furthermore, in an unbundled electricity industry, transmission utility should not be engaged in trading of power because it can potentially misuse its monopoly power and, worse, it is not equipped to absorb the risks that are normally associated with such trading. Here, it is noteworthy that the Electricity Bill 2001 also provides explicitly for the Transmission Utility not trading in power.

In this context, the Committee is concerned that states such as Orissa, Andhra Pradesh, Haryana, Rajasthan and Uttar Pradesh have adopted a "Single Buyer Model", wherein the

state transmission companies³ are the monopoly purchasers of power. Unfortunately, this has a number of major disadvantages, particularly in situations with low collection efficiency and payment discipline as we see in India today (See Box 2 below).

BOX 2: DISADVANTAGES OF A SINGLE BUYER MODEL

First, and most importantly, the state-owned Single Buyer is often reluctant to take politically unpopular action against a delinquent distributor. When distributors see that paying and non-paying distributors are treated alike, their motivation for cutting off non-paying customers weakens across the board, vitiating the very reason for privatisation. In other words, the adoption of Single Buyer Model increases the likelihood that, under pressure from vested interests, the commercial viability of the distribution company will be delayed, since it removes a strong commercial imperative on the distribution company to pay for the power by interposing a state-owned buyer with a soft budget constraint between it and the generator.

Equally importantly, this approach restricts well performing distribution companies and large consumers from purchasing from the generators of their choice. Such restrictions reduce the scope for efficiency and vitiate the process of developing a commercially viable distribution sector. The government should allow direct purchases by distribution companies.

Note: See the Report of the Government of Maharashtra's Energy Review Committee and The Single Buyer Model: A Dangerous Path toward Competitive Energy Markets by Laszlo Lovei, *Public Policy for the Private Sector No. 225*, The World Bank, December 2000.

The Single Buyer Model is often justified as a transitional arrangement, based mainly on four assumptions, viz.

- a) A common bulk buyer would be able to maintain an average pooled price of power which blended low-cost and high-cost generation;⁴
- b) A state-owned entity is a better credit risk as compared to a newly privatised distribution company; and
- c) A bulk purchaser will be more reliable in pooling the risk of demand fluctuation from multiple distribution companies and the risk of supply fluctuation from multiple generation agencies.

The Committee therefore considered whether each of the aforementioned objectives could be achieved through alternative mechanisms and arrived at the following conclusions:

- a) With respect to maintaining a defined pooled price of power, it is possible to achieve this through the mechanism of direct contracting, which is detailed in Section 3.2.3.⁵

³ These include, for example, GRIDCO in Orissa, APTRANSCO in Andhra Pradesh, HVPNL in Haryana, and UPPCL in Uttar Pradesh.

⁴ This has already been dispensed with, first in Orissa, where a relatively higher bulk tariff was determined for WESCO, and then subsequently in Uttar Pradesh, where a higher bulk tariff was fixed for KESCO.

⁵ The Report of the Government of Maharashtra's Energy Review Committee demonstrates the feasibility of achieving a defined pooled price of power through direct contracting.

- b) As to the claim that a state-owned entity is a better credit risk as compared to a newly privatised distribution company, the empirical evidence demonstrates that a number of private companies now enjoy a higher credit standing than state-owned entities. State ownership per se provides little credit comfort when the state itself is fiscally stressed.⁶
- c) It is true bulk purchaser will be more reliable in pooling the risk of demand fluctuation from multiple distribution companies and the risk of supply fluctuation from multiple generation agencies. However, the incremental benefit of this feature is outweighed by the deficiencies of the approach.

In view of the above, the Committee finds little merit in persisting with the state-owned single buyer model.

3.2.3 Vesting Contracts

In the absence of a single buyer it is necessary to spell out how various generating stations would sell power to different distribution zones. One mechanism of doing so is through vesting contracts. Vesting contracts can perhaps be most simply understood as short-term (less than 5 years) PPAs between existing plants and distribution zones and has been widely used in successful distribution privatisations around the world.⁷ Such a contract accomplishes the following critical objectives, viz.:

- a) It enables the existing capacity to be allocated to distribution companies so as to achieve any combination of bulk price considered appropriate including replicating the existing pool price, if that is so desired.
- b) It provides certainty with respect to power purchase costs for the distribution company. This also provides a basis for greater certainty at the retail tariff level in the initial phase of transition.
- c) It provides the generation company with security regarding the buyer.
- d) It establishes clear commercial principles wherein the producer and the user of energy engage in direct commercial contracts, rather than indirectly through the single buyer.

Initially, the direct contracting between a generator and distributor may need to encompass partial capacity allocations from a given plant to a distributor, in the same manner that capacity from NTPC plants is allocated to different states. Further, to the extent that

⁶ In Orissa as well as in Haryana, the existing bulk buyers, GRIDCO and HVPNL respectively have not been able to establish financial viability. They have large outstanding dues to their power suppliers as a result of non-payment by power distributors, both private (in Orissa) as well as public (in Haryana). HVPNL has defaulted on its payments to HPGCL, the state owned generator, KPTCL to KPCL in Karnataka and all States have defaulted to CPSUs. The nature of transactions cannot therefore be said to be completely commercial in nature, vitiating the objective of creating state-owned creditworthy buyers of power by pooling demand from multiple distribution companies.

⁷ See John E. Besant-Jones and Bernard W. Tenenbaum “California Power Crisis: Lessons for Developing Countries,” World Bank, April 2001.

distribution companies need additional energy, they would contract directly with IPPs for additional power. This implies that new IPPs would be able to effect sales to any distribution company that they chose, and not be restricted to a single buyer, as at present. It is possible that better run distribution companies could obtain a lower price due to their creditworthiness, which would be another example of a market driven incentive for better performance. As the higher cost new power would be blended with the existing vesting contracts, the rise in the cost of power purchase per unit would be gradual, and not sudden. In addition, all distribution companies would be able to buy and sell power from each other, in that these vested contracts would be tradable.

3.2.4 Open Access to Wires and Bulk Power Markets

Given the international trends and the proposed Electricity Bill 2001, the Committee believes that India too will eventually witness the emergence of merit-order dispatch, bulk power markets, open access to transmission and distribution wires and choice to consumers.

Each of these increases the benefits of privatisation, as they increase the extent of competition. However, the choice of market structure has an impact on the cash flows of the distribution business. For example, a distribution business that enjoys a local monopoly, i.e., whose consumers cannot buy their power from other suppliers, would have a different valuation as compared to a business whose consumers have the option of purchasing from alternative sources. Similarly, a distribution company that can source its power requirement from a competitive bulk power market would have a different valuation as compared to one that has to buy from a single high cost supplier. At the same time, it is noteworthy that while it is possible to de-license generation and institute a merit-order dispatch regime almost immediately, it may not be possible to implement open access provisions as quickly, as it requires a reasonably reliable transmission and distribution network and a transparent energy accounting system for its implementation. Hence, the government should spell out the timing of introduction of the bulk power market as well as the choice to consumers at the time of privatisation.

In view of the above, the Committee cautions that while unbundling generation, transmission, distribution, and supply segments, care should be taken to avoid the Single-Buyer-Model. Instead, in order to foster commercial discipline, the Committee's template assumes that the distribution companies would be allowed to procure power from the generators of their choice. Further, the Committee's template includes a smooth transition towards competitive

market through sequential introduction of vesting contracts, and introduction of open access to “wires” and choice to consumers.

3.3 Distribution Zoning

The structure of distribution zones can be mixed or concentrated, i.e., they can comprise a mixed set of consumers that reflects the SEB at large or concentrated areas of high load density and relatively compact distribution network, such as urban and industrial centres and their immediate periphery. The size of the zones can be large, as in three or four zones for the whole state or small, as each municipality can be a separate zone. However, even a concentrated zone approach can result in a relatively small number of zones that cover a significant portion of the load, as for example in Maharashtra (see the illustrative zoning scheme in the Report of the Government of Maharashtra’s Energy Review Committee). Private distribution in such areas is not an alien concept in India. The metropolitan city of Mumbai and its suburban areas are serviced by two private licensees (BSES and TEC) as are the cities of Ahmedabad, Surat and Kolkata. Internationally, private distribution of electricity in rural areas is not prevalent in most countries. In Victoria, Australia, rural and urban zones were segregated when distribution was privatised. Similarly, in Argentina, large provincial distribution areas continued under state ownership when Buenos Aires was privatised.

