

### 3. Commission's Analysis of the Annual Revenue Requirement of DVB for the Year 2001-02

<b>3.1 Cost of power generation and purchase</b>	<b>28</b>
<b>3.1.1 DVB's position</b>	<b>28</b>
<b>3.1.2 Commission's approach</b>	<b>28</b>
<b>3.1.3 Cost of Own Generation</b>	<b>29</b>
3.1.3.1 Analysis of generation parameters	29
<b>3.1.4 Cost of power purchase</b>	<b>29</b>
3.1.4.1 DVB's submission	29
3.1.4.2 Commission's view	29
<b>3.2 Employee costs</b>	<b>30</b>
<b>3.2.1 Components considered in A&amp;G expenses by DVB</b>	<b>30</b>
<b>3.3 Administrative &amp; General expenses</b>	<b>31</b>
<b>3.3.1 DVB's submission</b>	<b>31</b>
<b>3.3.2 Commission's analysis</b>	<b>31</b>
<b>3.4 Repairs and Maintenance (R&amp;M) Expenses</b>	<b>31</b>
<b>3.4.1 DVB's submission</b>	<b>31</b>
<b>3.4.2 Commission's analysis</b>	<b>31</b>
<b>3.5 Interest on loan</b>	<b>31</b>
<b>3.5.1 DVB's submission</b>	<b>31</b>
<b>3.5.2 Commission's analysis</b>	<b>32</b>
3.5.2.1 Interest on working capital	32
<b>3.6 Bad debt and shortfall in collection efficiency</b>	<b>32</b>
<b>3.6.1 DVB's submission</b>	<b>32</b>
<b>3.6.2 Commission's analysis</b>	<b>32</b>
3.6.2.1 Provisioning for bad debts	33
3.6.2.2 Shortfall in collection efficiency	33
<b>3.7 Depreciation</b>	<b>33</b>
<b>3.7.1 Original cost of fixed assets</b>	<b>33</b>
3.7.1.1 DVB's submission	33
3.7.1.2 Commission's analysis	33
3.7.1.3 Directive	34
<b>3.7.2 Depreciation rate</b>	<b>34</b>
3.7.2.1 DVB's submission	34
3.7.2.2 Commission's analysis	34
<b>3.8 Surplus</b>	<b>34</b>
<b>3.8.1 Original cost of fixed assets:</b>	<b>34</b>
<b>3.8.2 Consumer contribution:</b>	<b>34</b>
<b>3.8.3 Accumulated depreciation</b>	<b>35</b>
<b>3.9 Total annual revenue requirement for DVB</b>	<b>35</b>
<b>3.10 Non-tariff income</b>	<b>35</b>
<b>3.11 Aggregate revenue requirement for year 2001-02</b>	<b>36</b>

The Commission has carefully analysed DVB's petition and the additional information submitted by DVB subsequent to its application. The Commission is not quite satisfied with the inconsistent and incomplete information submitted and methodology followed for computation of annual revenue requirement by DVB, which is based on the unaudited internal information available with DVB. The Commission is not in a position to verify the information submitted by DVB in the absence of audited accounts for the previous years. Under these circumstances, Commission has based its computation of the allowable expenses for the year 2001-02 to be included in Annual Revenue Requirement (ARR) on the following broad principles:

- Commission has either accepted DVB's projection (as in the case of power purchase costs) or has used the latest available annual accounts of 1998-99 as the base (as in the case of employee costs) for projecting most of the cost elements.
- In certain areas like own generation, Commission expects DVB to be more efficient and therefore some incremental improvement over past years has been incorporated into the ARR.
- Commission would conduct a year end review of all the expenses of the utility for the year 2001-02 along with the next ARR filing and determine any over or under recovery of allowable costs of DVB during the year for any adjustments in the next year's ARR.

#### 3.1 Cost of power generation and purchase

The cost of power generation and purchase should be based on the most

efficient way of procuring power from own generating stations as well as other stations. Ideally, the procurement of power by DVB should be on the basis of a Merit Order Dispatch based on the incremental cost of procurement of power from each source.

##### 3.1.1 DVB's position

DVB have to purchase 85% from the Grid almost of its total energy requirement. Almost all the power purchased is from the central sector generators and is through Northern Regional Load Despatch Centre (NRLDC). The NRLDC at its level is expected to optimize the cost of power considering the availability of various generating stations and requirement of Electricity Boards and other transmission/distribution utilities. The State Load Despatch Centre controlled by DVB has to optimize the cost of power considering the availability of power from RLDC, its own stations and requirement of power. In this way DVB does not have much control as to which central sector station it will purchase power from but has control over how much to generate from its own stations and how much to purchase from outside so as to minimize the cost of power.

