CHAPTER - IV

4.0 ToR (g) :To recommend plan of action to achieve financial viability in distribution of power by 2017.

4.1 Over the last three decades of the previous millennium the fortunes of State Electricity Boards (SEBs) went from bad to worse. It was government's expectation that the changed regime introduced in 2003 would address the many problems faced by the sector. While emphasis had been laid on significant increase in generation and radical changes in the transmission network, insufficient attention was paid to the distribution sector. This was in part because that sector was entirely the responsibility of State Governments who were expected to keep pace with developments in the generation and transmission system.

4.1.1 By 2003 it was believed that a comprehensive plan to address the problems of the distribution sector had been put in place. The main elements of the plan were

(a) Unbundling of State Electricity Boards and division of their activities into generation, transmissions and distribution.
(b) Constitution of a Regulatory regime to determine tariff.
(c) Upgradation and reform of the urban distribution network through the introduction of APDRP.
(d) Introduction of the RGGVY plus a number of measures to address the needs of the rural sector.
(e) Comprehensive financing through PFC, REC to meet the requirements of (a), (c) and (d) above.
(f) A further strengthening of the APDRP scheme by the introduction of R-APDRP during the current Plan period.

4.1.2 Our review shows that the unbundling of SEBs while complete in nearly all the States, with regional variations, is more in form and not sufficiently in substance. The kind of autonomy which a true unbundling ought to have engendered has not taken place.

4.1.3 The Regulatory regime has been introduced in all States, but the expectation of rational and timely determination of tariff has been belied. Even though tariffs are

no means modest several Distribution Utilities believe that their problems are attributable to infrequent fixation of tariff and inadequate coverage of cost increases.

4.1.4 Our study shows that while this may well be the case insufficiency of tariff is not the only significant reason for mounting losses. The increase in distribution losses, accepted and / or camouflaged by distribution utilities is an equally important reason for the financial misfortunes of distribution utilities.

4.1.5 It is not possible to accurately apportion losses between these two factors given the less than average quality of financial information put forth by Distribution Utilities. Unless the quality of financial information is significantly improved it would be difficult to capture a true and fair picture of the operational consequences of Distribution Utilities.

4.1.6 Efforts to reduce losses through implementation of the R-APDRP scheme have been modest since Part – B of the scheme remains to be implemented.

4.1.7 The progress under RGGVY has been better but there are a number of unanswered issues including intra-rural issues between domestic consumption and agriculture in villages.

4.1.8 Our recommendations spread over our response to the terms of reference (a) to (f) attempts to address these concerns and are briefly presented below as the way forward for the next plan period. This chapter captures summary of recommendations which need to be read alongwith the relevant chapter.

4.2 ToR

(a) Review accounts of SEBs' and State Distribution Companies as on March 31, 2010 or earlier if updated accounts for the year ended March 31, 2010 are not available.

(b) Review their Financial Position as on March 31, 2010, and in particular, losses incurred and projected distribution losses over the period April 2010 to March 2017.

4.2.1 Key issues / road blocks in completion of accounts

- Non-reconciliation of stores

- Non-reconciliation of inter-unit transactions
- Non-reconciliation of receivables

4.2.2 This requires administrative action at the highest level of the management to clear the backlog.

- CEO should issue clear instruction to the units to submit their pending returns within a given time period.
- It would require strong administrative action at the top management level to ensure adherence to the various time lines by all as instructed / defined for preparation of accounts.
- In order to facilitate one time clearance of arrears, a monitoring cell may be set up at the zonal and Head Office level.
- If required, the utility can take the help of external / internal auditors/ service providers at division level for one time backlog clearance.
- For future the utility should re-look at the current accounting practices and evaluate the option of changing final head to expenditure based on the stores issued instead of waiting for the concerned unit to render the accounts.
- For future utilities should look at computerization of accounting system which will enable automatic inter-unit reconciliation.
- Preparation of detailed schedule of receivables including customer name, connection and area reference, category, over due amount, surcharge on late payment, outstanding amount with age analysis. Action plan with schedule time for recovery be drawn up, analyzing the reasons for non-recovery and pending legal cases.
- Assign responsibility for actual recovery of arrears, close monitoring on weekly basis, penal action and discontinuation of power supply for defaulters.