This is not to say that non-urban distribution is undertaken entirely by the public sector. Such zones have several distinctive features such as lower initial load, and, for the most part, the presence of large number of consumers with lower paying capacity due to lower incomes, which leaves them with lower capacity to absorb overheads. The need is to approach this issue in a manner that addresses its special needs and also leverage the benefits of private and community enterprise to improve service in these areas. Internationally, supply of electricity to rural areas has not only been given special dispensation, e.g., subsidies for capital investment in network expansion, but also uses innovative institutional mechanisms. Co-operatives often provide an effective option for extending service to rural areas, especially with access to quality advice and help on technical, financial management, human resource development and other related activities. In Bangladesh, the Rural Electrification Board (REB) fulfils this role for the Palli Bidyut Samities (PBSs) as does NRECA in the USA. The Electricity Bill 2001, in due recognition of the merits of different ownership patterns, provides for divergent forms of ownership. In Chile and Argentina, the private sector has been involved through mechanisms such as minimum subsidy bidding. The recent report of

the Ministry of Power's Distribution Policy Committee discusses such institutional mechanisms extensively.

BOX 3: ZONING AND SUBSIDY

There is a general apprehension in some quarters that the strategy of concentrated zoning would leave the non-urban zones worse off as it would deprive them of the cross-subsidy. At the outset it must be stated firmly that the Committee considers it inappropriate to base the choice of zoning schemes on the issue of cross-subsidy, since there is a general consensus that such cross-subsidies are to be removed in the next few years. Moreover, the strategy of concentrated zoning per se does not remove the potential of cross-subsidy; but makes these subsidies transparent. If the government intends to continue subsidies, it can do so from general budgetary allocations. In addition to these general budgetary allocations, an explicit (power) tax and subsidy scheme can be deployed, e.g., by imposing a transparent surcharge on the subsidizing consumers. In addition, concentrated zoning is also likely to have a salutary impact on subsidy bill by making it difficult for the utility to misreport the mix of "subsidising" and "subsidised" consumers.⁸

In India, a concentrated zoning scheme would permit better targeting of subsidised consumers and focuses the energies where they will make the most commercial difference. Existing concentrations of consumers can be clearly demarcated, and can quickly move towards privatisation. Since concentration of urban and industrial consumers are present in relatively compact geographical areas, information pertaining to these zones on various parameters such as assets, demand, supply, and losses, can be quickly compiled and verified by the prospective buyers in a relatively short time. The network, by virtue of its relative compactness is likely to be technically more manageable and also be of above-average quality. The concentrated zones also have greater potential for efficiency gains, given the higher incidence of commercial losses in these areas. Finally, the use of a concentrated zoning scheme enhances the sale value for the government. Prospective bidders for a mixed zone will reduce the value of their bid, by factoring in the risks of higher than estimated subsidised consumption and delayed or inadequate payment of subsidy from the government,

⁸ A distribution company with "mixed" zones comprising large numbers of both "subsidising" and "subsidised" consumers will have two revenue streams, one from consumers and the other from the government in the form of subsidy support that would be determined by the regulator. The presence of the subsidy-stream provides an avenue for the company to camouflage theft and inefficiency, by over-reporting consumption under subsidised categories. Faced with the arduous task of improving the efficiency of collection from among a large number of consumers, many distribution companies would find it tempting to attempt to convince the regulator of the need for larger subsidy flows. Even if the regulator is sensitive to this problem, it can only address it through a burdensome exercise of verifying actual consumption. To the extent that the distribution company succeeds in its strategy of over-reporting subsidised consumption, the subsidy burden on the government will increase and the incentive to curtail distribution subsidy will be reduced.

a risk that is very limited in concentrated zones of urban and industrial areas. By removing these uncertainties the government can realise better value. (See Box 3).

In view of the above, the Committee has included the formation of concentrated zones in the template, so as to demarcate areas where it is possible to quickly reap substantive efficiency gains.

Furthermore, considering the distinct characteristics of electricity supply to rural areas and the international experience, the Committee's template assumes that the Government would ring-fence the subsidy that is targeted towards the rural zones and deploy it diligently through a combination of innovative solutions such as minimum subsidy bidding and involving user co-operatives and local franchisees, and fostering of institutions to provide quality advice to these franchisees on financial, technical and managerial matters.

3.4 Regulation

Regulation is necessary when it is not possible to introduce sufficient competition such as in the case of transmission and distribution wires business. Independent Regulation has been an integral feature of successful power sector reforms across the world. The Committee would like to underscore that the need for regulating the monopoly elements would continue regardless of the reform model chosen and the ownership patterns that emerge as a consequence. For example, just as the vertically integrated SEBs under public ownership are hitherto subjected to regulation, their successor entities, whether belonging to public or private ownership, would need to continue to be regulated to the extent that they are engaged in the monopoly segments of the business, namely, transmission and distribution “wires”.

The scope and nature of regulation depends on decisions regarding ownership, unbundling and market structure and may change as competition takes hold; for example, the degree to which generation is regulated varies widely in different countries. Within the broad ambit of regulation, a number of options are still feasible. Though almost all regulation is cost-based, there are a number of ways in which return can be related to performance, from an audit-intensive cost-plus method to incentive-driven price and revenue cap regimes. Incentive driven regulatory regimes usually have multi-year review periods to reassure investors that they can retain their incentive gains for a reasonable period. Multi-year approaches have been widely used in successful privatisations in Europe, Latin America and Australia.

Multi-year Regulation, in essence, is a means of ensuring consistency regarding regulatory determinations, by enhancing certainty regarding the treatment of four key variables, namely,

the power purchase price, distribution losses, demand growth, and investment requirements.⁹ This could be structured to provide adequate incentives to the private distribution companies to reduce losses in an aggressive manner and also instill confidence in investors and attract more participants in the privatization process. (See Box 4).

BOX 4: REGULATION AND INCENTIVES FOR IMPROVING PERFORMANCE

A significant drawback of an annual tariff determination process is that it does not sufficiently incentivise a utility to aggressively pursue efficiency gains, since the utility is uncertain as to how much of any efficiency gains it can retain. As an example, consider a company with current levels of T&D loss at 50% but the SERC allows it only a loss level of 43% in its tariff order. If it manages to reduce the loss levels by 5% to 45% in a single year, it will not earn an adequate return since the benchmark loss level of 43% is still below the actual loss level. However, in its next tariff order the SERC may reduce the benchmark loss level further, say, to 38%. The distribution company, which may have been expecting to make a profit in the second year by reducing the loss level to 40%, will now end up with a loss. This creates a moving goal post effect and adds additional uncertainty to the revenue model of the distribution company and makes valuation of the company at the time of privatisation doubly difficult. In other words, an annual tariff determination process reduces the incentive of the private distribution company to reduce T&D losses, since it reaps little benefit from doing so. This vitiates one of the main purposes of reform, which is to reduce T&D loss. Conversely, if the private investor knew that the benchmark loss level was going to be fixed at 40% over the next five years, then it would have a strong incentive to reduce losses because it would retain the extra profits from reducing losses below 40%. These returns to the investor under a medium term tariff regime are conditional on good performance. The investor makes more money only if he does better than expected, in terms of reducing losses, undertaking investments efficiently and increasing demand, e.g., by attracting high-tension users back to the grid. A medium term tariff regime acknowledges and rewards such performance by assuring the investor that he would be able to retain such performance based profits.

In India, most of the State Electricity Regulatory Commissions (SERCs) have continued to use cost-based Schedule VI of the Electricity Supply Act 1948¹⁰ as the basis for retail tariff determination. They have had to confront difficult decisions as part of this process, such as:

- a) There are limits to the extent to which the tariff for certain categories can be increased in a single year, especially for consumers that already are charged a high tariff.
- b) The subsidy provided by the state and the cross-subsidy revenue from consumers is often not enough to meet the revenue requirements of the utility, which is then left

⁹ While the first three of the above parameters would determine the amount of power purchase costs that the utility will be allowed to recover through the tariff, the fourth parameter would provide the utility with information about the regulator's view as to the extent of investment that will be needed.

