



considered by DPL for the ensuing years.

- 2.6.1.3 **Secondary Fuel Cost:** The projected GCV of secondary fuel, ie. Oil and it's cost for the ensuing years are based on the latest notified prices.
- 2.6.1.4 Average Variable Cost: The average variable cost during the 8th Control Period are projected by DPL as 276.90 paise/kWh, 291.97 paise/kWh and 306.45 paise/kWh for 2023-24, 2024-25 and 2025-26 respectively.
- 2.6.2 <u>Fixed Charges:</u> DPL projects the Fixed Charges as Rs.**74953.81** Lakh, Rs.**76438.66** Lakh and Rs.**75518.08** Lakh for 2023-24, 2024-25 and 2025-26 respectively.
- 2.6.2.1 Employee Expense: DPL states that the employee cost of DPL is reduced as 330 employees redeployed in the other Government departments. Also, as advised by WBERC, DPL engaged one third party, viz. M/s Excellence Enhancement Centre (EEC) to study the apportionment of expenses of Common Service Department (Service Department and Central Workshop) attributable majorly for power business only. Accordingly, as recommended by EEC, DPL projects the employee cost considering such expense in respect of Common Service Department (Service Department and Central Workshop) during 2023-24, 2024-25 and 2025-26 as Rs.11788.74 Lakh, Rs.10886.20 Lakh and Rs.11145.91 Lakh respectively.
- 2.6.2.2 **Operation & Maintenance Expense:** Though, DPL is yet to submit the petition for consideration of the expenses of Common Service Department attributable in the power business, DPL projects such expenses as Rs.**7850.97** Lakh, Rs.**8177.83** Lakh and Rs.**8524.29** Lakh for 2023-24, 2024-25 and 2025-26 respectively.
- 2.6.2.3 Coal & Ash Handling Charge: Apart from the expenses for excavation and/or transportation of fly ash, the coal and ash handling charges considering annual escalation factor of 6%, 5.5% and 5% are projected as Rs.523.04 Lakh, Rs.551.80 Lakh and Rs.579.39 Lakh for 2023-24, 2024-25 and 2025-26 respectively considering Rs.493.43 Lakh for the base year of 2022-23.





2.6.2.4 Water Charge: DPL projects the water consumption on the basis of average rate of consumption for the last five years and the rate of Inter Plant Transfer (IPT) of raw water considered as Rs.18.00/KL for the 8th control period. The Water Charges for power generation as considered by DPL for Unit-VII and Unit-VII are given below:

| Year    | Water Charges (Rs. in Lakh) |           |  |  |  |
|---------|-----------------------------|-----------|--|--|--|
|         | Unit VII                    | Unit VIII |  |  |  |
| 2023-24 | 1324.51                     | 1103.76   |  |  |  |
| 2024-25 | 1324.51                     | 1103.76   |  |  |  |
| 2025-26 | 1324.51                     | 1103.76   |  |  |  |

2.6.2.5 **Depreciation:** Considering Gross Fixed Assets (GFA) as in the Audited financial statements for 2021-22, and the depreciation rates and useful life of assets in terms of Tariff Regulations of WBERC, DPL projects the depreciation as Rs.12540.53 Lakh, Rs.12608.09 Lakh and Rs.12822.37 Lakh for 2023-24, 2024-25 and 2025-26 respectively.

2.6.2.6 Advance Against Depreciation: DPL projects the difference between actual amount of loan repayment and depreciation as the advance against depreciation.

2.6.2.7 Interest on Loan Capital and Other Finance Charge: DPL estimates the Interests on Loan Capital for the project loan only from WBIDFC and CEA amounting Rs.18990.85 Lakh, Rs.17539.70 Lakh and Rs.16040.12 Lakh and the Other Finance Charges amounting Rs.3160.20 Lakh, Rs.3334.01 Lakh and Rs.3517.39 Lakh for 2023-24, 2024-25 and 2025-26 respectively. DPL also states that the loan from Government of West Bengal (GoWB) has been converted into Equity and thus, no interest has been considered.

2.6.2.8 Working Capital and Interest on Working Capital: DPL estimates the interests on the working capital loan from West Bengal State Co-operative Bank (WBSCB) and other banks on normative basis as Rs.2214.62 Lakh, Rs.2316.06 Lakh and Rs.2399.40





Lakh for 2023-24, 2024-25 and 2025-26 respectively and also, DPL requests WBERC to direct WBSEDCL to pay the MFCA bills resulting increase in working capital requirement.