##### 3.1.2 Commission's approach

The Commission desires to base the allowable cost of power purchase and generation on the basis of a planned drawl of power from each available source in the most efficient way. However, the implementation of this approach is difficult in the present transition phase characterized by the following uncertainties:

- Availability based tariff regime, as ordered by Central Electricity Regulatory Commission (CERC) is going to be effected during the current year in the northern region. This will not only alter the current tariff structure and hence, the merit order of power purchase but is also expected to provide some say for the DVB in terms of dispatch of power.
- CERC has also issued various financial and technical norms for the central sector power utilities. The tariffs for the

### 3.1.3 Cost of Own Generation

#### 3.1.3.1 Analysis of generation parameters

The Commission has estimated the variable cost of DVB's own generation for the year 2001-02 on the basis of the past performance of DVB after incorporating certain improvements in performance. Table 3.1 gives the past performance of DVB's generating plants on various parameters, proposed values for 2001-02 and the values approved by the Commission.

**Table 3.1: Power generation parameters**

Station	Generation parameters	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Indra Prastha	Installed Capacity (MW)	248	248	248	248	248
	PLF	35.2%	39.0%	42.3%	39.6%	41.0%
	Aux. Cons.	12.2%	11.5%	11.6%	11.6%	11.0%
	Heat Rate (kCal/kWh)*	3865	3375	3230	3225	3200
	CV of Fuel (kCal/kg)	4052	3959	3914	3900	3914
	Coal price (Rs/kg)	1.69	1.60	1.59	1.69	1.69
	Sec. Fuel – cons. (ml/kWh)	24	16	10	10	10
	Sec. Fuel – Price (Rs./kl)	9232	10533	14009	14850	14850
Rajghat Power House	Installed Capacity (MW)	135	135	135	135	135
	PLF	52.2%	79.7%	67.4%	63.4%	67.4%
	Aux. Cons.	12.4%	10.8%	11.0%	11.1%	10.5%
	Heat Rate (kCal/kWh)*	3296	3462	3236	3095	3095
	CV of Fuel (kCal/kg)	4391	4367	4097	3800	4097
	Coal price (Rs./kg)	1.73	1.86	1.93	1.92	1.92
	Sec. Fuel – cons. (ml/kWh)	17.83	5.95	6.50	15.00	6.00
	Sec. Fuel – Price (Rs./kl)	7,399	7,451	11,686	12,955	12,955
Gas Turbine	Installed Capacity (MW)	265	265	265	265	265
	PLF	31.1%	32.0%	44.4%	45.2%	52.0%
	Aux. Cons.	2.2%	2.2%	2.6%	2.2%	2.2%
	Heat Rate (kCal/kWh)*	3116	2857	2578	2500	2500
	CV of Fuel (kCal/SCM)	8678	8775	8423	8450	8450
	Fuel price (Rs/SCM)	3.636	4.070	4.332	4.200	4.200

\* At bus bar

central sector generating plants may also be revised on the basis of these norms.

#### 3.1.3.1.1 Major factors considered

The Commission has considered following factors in the estimation of generation parameters for the ensuing year:

- The plant load factor (PLF) of 41% for IP station has been based on the monthly

generation data for the previous year and taking into account the proposed planned shut down for various units in existing year as submitted by DVB.

- PLF of 67.4% for RPH station of DVB has been based on the previous year's figure.
- The PLF of 52% for GT station of DVB has been based on the high availability of gas projected by DVB, which was earlier allocated to proposed Pragati Power Project.
- As per the Commission's Order on Rationalisation of Tariff, the utility should project its power purchase and generation costs after including the expected escalations in the costs. Therefore, the fuel price should be based on the projected increase in the fuel price after taking into account the expected fuel cost escalation. Considering this, DVB's projections for the fuel prices have been accepted.

### 3.1.4 Cost of power purchase

#### 3.1.4.1 DVB's submission

DVB had projected a power purchase cost of Rs. 3617 crores in the initial filing but later revised the figures to Rs. 3708 crores as cost of power purchase from BTPS was not correctly estimated in the initial filing.