¹⁰ Schedule VI is an approach that provides a rate of return to the SEB or licensee based on costs that include, inter alia, fuel and power purchase, investments in the network and returns, and energy losses.

with an uncovered gap. Regulators have struggled to determine how this gap can be financed.

- c) Passing on the full cost of the high T&D loss, a reflection of the inefficiency of the utility, to the consumer through the tariff appears unfair to regulators.

Although this regulatory regime enhanced transparency, it has failed to instill confidence in potential private investors, as evidenced in Orissa, KESCO and, in the earlier attempt to privatise DVB; or incentivise the utilities – both public and private (based on the limited experience in Orissa) - to aggressively pursue efficiency gains. Tariff orders that expect a high level of efficiency from the utility and consequently provide for a low level of tariff increase have proved to be very contentious, resulting in a number of challenges to regulatory orders in various High Courts. The extent of energy losses allowed to be passed through into the tariff is the most important determinant of the extent of tariff increase.

A multi-year approach permits an SERC to adopt a phased approach to the improvement in efficiency, which has the potential to deliver more consensual outcomes. Some SERCs in India, such as DERC in Delhi and UPERC in Uttar Pradesh have already adopted a partial multi-year approach by specifying a multi-year loss reduction profile.¹¹ APERC, in Andhra Pradesh, has issued a consultation paper on the approach. Others, such as OERC in Orissa have indicated a firm intention to deploy multi-year regulatory approach. Still others, such as KERC in Karnataka have recognised that there is merit in this approach in the context of privatisation of distribution but have been concerned by the quality of data that has been presented to them. The Committee suggests that the SERCs consider taking such steps as necessary to make the adoption of multi-year approaches as soon as possible.

3.5 Ownership

The change of ownership – from public to private – has been the central feature of successful experience of power sector reform in many countries including Argentina, England and Wales, Australia, Brazil and Chile. With a clear focus on profitability, private sector is more oriented towards efficiency and viability of enterprises, leading to streamlining of operations and more efficient investment choices. Here, the Committee would like to clarify that the oft-heard apprehension that privatisation results in supplanting public monopolies with private monopolies is unwarranted because the private sector entities engaged in monopoly segments

¹¹ There is some apprehension that a multi-year loss reduction profile may be too lenient, i.e., excessively favourable to the utility. However, during the process of privatisation a natural control is exercised by the bidding process which recaptures a portion of such excessive expected profits through a higher price paid by the winning bidder.

of the business would continue to be kept under the purview of regulation, as is the case even now under public sector ownership.

In Argentina, following privatisation, energy losses in Edenor (the company serving the northern part of Buenos Aires) fell from 29.1% in December 1992 to 11.5% in December 1997, a fall of 17.6 percentage points in five years. For Edesur, the company serving the other part, the decline was slightly less, from 22.1 % to 8.3 %, i.e., 13.8 percentage points over the same time frame. Nor were the annual reductions small. In 1994, about a year and a half after privatisation, losses fell by 6% and 5.5% in Edenor and Edesur respectively. In Chile, energy losses fell to below 8%, about a third of the pre-privatisation levels. In addition to saving expenditure on heavy operating subsidies, private participation also helps the government fiscally through privatisation proceeds. According to an estimate¹² between 1990 and 1997, private investors bought some US\$130 billion to the power sector of developing countries.

By contrast, except in the case of Orissa, reform in states such as Andhra Pradesh, Haryana, Uttar Pradesh and Rajasthan do not yet involve private participation. With the odd exception, not only has there been little performance improvement in the public sector, there have been problems in establishing commercial relationships between state-owned entities, whether it is between bulk buyers and generators and between them and distribution companies. In the opinion of the Committee significant improvements in performance are not possible as long as the entities continue under state ownership, even if the utility is under the strict scrutiny of the SERC. Furthermore, based on current experience of SERCs and SEBs, even in reforming states, the regulator's attempts to usher in efficiency can be expected to be limited in their effectiveness. Government interference would continue and there would be no increase in incentive to plug leakage and cut costs and distortions in investment are bound to continue.¹³ Given the weak finances of the state government, adequate investment would not be available. Numerous other committees¹⁴ that have examined the power sector in India have reached similar conclusions. Here, it is noteworthy that all the preferred restructuring models

¹² See "Global Best Practices in Power Sector Reform, 2001, Arthur Andersen & Confederation of Indian Industry".

¹³ Indeed, even it were available, it may be sensible not to expend further resources through investment under public ownership. Since these investments are to be repaid from the revenues of the future distribution companies and because potential investors are likely to be sceptical about the efficacy of such investments, the government runs the risk of realising a heavily discounted value for these investments at the time of privatisation.

¹⁴ The more recent among these are the Ministry of Power's Distribution Policy Committee, the Expert Group on SEB Dues and Capital Restructuring of SEBs, and Government of Maharashtra's Energy Review Committee.

outlined by the Distribution Policy Committee, as explained in Section 3.2.1, envisage handing over of distribution segment of the electricity business to private management. In view of this, the Committee’s reform template envisages the privatisation of concentrated zones and the introduction of private participation in the other areas.

3.6 Recommended Reform Choices - Interdependencies and Sequencing

To sum up, the Committee’s template is a composite framework comprising of unbundling and introduction of competition, concentrated zones, multi-year regulation and privatization. In broad terms, these choices are borne out by the international experiences in power sector reform and were already recommended by several other expert Committees (see Table 2).

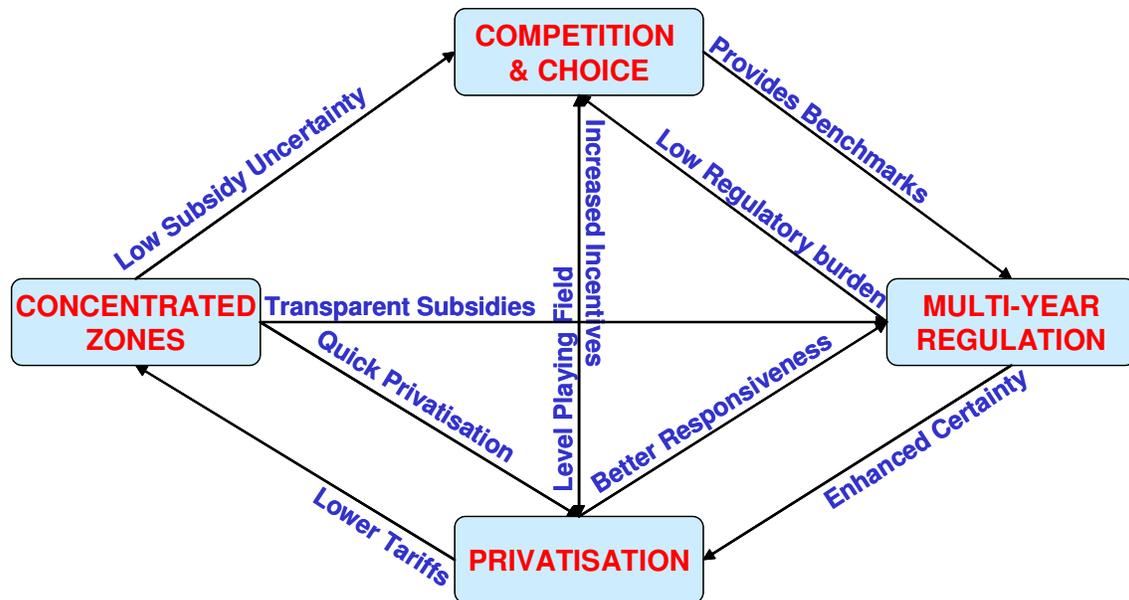
Table 2: Summary of International Reform Experiences and Recommendations of Earlier Committees regarding Key Elements of Reform

	Country / Committee	Unbundling and Competition	Concentrated Zones	Multi-Year Regulation	Privatisation
A. International Experience					
1	Argentina	✓	✓	✓	✓
2	Brazil	✓	✓		✓
3	Chile	✓	✓	✓	✓
4	Peru	✓	✓	✓	✓
5	England & Wales	✓		✓	✓
6	Australia (Victoria)	✓	✓	✓	✓
B. Recommendations by Other Recent Committees					
1	MoP's Distribution Policy Committee	✓	✓	✓	✓
2	GoM's Energy Review Committee	✓	✓	✓	✓
3	MoP's Expert Group on SEB Dues	✓	✓	✓	✓

While commending these choices independently, the Committee would however like to underscore that these choices are highly interdependent (See Figure 2) and thereby replacing one element with another may result in the need to redesign the entire framework.