4.2.3 SPV

Ordinarily State Govt as the owner of DISCOMs should provide further funds to meet the losses and to repay the Bank's Loan. It is observed that the states whose Distribution Utilities borrowed to finance losses do not generate any revenue surplus. Part of the guaranteed loans can be redeemed by RBI permitting State

Governments to draw down guarantee redemption fund set-up by certain States as required by the 12th Finance Commission. For the balance HLP recommends, a Special Purpose Vehicle (SPV) be set up as a Corporate entity consisting of a Chairperson (CEO) appointed by RBI. The board will consist of Chairman (CERC), Chairman (PFC), Chairman (REC), two chief executives of banks and two independent directors with background of power sector. It will be entitled to purchase loan of banks subject to following conditions:

a) Banks have negotiated with the State Government / Utility, a revised repayment schedule.

b) State Govt has agreed for regular tariff increase.

c) The State Govt has agreed on an operational plan to meet certain technical and operational performance parameters including a policy of franchising of distribution function.

d) The state government has taken all the measures agreed with the SPV within a time span regarding regulatory issues and annual fixation of tariff along with technical and operational parameters settled in the operational plan.

e) The DISCOMs should be obligated to undertake capital expenditure as a first priority which will start yielding additional income with the least time gap.

RBI would provide a line of credit to the SPV to purchase the loan of the banks. In cases of non-compliance of the terms set by SPV, the State Govts undertaking should be available to RBI that the amount defaulted would be debited to the State Govts Account with RBI.

The detailed mechanism for operationalization of SPV is given in Chapter – I.

4.2.4 Process of commencement / completion of audit

- Utilities may take the matter with the branch auditors to commence the audit based on monthly trial balance sent by the divisions without waiting for consolidation at zonal level. This can help in earlier commencement of branch audit.

4.2.5 Fixed Assets Register/ Tracking of capital work in progress

- Classify assets that can be identified based on the available records
- Rest of the assets for which it is not feasible to trace records
    - Formation of a team
        - HO to form a separate team at various levels to monitor physical verification exercise and compilation of data
    - External support
        - HO to engage external support to supervise the exercise
        - Fixation of accountability with each team at Head Office Level, Circle Level and Division and Sub-Division Level
- Physical verification exercise:
    - Identification of standard categories of assets
    - Format for physical verification and data capturing
    - Physical survey and recording of existing assets in a serially controlled format
    - Confirmation by respective Divisional Heads / Technical Heads
    - Supervision by Finance Team
    - Supervision by external agencies
- Compilation of data
- Allocation of values to assets in existence, based on appropriate method (e.g. replacement value method)
- Tracking of capital work in progress and to identify:
    - Assets already being used and to be capitalised
    - Assets ready to use
    - Reconciliation of ICT to identify additional items for capitalization.

4.2.6 Some issues require administrative actions which would facilitate the completion of accounts in time especially the computerization of accounts, upgradation of skills of accounting staff, quality of accounts rendered for audit, timely adoption of final accounts by the Board and convening of the AGM for approval of the accounts.

4.3 ToR(c):Review Electricity Tariff including the role of (i) State Governments; (ii) State Tariff Regulator; and (iii) SEBs' /State Distribution Companies in periodic tariff revision.