#### 3.1.4.2 Commission's view

Commission would have based its projections of the amount of energy purchased from various sources on the basis of a merit order dispatch based on incremental cost of power procurement from each source. However, as DVB does not have much control over its power purchase in terms of number of

**Table 3.2: Cost of power generation (fuel only)**

All figures in Rs. Crores

1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
318	364	402	414	377

**Table 3.3: Cost of power purchase***All figures in Rs. Crores*

1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
2,709	2,953	3,329	3,708	3708

units purchased and the cost of power purchase, it's proposed figures for these have been accepted. DVB have already factored in some inflation-linked increase in the tariffs for the power purchase. This is deemed to be reasonable and would take care of any increase in power purchase costs during the year. **Therefore, the Commission accepts DVB's projections. At the end of the year, DVB would provide data about its power purchase and own generation (this could be done together with the ARR filing for year 2002-03). The Commission would review it, disallow any uneconomic purchases (if needed), and determine any over or under recovery of power purchase and generation costs during the year for inclusion in the next year's ARR.**

### 3.2 Employee costs

DVB had proposed Rs. 416 crores as employee costs chargeable to ARR for the ensuing year based on an annual growth rate of 11.21% over previous year figures. DVB have not been able to provide the component-wise breakup details of the proposed employee costs. Therefore, the Commission has taken the last available accounts i.e. 1998-99 annual accounts, which provide these details, as base figures for projecting the employee costs. The projection for the year 2001-02 is based on the following:

- Rs 70 cr. of past arrears pertaining to previous years has been subtracted from the total employee costs for 1998-99 to estimate the employee costs

pertaining to the year 1998-99 only.

- Commission considers 11.21% per annum increase in employee costs projected by DVB to be on a higher side and approves an increase of 10% per annum in employee costs excluding overtime expenses over the year 1998-99.
- The Commission does not consider overtime as a good and healthy practice as it adversely affects the efficiency of the employees. The Commission is of the opinion that overtime cannot be a substitute for the right employee strength and the efficiency gain could be obtained from improvement in human resources management. Moreover, the Commission feels that such a practice is often taken as a right. However, since the

overtime expenses after 1998-99 should be offset by better human resource deployment.

- DVB's proposal to capitalise Rs. 78 cr. of employee cost, which is within the 15% limit of new investment proposed during the year, has been accepted.
- Pay increase, amounting to Rs. 14.7 crores, linked to unbundling and privatization of DVB have not been included in the employee cost in 2001-02. It will be considered ex-post by the Commission after actual unbundling and privatisation takes place.

#### 3.2.1 Components considered in A&G expenses by DVB

Some of the components of employee costs were considered by DVB in its application under Administrative and

**Table 3.4: Employee related components as shown by DVB in A&G expenses***All figures in Rs. Crores*

S. No.	Component	1998-99	1999-00	2000-01	2001-02 (Proposed)
1	Ex. Gratia	1.9	4.5	4.8	5.2
2	Medical Reimbursement	6.8	7.0	7.4	8.0
3	Payment under Workmen Compensation Act	0.0	0.2	0.2	0.2
4	Special Contribution to PF Fund	2.1	1.2	1.3	1.4
5	Terminal Benefit (Pension)	16.6	12.5	13.4	14.3
6	Family pension to PF	0.3	0.5	0.5	0.5
7	Pension contribution to deputationist	0.0	0.1	0.1	0.1
<b>Total</b>		<b>27.7</b>	<b>25.9</b>	<b>27.7</b>	<b>29.6</b>

improvements in human resource management can be done only gradually, the high level of overtime expenses cannot be reduced drastically. Therefore, the overtime expenses in 2001-02 have been restricted to the 1998-99 level of 38.3 crores. The increase in

General (A&G) expenses which the Commission has considered under employee costs only. The details of these components are shown in Table 3.4.

**Table 3.5: Employee costs***All figures in Rs. Crores*

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Employee expenses as shown by DVB	282	325	360	416	381
Adjustment for components included in A&G expenses	28	26	28	30	30
<b>Actual Employee expenses</b>	<b>310</b>	<b>351</b>	<b>388</b>	<b>446</b>	<b>411</b>

### 3.3 Administrative & General expenses

#### 3.3.1 DVB's submission

DVB has projected a sum of Rs. 114 Crores towards Administrative and General (A&G) expenses to be included in the ARR for the ensuing year. This also includes certain employee-related expenses, which has been treated as part of the employee expenses in the 1998-99 annual accounts submitted by DVB as shown above.