The choices of Market structure, i.e., unbundling and the introduction of competition will reduce the regulatory burden because the areas subject to competitive forces such as generation, can be left outside the purview of regulation and even in case of regulated areas, such as distribution, horizontal unbundling is likely to provide better information for benchmarking. The level of competition and choice is also likely to influence not only the process of privatisation (by affecting the valuation of business) but also the performance of the privatized utilities.

Figure 2: Interdependencies between Recommended Reform Choices



Zoning choices like concentrated zoning have significant influence on the speed at which these zones can be privatised. At the same time, Concentrated Zones are likely to reduce regulatory burden as they provide a better estimate of subsidised consumption. Since there are no substantive cross-subsidies, and hence no “cherry-picking” issues in Concentrated Zones, it is feasible to introduce a greater degree of competition and choice to consumers.

Multi-year regulation is expected to facilitate privatisation and competition. By enhancing regulatory certainty, it would attract private investors and consequently, increase competition for the market, which is crucial in harnessing the benefits of competition in a natural monopoly segment like the distribution segment.

Privatisation, in contrast to public ownership, is likely to facilitate the creation of level playing field - a critical pre-requisite for efficient competition. Moreover, profit maximizing private utility facing a hard budget constraint, unlike its public sector counterpart, would be more responsive to a multi-year regulatory regime and, hence, aggressively pursue efficiency gains. Indeed, without privatization, a multi-year regime may be of little value. Privatisation of concentrated zones is likely to fetch better value for the government, which can be utilized towards lowering tariffs.

In view of the above interdependencies, it is of utmost importance that the reform choices detailed above are implemented together and in a particular sequence. Incomplete appreciation of this is borne out by the mixed outcomes from attempts thus far to reform the sector. For example, although Orissa did unbundle and privatise distribution, it opted for an annual cost-plus regulatory regime and the Single Buyer Model. While regulatory uncertainty caused many prospective bidders to stay away from the process, the Single Buyer Model led to vitiation of commercial discipline. In Andhra Pradesh, Haryana, and Rajasthan, significant amount of time and effort has been expended in demarcating mixed zones, which has contributed to an inordinate delay in privatisation. In these States too, Regulatory uncertainty has contributed to the reported lack of investor interest. In most of the States that have established independent Electricity Regulatory Commissions, experience thus far demonstrates that the response of government-owned utilities to regulatory incentives or oversight has been lacklustre at best.

To sum up, each of the aforementioned reform choices will deliver intended results only when all of them are implemented - together and in a particular sequence. For example, the process of privatisation needs to be preceded by announcement of the industry structure, demarcation of concentrated zones and institutionalization of multi-year regulation.

CHAPTER 4: BROAD PRINCIPLES OF FINANCIAL RESTRUCTURING

It is a common knowledge that SEBs are facing serious financial difficulties. Based on presentations made by various agencies,¹⁵ the Committee thought that it might be useful to assess this general financial debility in terms of two major types of deficits. First, deficits pertaining to the past, viz., dues to suppliers of power and fuel such as NTPC and Coal India (or its subsidiaries) and unfunded liabilities arising from future promises of payment, largely related to labour, such as pensions, provident fund and gratuity. Second, deficits pertaining to the future, such as losses during transition and ill-maintained distribution systems in the sense that the utilities would be required to raise money to bring them to optimal levels. This Chapter sets out broad principles for financial restructuring of SEBs, specifically focusing on how to address these deficits, through various reform interventions and stakeholder contributions.

At the outset, it is useful to recognize that the past liabilities can only be serviced with the help of surpluses from the sector in the future and additional government (both Central and State) support from the budget. However, given the precarious financial condition of the sector, servicing past liabilities solely from the sector's returns in the future appears well nigh impossible. Hence, solutions limited to securitising these liabilities are not likely to resolve this problem. Any "sustainable plan" for addressing these issues would need to include a combination of pruning the liabilities and re-financing at concessional terms in addition to ploughing back a portion of both future profits and the proceeds from further divestments.

Furthermore, future profits from the sector will depend on a few critical variables, viz. the efficiency of the utility, whether publicly or privately owned, and the willingness of the consumer to bear effective tariffs higher than needed to meet current operating costs¹⁶ and the willingness of the regulator to allow such tariffs. In proceeding forward, it may be useful to think of a hierarchy of revenue generating strategies in the following manner, viz. (a) increase in efficiency, i.e., a reduction in losses, (b) an increase in tariffs, (c) support from State government, (d) support from Central government and (e) contributions from other stakeholders such as suppliers. This is the approach being adopted in this chapter.

¹⁵ By the Government of Uttar Pradesh, by Arthur Andersen on preliminary findings of a study on the financial restructuring of SEBs commissioned by the World Bank, and by the Infrastructure Development Finance Company on a Case Study of the Orissa Power Sector.

¹⁶ The Arthur Andersen study referred to above disallows tariff increases above a pre-specified level to simulate situations where tariff increases are not acceptable.

4.1 Liabilities from the Past

4.1.1 The role of the State Government

As of now, most of the SEBs are saddled with an overhang of liabilities from the past, which include employee liabilities, dues to suppliers, debt overhang and contractual liabilities such as long-term cost-plus power purchase agreements (PPAs). The primary onus for past liabilities lies with the State Government, as the sole owner of SEB. As a first step towards resolving the crisis, the government should consolidate these liabilities, take them over and transfer them to a Power Sector Reform Fund (see Box 5).

In the context of privatisation, the Committee does not consider it prudent to transfer these liabilities to successor entities of SEBs. In case the liability to be transferred is known with certainty, it concomitantly transfers a requirement to service the liability and therefore adversely affects the already precarious cash flows of distribution companies. This may increase their risk of non-viability and consequently affect their ability to raise debt and reduce their overall sale value by more than the amount of liability transferred. On the other hand, retaining the liability may actually benefit the government since the sale value may increase as a result of the decreased risk of bankruptcy. If an uncertain liability is transferred, private bidder is likely to put a risk premium on the value of the liability itself and would therefore reduce his bid further, in addition to the effect described above. Moreover, even in terms of fairness, it would be unfair to burden the successor entities with the liabilities related to financing of losses in the past and the outstanding dues.

The next step would be for the State to write off its own loans to the SEB. Such a step would enable the state government to signal its commitment to resolving the crisis and thereby enhance its prospects in convincing the other stakeholders to agree to some sacrifices as well as support.¹⁷ As regards *employee liabilities*, the consensus seems to be that the responsibility for meeting these liabilities should be retained by the state in order to provide comfort to the employees. However, the financing of these liabilities varies in various states. In Andhra Pradesh, pension liabilities are to be met through borrowing, whose costs are passed through into the tariff, i.e., it is being serviced by consumers in the future. In Uttar Pradesh, the state

¹⁷ However, the assumption of the other liabilities (owned to entities other than the State government) by the state government does not mean that the sector would be completely absolved from the responsibility of servicing these liabilities. As noted earlier, given the dire state of the financial health of most state governments, they would necessarily have to rely significantly on resources from sector surpluses in the future to service such liabilities.

government has decided to assume liabilities pertaining to pension and gratuity benefits, as they existed at the time of formation of UPPCL in January 2000, to be serviced out of general budgetary resources. Such decisions would be state-specific, depending on the efficiency gains possible and the capacity of consumers to bear additional tariff increases on this count.

BOX 5: POWER SECTOR REFORM FUND

As part of measures to reform the power sector, the Committee recommends that state government should consolidate the past liabilities and finance them through agreements for write-downs and future sector surpluses. However, going by the track record of state governments, a mere statement of intent is unlikely to carry any weight from the other stakeholders, specifically existing creditors and prospective lenders. In order to enhance the credibility and mitigate the risk of policy reversals it is necessary to ring-fence both the liabilities and the inflows earmarked for the sector restructuring. In order to do this, the state government should establish a Power Sector Reform Fund (PSRF).