- 2.6.2.9 **Return on Equity:** Considering the rate of Return on Equity (**RoE**) at 15.50%, DPL estimates the **RoE** as Rs. 11547.50 Lakh for each of the ensuing years of 8th Control Period and also, DPL requests WBERC to consider the debt-equity ratio as 80:20 in respect of the 8th Unit, capitalized with effect from 01.10.2014.
- 2.6.2.10 **Income Tax**: DPL projects the income tax component as per Minimum Alternate Tax (MAT) under Section of 115JB after adjustment of unabsorbed depreciation and carry forward of losses under Section 72 of the Income Tax Act, 1961.
- 2.6.2.11 Reserve for Unforeseen Exigencies: DPL does not claim in respect of the fund of Reserve for Unforeseen Exigencies (RUE) in this tariff petition of 8th Control Period. However, DPL says that such amount for RUE to be considered during truing up, if any.
- 2.6.2.12 **Non-Tariff Income:** The non-tariff income from interests on short term deposits with the banks, sale of fly ash, interest credit on depreciation, etc. are projected by DPL as Rs.1900.00 Lakh for each of the ensuing years of 8th Control Period.
- 2.6.2.13 Average Fixed Cost: The average fixed costs during the 8th Control Period are projected by DPL as 213.05 paise/kWh, 217.27 paise/kWh and 216.25 paise/kWh for 2023-24, 2024-25 and 2025-26 respectively.
- 2.6.3 **Per Unit Generation Cost:** The overall per unit generation cost for DPL during the 8th Control Period are projected as **489.95** paise/kWh, **509.24** paise/kWh and **522.70** paise/kWh for 2023-24, 2024-25 and 2025-26 respectively detailed as follows.





Table: 2.1

|                                    | Amount Projected by DPL (Rs. In Lakh) |           |           |           |           |           |  |  |
|------------------------------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|--|--|
| Particulars                        | 2023                                  | -24       | 2024      | -25       | 2025-26   |           |  |  |
|                                    | Unit-VII                              | Unit-VIII | Unit-VII  | Unit-VIII | Unit-VII  | Unit-VIII |  |  |
| Plant Capacity (MW)                | 300                                   | 250       | 300       | 250       | 300       | 250       |  |  |
| Plant Load Factor (PLF)            | 80%                                   | 80%       | 80%       | 80%       | 80%       | 80%       |  |  |
| Unit Wise Gross Generation         | 2102.400                              | 1752.000  | 2102.400  | 1752.000  | 2102.400  | 1752.000  |  |  |
| Auxiliary Consumption (%)          | 8.5                                   | 9.0       | 8.5       | 9.0       | 8.5       | 9.0       |  |  |
| Unit Wise Auxiliary<br>Consumption | 178.704                               | 157.680   | 178.704   | 157.680   | 178.704   | 157.680   |  |  |
| Unit Wise Ex-bus Generation        | 1923.696                              | 1594.320  | 1923.696  | 1594.320  | 1923.696  | 1594.320  |  |  |
| Fuel Costs (Oil + Coal)            | 52350.770                             | 45061.630 | 55199.440 | 47514.500 | 57938.180 | 49872.540 |  |  |
| Employees Cost                     | 6429.21                               | 5359.54   | 5940.99   | 4945.23   | 6079.56   | 5066.32   |  |  |
| O&M Expenses                       | 4282.34                               | 3568.63   | 4460.63   | 3717.20   | 4649.59   | 3874.68   |  |  |
| Coal & Ash Handling Cost           | 285.29                                | 237.74    | 300.98    | 250.82    | 316.03    | 263.36    |  |  |
| Water Charges                      | 1324.51                               | 1103.76   | 1324.51   | 1103.76   | 1324.51   | 1103.76   |  |  |
| Depreciation                       | 5395.42                               | 7145.11   | 5422.51   | 7185.58   | 5531.89   | 7290.48   |  |  |
| Return on Equity                   | 6277.50                               | 5270.00   | 6277.50   | 5270.00   | 6277.50   | 5270.00   |  |  |
| Interest on Loan Capital           | 3984.90                               | 15005.95  | 3680.40   | 13859.30  | 3365.74   | 12674.38  |  |  |
| Other Finance Charges              | 70.28                                 | 3089.92   | 74.15     | 3259.86   | 78.23     | 3439.16   |  |  |
| Interest on Working Capital        | 1028.39                               | 1186.23   | 1062.64   | 1253.42   | 1111.05   | 1288.35   |  |  |
| Advance Against Depreciation       | 0.00                                  | 5809.08   | 0.00      | 9073.63   | 0.00      | 8968.73   |  |  |
| Gross Fixed Costs                  | 29077.84                              | 47775.96  | 28544.31  | 49918.80  | 28734.10  | 49239.22  |  |  |
| Less: Non-Tariff Income            | 1036.36                               | 863.64    | 1036.36   | 863.64    | 1036.36   | 863.64    |  |  |
| Less: Interest Credit              | 0.00                                  | 0.00      | 0.00      | 124.45    | 0.00      | 0.00      |  |  |
| Net Fixed Costs                    | 28041.48                              | 46912.32  | 27507.95  | 48930.71  | 27697.74  | 48375.58  |  |  |
| Aggregate Revenue<br>Requirement   | 80392.25                              | 91973.95  | 82707.39  | 96445.21  | 85635.92  | 98248.12  |  |  |
| Average Cost (Paisa/kWh)           | 489.                                  | 95        | 509.      | 24        | 522.      | 69        |  |  |