#### 3.3.2 Commission's analysis

DVB's own energy consumption is very high. The Commission has kept the expenses on Electricity and water charges at the level of 2000-01 and DVB is expected to economise on its own consumption of electricity to compensate for the increase in cost per unit. DVB's proposal in respect of all other components has been accepted as shown in Table 3.6.

### 3.4 Repairs and Maintenance (R&M) Expenses

#### 3.4.1 DVB's submission

DVB had projected a figure of Rs. 103 crores towards R & M Expenses for the ensuing year in its initial filing. During subsequent submissions, DVB revised this figure to Rs. 109.3 crores along with the

**Table 3.6 Administrative & General Expenses**

*All figures in Rs. Crores*

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Insurance of Employees, Assets etc.	0.0	0.1	0.1	0.1	0.1
Telephone, postage, telegram, internet, charges	1.6	2.5	2.7	2.9	2.9
Consultancy charges	0.0	0.0	0.0	0.0	0.0
Technical Fees	0.0	0.0	0.0	0.0	0.0
Other Professional charges	0.0	0.0	0.0	0.0	0.0
Service charges for computerization	0.1	0.1	0.1	0.1	0.1
Conveyance and Traveling expenses	0.5	2.0	2.1	2.3	2.3
Printing and Stationery	0.7	1.5	1.6	1.7	1.7
Advertising	1.3	2.3	2.4	2.6	2.6
Electricity and water charges	40.5	38.1	40.8	53.0	40.8
Freight					
Miscellaneous					
- Rates & Taxes	0.1	2.0	2.1	2.3	2.3
- Expenses on Transportation	1.3	1.4	1.5	1.6	1.6
- Cleaning charges	3.4	2.8	2.9	3.1	3.1
- Repairs & maintenance of Buildings etc.	2.7	2.5	2.7	2.9	2.9
- Rent	0.1	0.3	0.3	0.3	0.3
- Legal Expenses	0.5	0.5	0.5	0.6	0.6
- Sundry Miscellaneous	3.3	9.3	9.9	10.6	10.6
Less: Administration and General Expenses Allocated to Generation	0.0	0.0	0.0	0.0	0.0
<b>Total A&amp;G expenses</b>	<b>56.0</b>	<b>65.2</b>	<b>69.8</b>	<b>84.0</b>	<b>71.8</b>
Employee related components included by DVB	28	26	28	30	30
<b>Total A&amp;G expenses as shown by DVB</b>	<b>84</b>	<b>91</b>	<b>97</b>	<b>114</b>	<b>102</b>

**Table 3.7: R&M expenses as submitted by DVB**

*All figures in Rs. Crores*

Details	1999-00	2000-01	2001-02
IP Station unit 2,3 & 4	5.9	5.5	5.3
IP Station unit no.5	1.9	2.8	3.0
New Replacement Unit - RPH	11.0	16.3	19.8
Ash Disposal Ponds	0.0	5.0	5.0
Gas Turbine Project - IP	1.4	3.5	5.0
Yamuna Barrage	0.0	0.5	0.5
High Voltage	34.6	37.3	42.9
Medium and Low voltage	25.2	20.3	23.4
Public Utilities	5.0	3.9	4.5
<b>Total</b>	<b>85.0</b>	<b>95.0</b>	<b>109.3</b>

**Table 3.8: R&M expenses**

*All figures in Rs. Crores*

1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
77	85	95	109	109

breakup of proposed R&M expenses into various components as shown in Table 3.7.

#### 3.4.2 Commission's analysis

The Commission feels that R&M work is a critical activity not only for improving but also for maintaining the quality of service. This also has a direct bearing on the useful life of the assets. Thus, any reduction in R&M expenses may adversely affect the quality of supply to the consumers. Considering the present condition of DVB's assets and the need to improve the transmission and distribution network as well as efficiency in generation, DVB's revised proposal for the R&M costs has been

accepted. DVB shall furnish a quarterly report on the progress of R&M works. Further, the Commission directs the DVB to get an independent technical expert to review the proposed R & M works before 30 September 2001 and submit the review report to the Commission.

### 3.5 Interest on loan

#### 3.5.1 DVB's submission

DVB had proposed a sum of Rs. 479 Crores towards interest payable on loans

during the ensuing year. Subsequently, DVB revised this figure to Rs. 509 crores.

### 3.5.2 Commission's analysis

The Commission has analysed the loan details provided by DVB and following the principle of rewarding only the capital employed in used and useful assets, the interests on types of loans shown in Table 3.9 have been disallowed.