All existing liabilities of the sector should be transferred to the PSRF. The responsibility for servicing these liabilities however remains with the State Government and as noted later, these can be re-financed on better terms with Central government support. Concomitantly, existing receivables (the privatised utility can be contracted to recover them on an incentive-sharing basis), privatisation proceeds, and grants from the Government of India and other donor agencies should be transferred to the PSRF to defray these liabilities. In addition, it would receive a portion of the surplus from future operations as revenues, say, in the form of a PSRF surcharge. The PSRF would be drawn upon in a pre-specified order of priority to meet the state government's obligations in discharging its liabilities.

The issue of contractual liabilities such as power purchase agreements need to be examined on a case by case basis, since it not only constitutes a liability, it also is inimical to the kind of market structure that the Committee has recommended in the previous chapter. In a number of instances abroad and also in India, such PPAs have been commercially renegotiated on the ground on mutually acceptable terms. Here too, the State would have a role in facilitating the process of discussion. Such a process is likely to be more productive if and only if the parties believe that the sector is being reformed in a credible manner.

4.1.2 The role of Existing Creditors

Existing creditors can be regarded as one of the principal beneficiaries of the financial restructuring of the power sector. A reformed power sector would have the capacity to meet its liabilities; continuance of the status quo would mean their assets are likely to turn sour. This is true for power and fuel suppliers as well as financial institutions. Existing creditors can be requested to write-down their claims as a part of the reform process. The Committee recognises that the One Time Settlement Scheme of SEB Dues, whose acceptance by a State is being recommended as an obligatory condition for participation in the APDRP, is a step in

this direction, with similar intent.¹⁸ In a similar vein, the state government should seek to initiate a restructuring of private placement bonds and other loans.

4.1.3 Role of the Central Government

The Central government has begun the process by agreeing to write-down the liabilities owed to some CPSUs by the SEBs. This process needs to be carried on further, if required, by extending such an approach to other CPSUs as well as working out mechanisms to extend low-cost long-term financing to the States for servicing the written-down liabilities, as for example, through concessional multilateral or donor credit.

4.2 Deficits Pertaining to the Future

As mentioned above, these deficits mainly comprise of losses during the transition, that is until the sector turns around, and the investments to bring the distribution systems to optimal levels. Even with the best efforts, these losses cannot be mitigated overnight. However, the extent of deficit on account of the losses during transition, i.e., until the sector turns around, could be reduced through the following contributions from various stakeholders.

4.2.1 Consumers

Normally, efficiency gains arising out of a successful reform programme are expected to be passed on to the consumers in the form of lower tariffs. Instead, the government, in consultation with the regulator and consumers, could agree to divert a portion of these efficiency gains to meet the liabilities from the past through a transparent surcharge, i.e., the consumers do not see as much of a reduction in tariff as they should. This is a major contribution from a stakeholder who has already suffered much in the past. In doing so, care must be taken to ensure that the tariffs do not exceed the cost of self-provision, so that consumers are not pushed to leave the grid.

4.2.2 The Utility

All these sacrifices by the consumer would go in vain and will become increasingly untenable if the utility does not improve its efficiency to the maximum extent possible in terms of

¹⁸ Given the nature of these transactions, there is a distinct possibility that the creditors may be willing to extend further write-offs to help the restructuring process, if they are convinced that it is likely to facilitate the emergence of creditworthy distribution companies as customers for their power, fuel and credit. This will be a matter of negotiation between the parties and the credibility and commitment of the state government to implement effective reform measures.

reducing both technical and commercial losses and controlling outright theft and pilferage. It would also need to deeply examine its investment programme to ensure that all investments, including maintenance expenditure is cost-effective and relevant at a time of resource crunch.

4.2.3 Regulatory Commissions

As explained in Section 3.4, a multi-year regulatory regime is sine qua non for attracting private investors and inducing them to aggressively pursue efficiency gains. Hence, regulatory commissions should endeavour to institutionalise a credible multi-year regulatory regime, based on realistic targets, prior to privatisation, with appropriate incentives for the utilities to pursue loss reduction and also agree to the surcharge mentioned above.

4.2.4 State Government

The primary contributions of the State government are three:

- a) Expediting the process of distribution privatisation beginning with the Concentrated Zones, where the efficiency gains are likely to be substantial and achieved quickly.
- b) Even after privatisation, it may still take some time before the sector can be turned around. During this period, it is strongly recommended that the government should extend subsidy support at least at a level equivalent to its current transfers to the power sector.¹⁹ In order to instill confidence among the private investors, it is important that such support should be assured for the entire transition period by quantifying the same and committing it ex-ante.
- c) Ensure prompt payment of electricity bills by its own undertakings and provide law and order support to the utilities to check theft and pilferage.

4.2.5 Power and Fuel Suppliers

Power purchase is the major cost item of any electricity utility. Any arrangement that limits this cost is likely to have a salutary effect on transition deficits. It would be unrealistic to expect this segment to earn commercial returns while its customers are bankrupt. Merely because generation assets were unbundled, they cannot be expected to earn a return of say 16% when they have been earning a negative rate of return as part of the erstwhile SEBs.

¹⁹ The Committee appreciates that, given the precarious condition of finances the state governments may be hard put to provide the subsidy support but it is important that it make the maximum effort possible. A consequence of not providing this subsidy would be that private investors would stay out of the sector, in which case the government would have to shell out a much higher level of resources, forever. This is being realized for, while no such interim support was provided in first reforming state of Orissa, in Andhra Pradesh, Haryana and Uttar Pradesh, the state governments have been providing a pre-declared level of budgetary support, on the basis of which the SERCs have arrived at the annual revenue requirements of the newly corporatised SEBs.

Power suppliers (and their respective fuel suppliers) therefore need to agree to moderately priced supply contracts that should enable them to recover their costs but may include only a limited return (if any). Since most power and fuel suppliers are publicly owned, this can be seen as a further contribution by the state and/or central government towards the sector. An effective way of operationalising this "contribution" from the power suppliers could be through vesting contracts outlined in Section 3.2.3, wherein existing suppliers agree to supply power at pre-specified prices, over a limited period of time. It should be recognised that such an agreement is also in their best interest as it makes a viable reform possible. Without it, they would be unable to recover their dues from their customers, as is the situation today, where suppliers run up large notional receivables from their customers.

To sum up, the process of financial restructuring entails significant contributions by various stakeholders. Table 3 summarises these contributions. For each of the stakeholders, agreeing to these contributions is akin to taking a "leap of faith", in the belief that all the other counterparts, including and especially the regulator and the government, are going to abide by their commitments. To induce such faith, all the stakeholders and regulators should pledge their commitments ex-ante to the extent possible. If agreeable to the stakeholders, the Committee would be willing to co-ordinate this effort as part of the state-specific reform process.

Table 3: Stakeholder-wise Contribution to Meet or Mitigate Past and Present Deficits

Stakeholder	Past Deficits	Future Deficits
State Government	<ul style="list-style-type: none"> • Take over past liabilities and write off dues to itself 	<ul style="list-style-type: none"> • Expedite Privatisation • Pay its bills • Assure Subsidy Support • Provide Law and Order Support
Utility	<ul style="list-style-type: none"> • Collection of receivables 	<ul style="list-style-type: none"> • Aggressive Pursuit of Efficiency
Creditors and Suppliers	<ul style="list-style-type: none"> • Write-down of old dues 	<ul style="list-style-type: none"> • Limiting future supply prices
Financial Institutions	<ul style="list-style-type: none"> • Restructuring of loans 	<ul style="list-style-type: none"> • Reform-linked financing
Regulatory Commissions	<ul style="list-style-type: none"> • Agree to a surcharge to service past liabilities 	<ul style="list-style-type: none"> • Institute a incentive driven Multi-year Regulatory Regime
Consumers	<ul style="list-style-type: none"> • Agree to a surcharge to service past liabilities 	<ul style="list-style-type: none"> • Accept Tariffs based on benchmark (in)efficiency levels
Central Government	<ul style="list-style-type: none"> • Re-financing past liabilities at concessional rates 	<ul style="list-style-type: none"> • Extend reform-linked grant support and Limiting future supply prices from CPSUs

CHAPTER 5: SUMMARY OF RECOMMENDATIONS

The Committee's recommendations with regard to Structuring APDRP for Supporting Reform, Reform Framework and Broad Principles for Financial Restructuring of SEBs are summarised below.