## **CHAPTER 3 VARIABLE CHARGES**

- 3.1 An examination of the projected fuel cost claimed by DPL for 2023-24, 2024-25 and 2025-26 of the 8<sup>th</sup> Control Period under different heads for its generating stations, viz. Unit-VII (300 MW) and Unit-VIII (250 MW) presently in operation are taken up in this chapter.
- 3.2 Gross Generation with Normative PAF & PLF: It is submitted that, DPL could not achieve the normative PAF and PLF specified in the Tariff Regulations, till the base year due to inadequate availability of coal for fund constraints, low grade of coal leading constraints in achieving full load capacity from the auxiliary equipments eg. Mills and Fans, forced outages, etc. Though, for the 8<sup>th</sup> Control Period DPL projects their generation considering normative PLF specified in the Tariff Regulations, they pray for relaxation of norms considering the difficulties faced by them. This Commission does not allow any relaxation of PLF norms and hence, admits the gross generation from Unit-VII and Unit-VIII of DPL for the 8<sup>th</sup> Control Period based on normative PLF detailed in the next paragraph.
- 3.3 Auxiliary Consumption and Ex-bus Generation: DPL submits that it cannot segregate unit wise 'Auxiliary Consumption' in some common areas like CHP, etc. and also, DPL is unable to optimize the running hours of load bearing equipment, the auxiliary consumption are high on account of the reasons such as design issues to Unit-VII, poor quality of coal, etc. DPL mentions that there is significant transformation loss which increased their auxiliary consumption since 01.01.2019. DPL however, considers the 'Auxiliary Consumption' norms specified in the Tariff Regulations, but prays before this Commission to consider the difficulties faced by them. This Commission here admits the allowable 'Auxiliary Consumption' and 'Ex-bus Generation' as per the norms specified in the Tariff Regulations, as shown below:





Table: 3.1

|   | Gross Generation, Auxiliary Consumption & Ex-bus Generation (MU) |           |          |           |          |           |  |  |  |
|---|--|-----------|----------|-----------|----------|-----------|--|--|--|
| Particulars as Admitted                 | 2023-  | -24       | 2024     | 4-25      | 2025-26  |           |  |  |  |
|   | Unit-VII   | Unit-VIII | Unit-VII | Unit-VIII | Unit-VII | Unit-VIII |  |  |  |
| Plant Capacity (MW)                     | 300  | 250       | 300      | 250       | 300      | 250       |  |  |  |
| Plant Availability Factor (PAF)         | 85%  | 85%       | 85%      | 85%       | 85%      | 85%       |  |  |  |
| Plant Load Factor                       | 80%  | 80%       | 80%      | 80%       | 80%      | 80%       |  |  |  |
| Unit Wise Gross<br>Generation (MU)      | 2108.160   | 1756.800  | 2102.400 | 1752.000  | 2102.400 | 1752.000  |  |  |  |
| Overall Gross<br>Generation             |  | 3864.960  |          | 3854.400  |          | 3854.400  |  |  |  |
| Auxiliary Consumption (%)               | 8.5  | 9.0       | 8.5      | 9.0       | 8.5      | 9.0       |  |  |  |
| Unit Wise Auxiliary<br>Consumption (MU) | 179.194  | 158.112   | 178.704  | 157.680   | 178.704  | 157.680   |  |  |  |
| Unit Wise Ex-bus<br>Generation          | 1928.966   | 1598.688  | 1923.696 | 1594.320  | 1923.696 | 1594.320  |  |  |  |
| Overall Ex-bus<br>Generation (MU)       |  | 3527.654  |          | 3518.016  |          | 3518.016  |  |  |  |