**Table 3.9: Types of loans disallowed**

*All figures in Rs. Crores*

Details	Amount	Interest
Loans for non-plan works	95	6
Non plan loans for payment to BTPS	2196	142
Loans for meeting revenue deficit	100	7
Special non-plan loans without any purpose	350	24
Unpaid Interest diverted	402	27
<b>Total</b>	<b>3143</b>	<b>206</b>

All the non-plan loans (including the loans for payment to BTPS) provided to DVB by the Delhi government have been on the revenue account and for the purpose of bridging the revenue gap of previous years. This is also indicated by the fact that the total amount of loan outstanding (Rs. 8499 crores projected for the ensuing year) is much higher than the original cost of fixed assets of the DVB (Rs. 4325 crores projected for the ensuing year). The practice followed by most of the other state governments in such situation is to provide some subsidy/subvention to the electricity utility. As against this GoNCTD has been following the practice of providing loans to the DVB.

The state government is currently in the process of unbundling and subsequently privatizing the DVB. It is expected that a financial restructuring plan (FRP) would also be put in place before DVB is unbundled and privatized. This financial restructuring plan is expected to take care of all the above mentioned unmet liabilities of the DVB.

### 3.5.2.1 Interest on working capital

Although DVB has not proposed any interest expenses on account of the working capital requirement, the Commission recognises the cost of "working capital". The need for working capital stems from delays between cash inflows (collected revenue) and cash outflows (paid bills for fuel and power) as well as material

requirements for operation and maintenance activities of the utility.

The cost of working capital is the interest on the loan for working capital that is used for financing the working capital requirements. The amount of working capital should be reasonable such that consumers do not pay for inefficient cash and inventory management of the utility.

The reasonable cash balance is typically determined based on

lead-lag study of cash flows. In this regard, Commission has carefully examined all the available annual accounts of DVB for the years 1998-99 and before. The accounts not only show zero borrowing for working capital but also show significant negative net current assets in all the years. The value of net current asset is also increasing on the negative side over the years signifying that DVB's working capital needs are further declining. This may be happening because of an increase in the current liabilities of DVB due to non-payment delayed

payment of some of its dues. A thorough analysis of the DVB's liabilities as of now along with its current assets is required in order to ascertain the requirement of the working capital. **The Commission directs DVB to conduct a detailed analysis of its working capital management and present it to the Commission before the next tariff filing. At present, the Commission is allowing interest on only that part of working capital needed for financing the allowed shortfall in collection efficiency** as explained in the next section.

In addition to the above, DVB has included interest on the Anticipated Loan for Approved Plan 2001-2002 amounting to Rs. 20 crores, twice. This has been taken care of in the Commission's computations.

## 3.6 Bad debt and shortfall in

**Table 3.10: Interest on loans**

*All figures in Rs. Crores*

Interest on	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
loans	265	320	406	509	283#
WC for shortfall in collection efficiency (@ 13%)					28
<b>Total</b>	<b>265</b>	<b>320</b>	<b>406</b>	<b>509</b>	<b>311#</b>

# After adjusting for disallowed interest on loans amounting to Rs. 206 crores.

## collection efficiency

### 3.6.1 DVB's submission

DVB has proposed a sum of Rs. 114 Crores towards bad debts pertaining to previous years and Rs. 70 Crores towards shortfall in collection efficiency.

### 3.6.2 Commission's analysis

The allowed annual revenue requirement for the ensuing year is supposed to include all the allowable expenses pertaining to the ensuing year only and not of the previous years. The

issue of bad debts pertaining to previous years in other states has been dealt with in the financial restructuring plan (FRP) put in place by the state governments before unbundling and privatizing the Boards. Therefore, it is expected that this issue would be dealt with in its FRP.

### 3.6.2.1 Provisioning for bad debts

The Commission recognises the fact that even most efficient utilities have often a certain amount of uncollected bills, some of which is never paid off by the consumers. Therefore, it is a standard regulatory practice to allow a reasonable provision for bad debt. The provision for bad debt should reflect the reasonable level of uncollected bills by the utility. DVB have proposed to allow 5% of all past receivables as bad debt. This approach is not acceptable as it is affected by accumulated receivables resulting from poor collection efficiency in the past. A proper way of estimating the reasonable level for the provisioning of bad debt is to assess the collection ratio for receivables with different age. An alternative approach is to estimate the provision of bad debt as a percentage of total revenues. Utilities have typically between 1% and 3% of their revenues uncollected. The Commission allows 2% of total expected revenues in 2001-02 i.e. Rs. 86 crores as provision for bad debt.