5.1 Structuring of APDRP for Supporting Reform

5.1.1 APDRP Fund

In order to enable devising of a comprehensive and credible APDRP, the Committee felt that the Union Government should ex-ante commit to a level of funding that would be made available for this Programme over the future and agree to transfer it through a defined annual allocation. If a consensus could be reached within the present budgetary discipline of the Government, system for constitution of such a non-lapsable Fund, it would provide a clear picture of the Government of India's financial commitment to APDRP over the next few years.

The Committee recommends that allocations for the programme should be clearly spelt out and the responsibility of sanctions, disbursals and monitoring of funds utilisation under the Programme be vested with a small Empowered Committee, strengthened by independent professionals with financial and technical expertise. In line with this, the Committee suggests that the existing (APDP) Committee under the chairmanship of the Union Minister of Power be vested with broader responsibilities such as establishment of guidelines and periodical review, and, accordingly, be streamlined with the reduction in the total number of members.

5.1.2 Eligibility Criteria for accessing assistance under APDRP

The Committee recommends that access to assistance under APDRP should be made contingent on a State signing off on the SEB Dues Settlement Scheme, comprising inter alia, the issue of bonds by the State for past dues and graded curtailment of supply on future default and agreeing to an ex-ante audit of incentive related parameters, viz: Energy input, Cost of energy, Cash Collections from Energy Sales of the present period, and Average Revenue Realisation.

5.1.3 Support under APDRP

There would be two streams of support from the APDRP Fund – one for investment and the other as an incentive based on reduction of *the gap between unit cost of supply and revenue realisation (calculated based on the number of units purchased)*.

In the context of privatisation, the Committee recommends that funds from APDRP, where applicable, should also be made available to private distribution companies and, in compliance with procedures governing the respective State Government support to private entities, and such assistance be routed via the state government, through a suitable agreement between the concerned State Government and Private Distribution Company.

5.1.4 Support for Investment

In order to enable the States to begin to effect improvements, the Committee recommends that 50% of the first year's allocation of APDRP funds, i.e., Rs. 1,750 crore be made available to the states. For subsequent years, the Committee suggests that the decision to retain or alter the share of support for investment should be based on experience. It would be desirable to bring down the share of the support under investment stream and concomitantly increase the share of the support under incentive stream.

The Committee also recommends that assistance under this scheme should be leveraged by obtaining a matching contribution from the State. In other words, while the Fund should provide 50% of the funds required for a project, the balance 50% funds of the project requirement should be raised by the State. In order to avoid partial disbursements and the associated problems, the Committee suggests exploration of alternatives whereby disbursement takes place after the projects are “financially closed”.

In order to ensure that investments quickly yield quantifiable improvements in performance, the Committee suggests the following:

- a) Efforts under this segment be directed towards concentrated zones;
- b) Substantive weightage should be given to investments that are aimed at reducing commercial losses.
- c) Sanction of new projects should be withheld if performance targets agreed upon for a project already funded are not achieved. Further, where applicable, a portion of the funds may be linked to the achievement of performance targets by the utility in targeted zones.
- d) These funds should be made available to the utilities and should also be accessible for private distribution utilities, subject to adequate safeguards to ensure

that public as well as private utilities pass on the benefits arising out of such investments to the end consumer, as for example, through tariff orders of the respective Regulatory Commission.

5.1.5 Reform-Linked Incentive Support

The remaining assistance from the Fund, i.e., Rs. 1,750 crore from the first year and the allocations for the remaining years under incentive stream should be disbursed as a **one-for-two** matching grant based on *reduction of the gap between unit cost of supply and revenue realisation*. This reduction must be on an enterprise level, where the enterprise is defined as a corporate body or a Electricity Board or Department. For instance, improvement in one part of the utility, such as a circle offset by deterioration in another part of the utility, in another circle, does not qualify for incentive support. However, in a state where the distribution business is undertaken by different corporate entities, the reduction in gap by each of those entities should be individually eligible for calculation of the incentive. The Committee recommends that the incentive to enterprises be routed through the respective state governments.

In effect, the incentive will be matched in the ratio of 1:2 (i.e. for every 2 rupees of loss reduction, the incentive will be one rupee), to the overall reduction in the gap at enterprise level, after adjusting for the factors that are extraneous to the operational performance. However, on review of availability of funds, this proportion of incentives could be considered for improvement. The Committee strongly underscores the need to keep the criterion for disbursement simple and as free as possible from multiple (mis)interpretations, so as to reduce the transaction costs and make minimal demands on the managerial “time” of both those administering the Programme and the States and SEBs/Utilities that would be making claims on the Programme, and also to diminish the scope for discretion and consequently any perception that some states are being unduly favoured.

In order to reward performance over a reasonable length of time, the Committee recommends that performance be rewarded on a yearly basis, preferably over the financial year. As regards the base year of reference for calculating the improvements eligible for performance improvement, the Committee recommends that 2000-01 be taken as the Reference Year.

5.2 Reform Framework

The Committee envisages that, irrespective of the reform path chosen, the state governments will continue to have a role in policy making pertaining to the sector. While the Committee firmly believes that it is the prerogative of each state to determine how it wants to run and

fund its power sector, it was considered useful to have a framework to serve as a starting point for devising state-specific reform programmes. For this, the Committee drew upon the experiences of power sector reform in India and abroad, and recommended the choices to be made with regard to the four key elements of a Reform Framework, viz., Market Structure, Distribution Zoning, Regulation and Ownership.

The Committee would like to clarify that the framework outlined in this Report is only “a” template to initiate discussions with the States as part of the Committee’s subsequent work on state-specific reforms. The reform framework that is finally agreed upon for each state participating in the process may differ from this template based on the needs of the state. Furthermore, in case any of the States taken up as part of the subsequent work seeks to propose an alternative reform framework or plan, the Committee would be happy to use that framework as a starting template, based on its merits, limitations, and feasibility.

5.2.1 Market Structure

The Committee felt that no one restructuring model may be appropriate for adoption by all the SEBs in the country. Hence, the Committee sought to lay out various feasible models for restructuring and highlight the merits and pitfalls associated with these models. In this regard, the Committee considered the eight models identified by the Distribution Policy Committee of the Ministry of Power, to be fairly exhaustive and also concurred with the latter’s analysis of the merits and limitations of these models.

While the Committee considered various market structures, it cautions the States that they should avoid the Single Buyer Model. Instead, in order to foster commercial discipline, the Committee’s template assumes that the distribution companies would be allowed to procure power from the generators of their choice. Further, the Committee’s template includes a smooth transition towards competitive market through sequential introduction of vesting contracts, and introduction of open access to “wires” and choice to consumers.

5.2.2 Distribution Zoning

The Committee has included the formation of concentrated zones in the template, so as to demarcate areas where it is possible to quickly reap substantive efficiency gains.

Furthermore, considering the distinct characteristics of electricity supply to rural areas and the international experience, the Committee’s template assumes that the Government would ring-fence the subsidy that is targeted towards the rural zones and deploy it diligently through

a combination of innovative solutions such as minimum subsidy bidding and involving user co-operatives and local franchisees, and fostering of institutions to provide quality advice to these franchisees on financial, technical and managerial matters.

5.2.3 Regulatory Regime

The Committee considers that multi-year regulatory regimes would (a) reduce the regulatory uncertainty and thereby instill confidence among the private investors; and (b) induce the private utilities to aggressively pursue efficiency gains. Accordingly, the Committee suggests that the SERCs consider taking such steps as necessary to make the adoption of multi-year approaches as soon as possible.

5.2.4 Ownership

The Committee's reform template envisages the privatisation of concentrated zones and the introduction of private participation in the other areas, so as to enable harnessing of the private sector's focus on operational and investment efficiency and viability of enterprises.

5.2.5 Interdependencies and Sequencing

The template outlined by the Committee is a composite framework comprising of unbundling and introduction of competition, concentrated zones, multi-year regulation and privatization. In broad terms, these choices are borne out by the international experiences in power sector reform and were already recommended by several other expert Committees.