4.3.1 Regulatory Functioning

(a) Delay in tariff fixation/ Truing up exercise

Regular and timely review and determination of retail tariffs is crucial to proper revenue realization and in turn the financial health of Distribution Utilities and is an important responsibility placed on the Regulators in the statute. Non-finalisation of Distribution Utilities' accounts or their inability / unwillingness to file tariff proposals before the Regulators should not be allowed to derail this arrangement and stop the Regulator from discharging his crucial statutory responsibility. It is therefore suggested that if required, the Regulator should undertake this exercise suo-moto based on the best available data/ estimates. If need be, further refinement of this exercise can be done as and when more reliable data becomes available. Increase in power purchase cost due to increased fuel surcharge of the generating company needs to be automatic for which suitable formula can be prescribed by the Regulator while fixing the tariff itself. Similarly while truing up the previous year power purchase cost the cost actually incurred should be recognized due to its inevitability. Detailed recommendations in this regard have been made in the report annexed as **Annexure – V.**

(b) T&D Losses

All efforts to push the Distribution Utilities to bring down their T&D losses to acceptable levels are important and most of the Regulators have laid down trajectories for this purpose. However, fixing retail tariffs based on normative T&D losses ignoring the actual losses results in denial of revenue to Distribution Utilities and further rocks their fragile financial health. Distribution Utilities' efforts in this area to be effective need to be backed and supported by the State Government and the local administration, which does not always happen. It is, therefore, recommended that the Regulators should continue to fix the retail tariff taking into account the normative T&D losses and in areas where the actual losses are higher, a loss surcharge based on the actual prevailing losses of the particular area should be levied. This will ensure full recovery of revenue by Distribution Utilities and bring out and convey to all concerned the prevailing loss situation transparently. Advantage of doing this will be that pressure from consumers of such areas could force the Distribution Utilities and other players to take effective steps and bring down such losses.

(c) Regulatory Assets

Having scrutinized and validated the projected costs the Regulators are duty bound to ensure their full recovery through tariffs. Leaving a gap between the projected revenue and expenditure or deferring revenue realization through creation of regulatory assets and similar other actions is unacceptable and amounts to the Regulator failing to discharge its statutory responsibility. The Regulators need to recognize this and so fix the tariff that full recovery of validated costs takes place and in doing so should not be swayed by other considerations.

(d) Independence of Regulators

The committee for selection of State Regulators is proposed to be further strengthened as listed out in the Report. It is also recommended that an individual having worked in any capacity with the State Government during immediately preceding five years should not be eligible for appointment as a Regulator in that State. Similarly the Regulator should not take up further employment with the concerned State Government on relinquishing office. Ensuring financial autonomy of the State Regulatory Commissions is crucial to their independent functioning and for this their dependence on budgetary support needs to be minimized/ eliminated. Detailed recommendations in this regard have been made in the Report annexed as **Annexure – VII.**

(e) Evaluation of functioning of SERCs

It is recommended that functioning of each SERC should be subject to independent and objective evaluation on regular basis. Such evaluation is proposed to be done by independent task force of experts created especially for this purpose. it is recommended that this work should be overseen by a Standing Committee headed by Member (Energy), Planning Commission on which Chairman, CERC should also be a Member.

4.3.2 Actions by Distribution Utilities

The Board of Directors of Distribution Utilities need to look into the regulatory issues with greater seriousness as inadequate compliance of regulatory directions or Distribution Utilities' inability / failure to furnish proper information has a direct bearing on tariffs and in turn on its revenue.

4.3.3 State Government's Role

It recommended that misuse of powers under Section 108 of the Electricity Act to influence or pressurize regulatory functions should be effectively stopped. Courts

having examined the scope of this Section and interpreted the same more than once, there is no scope for any ambiguity in this area and the law should be respected and followed by all including the State Governments. Similarly the State Governments should give greater importance to the need for reduction of T&D losses and for this purpose provide full political and administrative support to Distribution Utilities efforts in this area. The Planning Commission can usefully monitor whether the State Government as well as government owned / controlled utilities have been making adequate and sincere efforts for reforming the power sector or have they just been paying lip services to these issues only to become eligible for grant of funds. For this the annual plan discussion can be a useful forum. Power sector reforms in general and functioning and effectiveness of the State Regulatory Commissions in particular should be assigned adequate attention.

4.4 ToR(d): Assess system improvement measures accomplished in distribution of power, in particular, in urban areas as well as future needs / plans.