### 3.6.2.2 Shortfall in collection efficiency

DVB have also proposed a sum of Rs. 70 Crores towards shortfall in collection efficiency. Shortfall in collection efficiency means that a portion of the billed amount could not be realized in the period under consideration. A part of this uncollected portion might be recovered in the subsequent periods and the other may

turn into bad debt. The first part will result in an increase in the working capital requirement of the utility. The latter part must be supported with the provisioning for bad debt. Therefore, the Commission allows only interest on the working capital required to fund the shortfall in collection efficiency. This interest amount has been included in the interest on loan computations as shown in the previous section.

**The Commission also directs DVB to prepare a plan for improving its collection efficiency and avoiding accumulation of bad debt in**

**Table 3.11: Bad debts/provision for bad debts**

*All figures in Rs. Crores*

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Bad debts				114	0
Provision for Bad debt				0	86
Shortfall in collection efficiency	259	224	266	70	0

**the future. This plan, including specific measures to be taken, should be submitted together with next year's ARR filing.**

## 3.7 Depreciation

### 3.7.1 Original cost of fixed assets

#### 3.7.1.1 DVB's submission

In the absence of any accounts for previous years, DVB had projected the original cost of fixed assets for the ensuing year based on last available accounts for the year 1997-98, its internal records and certain assumptions about capitalisation of work in

progress. In order to estimate the gross block of fixed assets in the beginning of the years 1999-00, 2000-01 and 2001-02, the additional investment made in each of the three years of 1998-99, 1999-00 and 2000-01 has been estimated based on the internal data available with DVB. DVB assumed that 50% of the additional investment made in a particular year would be capitalised in the same year, with the balance 30% and 20% being capitalised in the immediately succeeding two years. Further, as far as the amount of capital work in progress

as on March 31, 1998 is concerned, DVB assumed that 80% of such work in progress amount would be capitalised in the year 1998-99 itself. The

remaining 20% have not been shown to be capitalised in any of the subsequent years. Based on the above, DVB has given the details of the gross block, capital works in progress and the new investment in the previous years and ensuing year as given in Table 3.12.

#### 3.7.1.2 Commission's analysis

Commission has carefully analysed the DVB's methodology and assumptions and had also asked DVB to submit details of the assets capitalised during 1998-99. Subsequently, DVB also

**Table 3.12: Original cost of fixed assets as per DVB's application**

*All figures in Rs. Crores*

Details	1997-98	1998-99	1999-00	2000-01	2001-02
<b>Gross Block of Fixed Assets as at the beginning of the year</b>	<b>853</b>	<b>954</b>	<b>3306</b>	<b>3677</b>	<b>4180</b>
<b>Capital Work in Progress</b>					
Opening balance	2477	2667	753	861	901
Add: New Investment	291	438	479	543	597
Less: Investment Capitalized to Gross Block of Fixed Assets	101	2352	371	503	557
Closing Balance of work in progress	2667	753	861	901	940

submitted the annual accounts of 1998-99 with its reply to Commission's deficiency letter. Based on all the information made available to the Commission by DVB, Commission has approved the computations of original cost of fixed assets for the year 2001-02 as shown in Table 3.13.

**Table 3.13: Original cost of fixed assets as approved by the Commission**

*All figures in Rs. Crores*

Details	1997-98	1998-99	1999-00	2000-01	2001-02
<b>Gross Block of Fixed Assets as at the beginning of the year</b>	<b>853</b>	<b>954</b>	<b>2994</b>	<b>3393</b>	<b>3841</b>
<b>Capital Works in Progress</b>					
Opening balance	2477	2667	964	1044	1069
Add: New Investment	291	337	479	473	493
Less: Investment Capitalized to Gross Block of Fixed Assets	101	2040	399	448	484
Closing Balance of work in progress	2667	964	1044	1069	1078

The above computation is based on the following:

- The new investments and amount capitalised for the year 1998-99 (Rs. 337 crores) has been taken as shown in the annual accounts for the year 1998-99, which are lower than the DVB's projection (Rs. 438 crores) in its tariff application.
- For all the subsequent years, DVB's methodology of capitalising new investment in the 50:30:20 ratio in the current and subsequent years has been adopted.
- New investment for the two years respectively 2000-01 and 2001-02 has been modified as per the subsequent submissions of DVB.