While commending these choices independently, the Committee would however like to underscore that these choices are highly interdependent and thereby replacing one element with another may result in the need to redesign the entire framework. As a corollary, it is important to implement all of them - together and in a particular sequence – in order to derive the intended results. For example, the process of privatisation needs to be preceded by announcement of the industry structure, demarcation of concentrated zones and institutionalization of multi-year regulation.

5.3 Broad Principles of Financial Restructuring

The Committee sought to address the general financial debility of SEBs, by classifying it into two broad types of deficits, viz., deficits from the past and deficits pertaining to the future. The Committee is convinced that the past liabilities can only be serviced with the help of surpluses from the sector in the future and additional government (both Central and State)

support from the budget. At the same time, the Committee also felt that, given the precarious financial condition of the sector, servicing past liabilities solely from the sector's returns in the future appears well nigh impossible. Hence, while evolving broad principles of financial restructuring, the Committee espoused a combination of pruning the liabilities and re-financing at concessional terms in addition to ploughing back a portion of both future profits and the proceeds from further divestments.

5.3.1 Liabilities from the Past

5.3.1.1 *The role of the State Government*

As a first step towards resolving the crisis, the State Government, as the sole owner of SEB and as the primary driver of the reform process, should consolidate these liabilities, take them over and transfer them to a Power Sector Reform Fund. The next step would be for the State to write off its own loans to the SEB. The Committee considers that these steps are not only necessary in order to enhance the credibility of the restructuring process but would also enhance the sale value at the time of privatisation.

5.3.1.2 *Power Sector Reform Fund*

In order to enhance the credibility and mitigate the risk of policy reversals, the Committee recommends that the state government should ring-fence both the liabilities and the inflows earmarked for the sector restructuring into a Power Sector Reform Fund (PSRF). All existing liabilities of the sector should be transferred to the PSRF and, concomitantly, existing receivables, privatisation proceeds, grants from the Government of India and other donor agencies and a portion of the surplus from future operations (say, in the form of a PSRF Surcharge) should be transferred to the PSRF to defray these liabilities.

5.3.1.3 *The role of Existing Creditors*

The Committee recommends that the existing creditors – including power and fuel suppliers as well as financial institutions - may be requested to write-down their claims, in view of the fact that they would be the principal beneficiaries of the financial restructuring exercise that is aimed at facilitating sector reform. While continuance of the status quo would mean that the assets of the creditors are likely to turn sour, reform is expected to enhance the sector's capacity to meet its liabilities and consequently make it more creditworthy.

5.3.1.4 Role of the Central Government

The Committee recommends that the Central government should carry the process of agreeing to write-down the liabilities owed to some CPSUs by the SEBs further, if required, by extending such an approach to other CPSUs as well as working out mechanisms to extend low-cost long-term financing to the States for servicing the written-down liabilities, as for example, through concessional multilateral or donor credit.

5.3.2 Deficits Pertaining to the Future

The Committee regards that the extent of deficit on account of the losses during transition, i.e., until the sector turns around, could be reduced through the following contributions from various stakeholders.

5.3.2.1 Consumers

The Committee recommends that the government, in consultation with the regulator and consumers, could agree to divert a portion of these efficiency gains to meet the liabilities from the past through a transparent surcharge. Given that efficiency gains arising out of a successful reform programme are normally expected to be passed on to the consumers in the form of lower tariffs, the Committee regards the agreement to divert a portion of the efficiency gains as a major contribution from the consumers.

5.3.2.2 The Utility

The Committee is acutely conscious that all these sacrifices by the consumers and other key stakeholders would go in vain and will become increasingly untenable if the utility does not improve its efficiency to the maximum extent possible in terms of reducing both technical and commercial losses and controlling outright theft and pilferage and undertaking optimal investments.

5.3.2.3 Regulatory Commissions

In order to induce the Utility to aggressively pursue efficiency gains and also to attract private investors in the first instance, the Committee considers that a multi-year regulatory regime is a sine qua non. Hence, the Committee strongly urges the regulatory commissions to endeavour to institutionalise a credible multi-year regulatory regime, based on realistic targets, prior to privatisation, with appropriate incentives for the utilities to pursue loss

reduction and also agree to divert a portion of the surplus from future operations to service liabilities from the past.

5.3.2.4 State Government

In mitigating deficits pertaining to the future, the Committee envisages three primary contributions from the State government. First, it should expedite the process of distribution privatisation beginning with the Concentrated Zones, so as to enable the achievement of substantial efficiency gains, quickly. Second, during the transition period, the government should extend subsidy support at least at a level equivalent to its current transfers to the power sector and also provide assurance of such support by quantifying the same and committing it ex-ante. Finally, the state government should foster commercial discipline by ensuring prompt payment of electricity bills by its own undertakings and also by providing law and order support to the utilities to check theft and pilferage.

5.3.2.5 Power and Fuel Suppliers

The Committee recommends that the "contribution" from the power suppliers could be operationalised through vesting contracts, wherein existing suppliers agree to supply power at pre-specified prices, over a limited period of time. The Committee suggests that such an agreement is also in the best interest of the suppliers as it makes a viable reform possible, without which, as at present, the suppliers will not be able to recover their dues from their customers and will continue to run up large notional receivables.

5.3.3 Ex-ante Commitment

The process of financial restructuring entails significant contributions by various stakeholders. In order to induce mutual faith among the stakeholders, the Committee recommends that all the stakeholders and regulators should ex-ante pledge their commitments as part of the Financial Restructuring. If agreeable to the stakeholders, the Committee would be willing to co-ordinate this effort as part of the state-specific reform process.

MEMBERS OF THE EXPERT COMMITTEE ON STATE-SPECIFIC REFORMS

No	Name	Designation	Organisation
1.	Mr. Deepak Parekh	Chairman	IDFC Limited
2.	Mr. Harish Salve	Solicitor General of India	
3.	Mr. K.V. Kamath	MD & CEO	ICICI Limited
4.	Mr. R. Gopalakrishnan	Executive Director	Tata Sons Limited
5.	Mr. K.D. Kulkarni	Director	BSES Limited
6.	Mr. K.K. Maheshwari	Group President (Chemicals)	Aditya Birla Group
7.	Prof. P.K. Basu	Director General	The Strategic Management Group
8.	Mr. R. Krishnamurthy	Director (Finance)	Power Finance Corporation
9.	Mr. T.G. Srinivasan	Member (E&C)	Central Electricity Authority
10.	Mr. Ajay Shankar	JS (R&R)	Ministry of Power
11.	Mr. K.N. Shrivastava	CMD	Karnataka Power Transmission Corporation Limited
12.	Mr. G.D. Gautama	Chairman	West Bengal State Electricity Board
13.	Mr. S.P. Sethi	Advisor (Energy)	Planning Commission
14.	Mr. Ashok Lavasa	JS (Infrastructure)	Ministry of Finance (DEA)
15.	Mr. R. Bannerji	JS (PF.I)	Department of Expenditure, Ministry of Finance
16.	Mr. Mrutunjay Sahoo	JS & FA	Ministry of Power
17.	Mr. J.L. Bajaj	Chairman	Uttar Pradesh Electricity Regulatory Commission
18.	Mr. R.V. Shahi	Secretary - Power	Ministry of Power
19.	Mr. Arvind Jadhav	JS (Distribution)	Ministry of Power
20.	Dr. E.A.S. Sarma	Principal	Administrative Staff College of India
21.	Mr. D.P. Roy	Chairman	SBI Capital Markets
22.	Dr. S. Kishore	Director	KSK Energy Ventures Ltd.
23.	Mr. P. Abraham	Member	Union Public Service Commission

**State-wise Listing of Electricity Distribution Circles
Identified for Up-gradation of Sub-transmission & Distribution
under the Accelerated Power Development Programme**