4.4.1 Restructured- Accelerated Power Development Reform Programme (R-APDRP) is a key step taken by the Central Govt. to reduce distribution losses. It is recommended that :

(i) R-APDRP scheme should be extended to the next plan period taking into account the recommendations in this Report.

(ii) The scheme should apply to all towns above 30,000 populations based on census 2011. This information is likely to become available before the commencement of the plan.

(iii) R-APDRP should be extended to all peripheral areas of R-APDRP cities / towns because that can be accomplished with very little effort and on the basis of the IT backbone already being built under the R-APDRP. Even towns, not covered under R-APDRP which can be conveniently covered through extension of system created under R-APDRP should become eligible for coverage.

(iv) Without awaiting the detailed planning required through the introduction of GPS based consumer mapping Distribution Utilities should activate energy accounting on the basis of meters installed at 33 KV sub-stations and 11 KV feeders based on the existing consumer data base.

(v) While electronic meters are now being introduced for all new consumers it is equally important to replace existing non-electronic meters with electronic meters in a time bound manner.

(vi) The testing and validation of meters should cease to be the responsibility of the Discoms/ SEBs. There are sufficient facilities for third party validation of calibration of meters supplied to Discoms / SEBs and these ought to be used in place of in-house testing of calibration. This would also provide greater confidence to consumers.

(vii) Pre-paid meters ought to be introduced progressively.

(viii) Time of the Day (TOD) meter need to be introduced for HT and high value consumers.

(ix) Consumer meter boards ought to be installed outside the premises of the consumers as far as possible.

(x) Meter reading ought to be taken by automatic hand held meter reading instrument based on a common protocol specified by CEA.

(xi) The billing process should be computerized on the basis of in-house IT expertise and essential data should be archived on the Distributioin utility's system in place of the current practices of outsourcing.

4.4.2 Rajiv Gandhi Gramin Vidhyutikaran Yojna (RGGVY)

(i) For domestic purposes energy supplied should be available in non-urban areas 24x 7.

(ii) All consumers, including BPL consumers, should be metered thereby facilitating instant consumer enumeration and energy audit.

(iii) A suitable tariff and proper collection would ensure that the assets created under this scheme are maintained and preserved by the Distributioin utility. Lack of ownership, in particular in the absence of any revenue, may lead to de-electrification of villages experienced during past rural electrification efforts.

(iv) The planning for domestic supply in rural areas should be based on a minimum load of a 1 KW per house hold and power infrastructure financed by REC should be built on that basis.

4.4.3 Agriculture supply

(i) Energy to agriculture sector should be supplied through a separate feeder constructed on the basis of the details outlined in this report.

(ii) Agriculture should be assured 8 hours of minimum supply.

(iii) The terms on which financing is available for separation of feeders should be softer than at present.

(iv) All agricultural consumers should be billed monthly like any other consumer in the following manner :

- On the basis of meters installed on new pump sets average consumption under different geo-climatic conditions should be established.
- Based on these statistical norms each agriculture consumer should be expected to pay atleast 50 Ps. / unit to the Discom / SEB directly. This would enable an accurate enumeration of agricultural connections and a proper estimate of power used in agricultural consumption. It would also enable the State Govt. to correctly asses the subsidy as the difference between the average cost of power and bills paid by the consumers.

(v) HLP believes that after this system becomes stabilized the agriculture consumers should be obligated to pay the full cost of supply to DISCOM/ SEB. In case the State Govt. wishes to continue subsidize such customers that would be a matter between the customer and the State Govt.

4.4.4 Given the magnitude of losses, the several far reaching measures required to reduce them and the high capex required to do so, it is unlikely that the measures outlined above would succeed in radically reducing the losses during the next plan period. In recognition of this unfortunate conclusion HLP recommends :

(i) The introduction of the Franchise model detailed in the report on an urgent basis

(ii) This should be extended by the States during the next few years to atleast 255 towns (including peripheral areas) listed state wise which seem to account for over 40% of the consumption.