### 3.7.1.3 Directive

**The Commission has to accept the assumption made by DVB in above computation in the absence of any accounts for previous years and details of the assets owned by DVB. In future**

**Commission would like to base its computations on facts rather than on assumptions and hereby, directs DVB to provide audited accounts for all the previous years and complete details about its assets and the investment plan with the future tariff filing.**

composition as shown in 1998-99 accounts and the Ministry of Power, Government of India depreciation rates comes to 6.83%.

### 3.7.2.2 Commission's analysis

In the absence of asset composition at the beginning of the year 2001-02, Commission approves the latest available weighted average depreciation rate of 6.83% for computing the depreciation

**Table 3.15: Depreciation**

*All figures in Rs. Crores*

1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
57	197	219	249	262

chargeable to ARR.

**Table 3.14: Computation of depreciation as approved by the Commission**

*In Rs. Crores*

Details	1997-98	1998-99	1999-00	2000-01	2001-02
Gross Fixed Assets at the beginning of the year	853	954	2994	3393	3841
Rate of Depreciation	5.96%	6.83%	6.83%	6.83%	6.83%
Depreciation for the year	51	65	204	232	262

## 3.7.2 Depreciation rate

### 3.7.2.1 DVB's submission

DVB, in its application, has proposed a weighted average depreciation rate of 5.96% (based on the composition of assets as shown in 1997-98 annual accounts and depreciation rates for various categories of assets notified by Ministry of Power, Government of India) to be applied on the gross value of assets at the beginning of each year from 1997-98 onwards. Subsequently, DVB submitted annual accounts for the year 1998-99 and revised the weighted average depreciation rate according to these accounts. The weighted average depreciation rate using the asset

## 3.8 Surplus

The Commission considers a surplus of 3% on the Net Fixed Assets (NFA) at the beginning of the year as the appropriate level of surplus that can be allowed to the DVB as shown in Table 3.16.

### 3.8.1 Original cost of fixed assets:

As discussed in the previous section on depreciation.

### 3.8.2 Consumer contribution:

DVB's projection for the consumer contribution has been accepted. The Commission feel that DVB's methodology for estimating the amount of consumer contribution used in funding the fixed assets based on the proportion

**Table 3.16: Computation of allowable surplus approved by Commission**

All figures in Rs. Crores

	1998-99	1999-00	2000-01	2001-02
At the beginning of the year				
Original cost of fixed assets	954	2994	3393	3841
Less: Consumers contribution	211	614	631	655
Original cost of fixed assets (excluding consumers contribution)	743	2380	2762	3186
Add: Capitalized loss allowed by the Commission	0	0	0	0
<b>Sub-total of positive elements of value of fixed assets (Sum of above) (A)</b>	<b>743</b>	<b>2380</b>	<b>2762</b>	<b>3186</b>
Balance of accumulated depreciation at the beginning of the year	316	381	585	817
Part of accumulated subventions from State Government used for capital expenditure	1	1	1	1
<b>Sub-total of negative elements of value of fixed assets (Sum of above) (B)</b>	<b>317</b>	<b>382</b>	<b>587</b>	<b>818</b>
<b>Net Capital Base: net figure (first sub-total above minus the second) i.e. (A) – (B)</b>	<b>426</b>	<b>1998</b>	<b>2176</b>	<b>2368</b>
% of Surplus allowed	3%	3%	3%	3%
Allowed surplus for the year	<b>13</b>	<b>60</b>	<b>65</b>	<b>71</b>

**Table 3.17: Consumer contribution used for funding fixed assets approved by commission**

All figures in Rs. Crores

Details	1998-99	1999-00	2000-01	2001-02
Consumers Contribution at the beginning of the year (A)	800	812	825	837
Additions during the year	12	13	12	13
Consumers Contribution at the end of the year	812	825	837	850
Gross Block of fixed assets at the beginning of year (B)	954	2994	3393	3841
Capital Works in Progress at the beginning of year (C)	2667	964	1044	1069
Consumers Contribution used for funding the gross block of fixed assets at the beginning of year (A*(B/(B+C)))	211	614	631	655

of fixed assets and capital work in progress

is reasonable. The computations for estimating the amount of consumer contributions used in funding the fixed assets have been shown in Table 3.17.

### 3.8.3 Accumulated depreciation

Accumulated depreciation, as shown in Table 3.18, has been computed based on the methodology for depreciation as discussed in the previous section.