Name of the State	Names of the Distribution Circles	No. of Circles
Andhra Pradesh	Eluru, Warangal, Tirupati	3
Assam	Dibrugarh, Jorhat, Guwahati	3
Bihar	PESU (Patna), Patna (Central), Muzzafarpur	3
Chattisgarh	Raipur, Bilaspur, Rajnadgaon	3
Delhi	2 Circles	2
Gujarat	Sabarmati, Himatnagar, Jam Nagar, Kutch	4
Goa	North Goa	1
Haryana	Karnal, Sonipat, Hissar, Faridabad	4
Himachal Pradesh	Solan, Nahan, Simla, Hamirpur	4
Jharkhand	Hazaribagh, Dumka, Ranchi	3
Karnataka	Belgaum, Bijapur, Mysore	3
Kerala	Manjeri, Pathanemthita, Kasagode	3
Madhya Pradesh	Ujjain, Indore, Gwalior	3
Maharashtra	Osmanabad, Jalgaon, Ratnagiri, Sholapur, Sindhudurg, Aurangabad	6
Punjab	Khanna, Patiala, Mohali	3
Rajasthan	Jhunjhunu, Alwar, Jodhpur	3
Tamil Nadu	Coimbatore, Villupuram, Pudukottai	3
Uttar Pradesh	Moradabad, Bareilly, Gorakhpur	3
Uttaranchal	Roorkee, Rudrapur, Dehradun	3
West Bengal	24 Pargana, Howrah, Bidhannagar	3
Total No. of Circles		63
<u>Note: Projects covering following states/circles are included into funds allocated for the 2001-02</u>		
NER States	Sikkim, Nagaland, Manipur, Mizoram, and Tripura	
Orissa	Bolangir, Behrampur and Balasore	
Maharashtra	Nasik O&M, Nagpur Rural, Ahmednagar, Latur and BEST	

Annex 3

Status of Utilisation of APDP Funds

Rs. Crore

Sl. No.	STATE	Amount Released			Amount Received by Utility	Matching Loan		Utilisation
		2000-01	2001-02	TOTAL		Amount Sanctioned	Funding Agency	
T&D Projects								
1	ASSAM	20	11	31	20			5
2	ANDHRA PRADESH	50	39	89			PFC	
3	ARUNACHAL*	6	0?	6	6			
4	BIHAR	11	16	27	11		INTERNAL	1
5	CHATTISGARH	10	10	20	10	10	INTERNAL	17
6	GOA*	0#	9	9	9			
7	GUJARAT	107	21	129	11	11	REC	29
						96	ADB	
8	HARYANA	38	18	56	38	15	PFC	6
9	HIMACHAL	25	13	39	25			19
10	J&K	7	0?	7	7			
11	JHARKHAND	22	12	34	22			
12	KARNATAKA	57	30	87	87	57	INTERNAL	81
13	KERALA	0#	17	17				
14	MADHYA PRADESH	29	28	57				
15	MAHARASHTRA	90	45	135	134	16	REC	72
16	MANIPUR*	1	3	3	3			
17	MEGHALAYA*	2	0?	2	2			
18	MIZORAM*	1	3	4	4			
19	NAGALAND*	2	3	5	5			
20	ORISSA	0#	15	15				
21	PUNJAB	32	0#	32	32	13	PFC	6
22	RAJASTHAN	45	28	73	15	6	REC	12
23	SIKKIM*	6	3	9	9			
24	TAMILNADU	12	32	44	12			12
25	TRIPURA*	5	3	8	8			
26	UTTARANCHAL	5	19	23	5			5
27	UTTAR PRADESH	13	30	43		11	PFC	1
28	WEST BENGAL	19	19	38	19	19	PFC	29
	TOTAL (T&D)	616	426	1042	494	254		295
R&M Projects								
1	ANDHRA PRADESH	48	0	48	45	48	PFC	75
2	BIHAR	10	0	10	10			
3	GUJARAT	2	0	2	2	2	PFC	
4	HARYANA	12	0	12		12	PFC	
5	KARNATAKA	24	0	24	24	24	PFC	27
6	MADHYA PRADESH	11	0	11		11	PFC	
7	MAHARASHTRA	44	0	44		44	PFC	
8	ORISSA	38	0	38				
9	PUNJAB	6	0	6		6	PFC	
10	TAMILNADU	53	0	53				
11	UTTAR PRADESH	88	0	88	50	82	PFC/Int.	37
12	WEST BENGAL	25	0	25	25			
	TOTAL (R&M)	362	0	362	156	230		139
	GRAND TOTAL	978	426	1404	651	484		434

Notes: * Electricity Department is with State Government.

Funds not released vide sanction order Dt. 04.04.02 due to non fulfillment of MOU conditions.

? Funds not released vide sanction order Dt. 04.04.02 as Schemes were not submitted by State.

All figures rounded off to the nearest crore.

Source: Ministry of Power, Government of India (As per information on 20.06.02).

One Time Settlement of SEB Dues

SUMMARY OF KEY FEATURES OF THE SETTLEMENT SCHEME²⁰

- The scheme would come into force from 17th April 2002 or from the date when the State Governments sign the tripartite agreement (with the Ministry of Finance in the Government of India and the Reserve Bank of India), whichever is later.
- For the States participating in the scheme, 60% of the interest / surcharge on the delayed payments as on 30-09-2001 would be waived off.
- The rest of the dues amounting to the full principal amount as well as the remaining 40% of the interest / surcharge would be securitised through bonds issued by the respective State Governments.
- The bonds would be issued through RBI at a tax-free interest rate of 8.5% per annum. The terms of bonds should be structured to achieve a moratorium of 5 years on repayment of principal with the entire principal being repaid between the 6th and 15th year. These bonds would be identical to bonds issued in connection with the market borrowings of State Governments, with the attendant discipline in repayments. The bonds will be subject to lock-in restrictions that will allow release of only 10 per cent of the bonds in the secondary market each year.
- For ensuring timely payment of current dues in future, defaults in current payment for power/fuel would attract a graded reduction in the supply of power from central power stations and in coal supplies. Where such defaults exceed 90 days from the date of billing, the Ministry of Finance shall recover these dues through adjustment against releases due to them from the Centre.
- In order to initiate steps towards reform of the sector, the State Governments / SEBs shall accept reform-based performance milestones such as setting up of SERCs, metering of distribution feeders, improvement in revenue realisation and other such milestones specified in the MOUs signed / to be signed with the Ministry of Power.
- The States shall be offered incentives for complying with the scheme. If SEBs or their successor entities (other than the ones not owned by the State Government) do not default on their current dues and adhere to the performance milestones, CPSUs shall pay them, during the first year commencing from 1.10.2001, bi-annual cash incentives equal to 3 per cent of the value of bonds in the first year, 2.5% in the second year and 2% in the third and fourth years. Further, if SEBs open and maintain Letters of Credit (LCs) till the end of December 2002, CPSUs shall pay them a one-time cash incentive equal to 2 per cent of the value of bonds. In addition, States undertaking reforms shall also be assisted through Accelerate Power Development and Reform Programme (APDRP) grants and discretionary allocation of Power. The date of opening of LCs shall be 60 days from the issue of this letter.

²⁰ As outlined in the Ministry of Power letter no.32012/10/2001-Fin, dated 17th April 2002.

- The States that withhold their consent beyond 60 days after this scheme enters into force shall be denied any share in the discretionary allocation of 15 per cent from the power stations of CPSUs as well as any assistance under APDRP. If the overdues of such States exceeded Rs.50 crore in respect of any CPSUs, they would also attract reduction in power and coal supplies, as applicable to the States participating in this scheme.
- Outstanding dues as on 30.09.2001 would form the basis of the one-time settlement. Dues that accrue after this date would not form part of the scheme. As regard bonds issued in the past in lieu of outstanding dues of SEBs, all bonds issued after 1.3.1998 can be converted into State Government bonds at the option of the respective State Government. These bonds would form part of the scheme. However, any agreements entered in the past of which the old bonds are a part should not be re-opened. Only conversion of bonds under the present scheme shall be permitted.
- The scheme covers the outstanding dues payable by the SEBs to the National Thermal Power Corporation (NTPC), National Hydro-electric Power Corporation (NHPC), North Eastern Electric Power Corporation (NEEPCO), Powergrid Corporation of India Limited (PGCIL) & Damodar Valley Corporation (DVC) under the Ministry of Power, Coal India Limited (CIL) and its subsidiaries and Neyveli Lignite Corporation (NLC) under the Department of Coal, Nuclear Power Corporation (NPC) under the Department of Atomic Energy and the Ministry of Railways.

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