(iii) A model agreement for doing so has been prepared by the Forum of Regulators. HLP has examined the legal aspects and has been assured that this is permissible under the relevant statutes.

(iv) In making available financial assistance through the special purpose vehicle to State Govts. / Distribution utilities suggested in the report adherence to

action for franchising the towns would be regarded as an essential precondition.

4.4.5 A number of other detailed recommendations with regard to system improvement, energy conservation, use of renewal energy are contained in the Chapter – III and not being reproduced at this point.

4.4.6 A series of anti-theft measures have been recommended, relevant for both urban and rural areas. These are described in detail in the report at **Annexure – X** and not being reproduced here.

4.5 ToR(e): Examine geographical and spatial compulsion and determine their operational impact.

4.5.1 In villages and areas far away from Grid, electrification by Solar PV need be encouraged. Even use of biomass, bio-fuel and wind energy will be beneficial. Wind energy is a good source for supplying power to grid connected as well as to non-grid connected locations. As discussed in the report power generation using a DG set with bio-fuel or kerosene may be cheaper when considered with the subsidy given by GOI on providing kerosene in the villages for lighting.

4.5.2 Areas such as Sunderban in West Bengal, Kutch in Gujarat, Thar Desert in Rajasthan need be treated at par with Special category states like North East and Hilly states for electrification and be given 90% grant for electrification and building distribution back bone.

4.5.3 Solar power can be a good option for agriculture pumps as well as for telecom towers in rural India. Studies have revealed that in near future solar power shall have parity with grid energy as cost of electricity generation.

4.5.4 The pumps should be maintained properly and energy efficient pumps installed in order to conserve energy / water. In this behalf our detailed statement at paragraph 3.6.2, Chapter – III needs to be considered as a recommendation in its entirety.

4.6 ToR (f): Review organizational and managerial structure, manpower, employed and future requirements / plans.

4.6.1 There is a need to have in-house core team of IT experts in the organization who can work with IT consultants appointed under R-APDRP. A multi-functional team of engineers, finance, HRD, etc. should be part of this core team who will gain experience in the IT and understand both hardware as well as software aspects of IT.

4.6.2 There is need of proper HRD department with persons having professional experience in dealing with Changed Management and new working culture and training needs. Similar is the need in Finance Department of professionals having MBA, ICWA, C.A. qualifications.

4.6.3 It is necessary that organization structure as well as Human resources required to handle the requirement of new system be modified keeping in view R-APDRP Project as well as future vision of organization needs arising out of market competition.

4.6.4 The new structure needs to be lean with lesser tiers needed in decision making in view of multiple layers of information necessary for R-APDRP Project.

4.6.5 The present staff needs a proper development orientation course to become familiar with new system and get fully conversant in its operations. New recruitments should be done keeping in view these needs.

4.6.7 As the States are facing difficulties in meeting the liabilities related to pension, It is suggested that the distribution utilities may change service condition of new employees on the lines of Contributory Pension Scheme.

4.6.8 There is need to have transparent and all India based selection of Chief Executive of the Utility. Following selection committee is recommended for the selection :-

- Chief Secretary of the state – Chairman
- Chairman CEA/Member CEA -- Member
- Director of an IIT for technical posts/ Director IIM for finance and accounts post/ P&A posts -- Member
- One representative from Public Enterprises Selection Board, GOI -- Member

For the Board Members of the Utility, instead of the Chief Secretary, Principal Secretary Energy may chair the Selection Committee with CEO as one of the members. The other members shall remain the same.

4.6.9 Utility should have a full time CEO appointed for a period of five years competent to take and implement all executive decisions. Govt. officials who are interested / selected in joining the utility have to agree to serve full term of five year service, so that persons selected can be made responsible and answerable for the results. Termination or removal from the service of such executive(s) shall also need to be cleared by the above committee.

4.6.10 There is a need for at least 2 non executive independent directors on the Board of Discoms from amongst the persons who have served in the power sector at Central level or in any other states.