**Table 3.18: Accumulated Depreciation**

All figures in Rs. Crores

Details	1997-98	1998-99	1999-00	2000-01	2001-02
Gross Fixed Assets at the beginning of the year	853	954	2994	3393	3841
Rate of Depreciation	5.96%	6.83%	6.83%	6.83%	6.83%
Depreciation for the year	51	65	204	232	262
Accumulated depreciation at the beginning of the year	265	316	381	585	817
Accumulated depreciation at the end of the year	316	381	585	817	1079

Accumulated depreciation at the beginning of the year 1997-98 has been taken as the value given in 1997-98 annual accounts of DVB.

## 3.9 Total annual revenue requirement for DVB

Based on the computations for the various components discussed above, the total

Annual Revenue Requirement for DVB for the year 2001-02 is as shown in Table 3.20.

It is evident from Table 3.20 that cost of power generation and purchases comprise of almost 78% of the total ARR for the ensuing year. Therefore, the other components of ARR, which vary from 1% to 6% only have very low impact on it.

### 3.10 Non-tariff income

DVB has shown Rs. 143 crores as non-tariff income in its tariff application.

The Commission has accepted DVB's projection for all the components of non-tariff income except for sale & repair of lamps (for public lighting). DVB had proposed a 50% hike in the charges for maintenance of streetlights on behalf of MCD/PWD and therefore has projected a 50% increase in revenue from sale & repair of lamps for public lighting.

Considering the increase in DVB's costs, Commission approves a 20% increase in the streetlights maintenance charges, i.e. from Rs. 50 per point per month to Rs. 60 per point per month as discussed in Chapter 4.



**Table 3.20: Annual Revenue Requirement for DVB for year 2001-02**

All figures in Rs. Crores

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Cost of Generation (only fuel)	318	364	402	414	377
Power purchase costs	2,709	2,953	3,329	3,708	3708
Employee expenses	310	351	388	446	411
A & G expenses	56	65	70	84	72
R & M expenses	77	85	95	109	109
Interest on loans	265	320	406	509	311
Bad debts				114	0
Provision for bad debts					86
Shortfall in collection	259	224	266	70	0
Depreciation	57	197	219	249	262
<b>Total Expenses</b>	<b>4,051</b>	<b>4,559</b>	<b>5,175</b>	<b>5,703</b>	<b>5,337</b>
Allowed Surplus	13	60	65	74	71
<b>Total Annual Revenue Requirement</b>	<b>4,064</b>	<b>4,619</b>	<b>5,240</b>	<b>5,777</b>	<b>5,408</b>

**Table 3.21: Non-tariff income**

All figures in Rs. Crores

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Meter Rent	N.A.	28	29	31	31
Sale & repair of lamps (for public lighting)	19	19	20	29	24
Rent less outgoings	0	1	1	1	1
Transfer Fees	0	0	0	0	0
Investments fixed and call deposits, etc.	18	18	16	16	16
Commission on collection of electricity tax on behalf of MCD	2	2	2	4	4
Rent from building and hire of apparatus	0	1	1	1	1
Misc. receipts and recoveries	21	28	29	29	29
Amount charged from HVPN for 1/3rd share of Units 2,3,4 of IP Station	46	58	63	64	64
<b>Total</b>	<b>106*</b>	<b>154</b>	<b>160</b>	<b>174</b>	<b>168</b>

\*Without meter rent

**Table 3.22: Aggregate Revenue Requirement for DVB**

All figures in Rs. Crores

Details	1998-99	1999-00	2000-01	2001-02 (Proposed)	2001-02 (Approved)
Total Expenses	4,051	4,559	5,175	5,703	5,337
Allowed Surplus	13	60	65	74	71
Total Annual Revenue Requirement	<b>4,064</b>	<b>4,619</b>	<b>5,240</b>	<b>5,777</b>	<b>5,408</b>
<b>Non-tariff Income</b>	<b>106*</b>	<b>154</b>	<b>160</b>	<b>174</b>	<b>168</b>
<b>Aggregate Revenue Requirement</b>	<b>3,958*</b>	<b>4,465</b>	<b>5,080</b>	<b>5,603</b>	<b>5,239</b>

\*Without meter rent

### 3.11 Aggregate revenue requirement for year 2001-02

The aggregate revenue requirement for DVB for the ensuing year 2001-02 has been illustrated in Table 3.22.