- 3.4 <u>Station Heat Rate, Specific Oil Consumption and Transit & Handling Loss:</u> DPL considers the normative Station Heat rate (SHR), the normative Specific Oil Consumption (SOC) and the normative Transit & Handling Loss (THL) during the 8<sup>th</sup> Control Period as specified in the Tariff Regulations, while projecting the fuel cost. At the same time, DPL prays to allow some relaxation considering the difficulties faced by them as explained Paragraph: 2.4.
- 3.5 This Commission observes that, the normative parameters were finalized in the Tariff Regulations duly following the conditions of previous publication in terms of Sub-section: (3) of Section: 181 of the Electricity Act, 2003 and accordingly, reviewed in its latest edition of the Tariff Regulations (Fourth Amendment), 2023. Hence, this Commission considers to admit the 'Fuel Cost' based on normative rates as specified in Schedule 9A of the Tariff Regulations, as amended and calculates the 'Gross Heat requirement' and the 'Gross Oil Consumption' as below:





Table: 3.2

| Particulars as Admitted             | Station Heat Rate, Specific Oil Consumption and Transit & Handling Loss |           |          |           |          |           |  |  |
|-------------------------------------|---|-----------|----------|-----------|----------|-----------|--|--|
|                                     | 2023-24   |           | 2024-25  |           | 2025-26  |           |  |  |
|                                     | Unit-VII  | Unit-VIII | Unit-VII | Unit-VIII | Unit-VII | Unit-VIII |  |  |
| Station Heat Rate (kCal/kWh)        | 2345  | 2425      | 2345     | 2425      | 2345     | 2425      |  |  |
| Gross Heat Requirement (Gcal)       | 4943635   | 4260240   | 4930128  | 4248600   | 4930128  | 4248600   |  |  |
| Specific Oil Consumption (ml/kWh)   | 1.00  | 1.00      | 1.00     | 1.00      | 1.00     | 1.00      |  |  |
| Gross Oil Consumption (kl)          | 2108.16   | 1756.80   | 2102.40  | 1752.00   | 2102.40  | 1752.00   |  |  |
| Transit & Handling Loss of Coal (%) | 0.50  | 0.50      | 0.50     | 0.50      | 0.50     | 0.50      |  |  |

3.6 Regarding excess specific oil consumption on account of any grid failure or forced outage at the instruction of SLDC, DPL shall submit the details along with their 'Fuel Cost Adjustment' (FCA) petition of the respective year along with supporting documents.

## 3.7 Fuel Cost: DPL projects the 'Fuel Cost' as follows:

Table: 3.3

| Particulars                   | Cost of Fuel Projected by DPL (Rs. In Lakh) |           |           |           |           |           |  |  |
|-------------------------------|---|-----------|-----------|-----------|-----------|-----------|--|--|
|                               | 2023-24                                     |           | 2024-25   |           | 2025-26   |           |  |  |
|                               | Unit-VII                                    | Unit-VIII | Unit-VII  | Unit-VIII | Unit-VII  | Unit-VIII |  |  |
| Gross Heat Requirement (Gcal) | 4930128                                     | 4248600   | 4930128   | 4248600   | 4930128   | 4248600   |  |  |
| Heat from Oil (Gcal)          | 19626.00                                    | 16354.92  | 19626.00  | 16354.92  | 19626.00  | 16354.92  |  |  |
| Heat from Coal (Gcal)         | 4910502                                     | 4232245   | 4910502   | 4232245   | 4910502   | 4232245   |  |  |
| Average Cost of Oil (Rs/kl)   | 97089.99                                    | 97089.99  | 100973.59 | 100973.59 | 105012.53 | 105012.53 |  |  |
| Cost of Oil (Rs. In Lakh)     | 2041.22                                     | 1701.02   | 2122.87   | 1769.06   | 2207.78   | 1839.82   |  |  |
| Heat Value of Coal (kcal/kg)  | 3680  | 3680      | 3680      | 3680      | 3680      | 3680      |  |  |
| Coal Consumption (+THL5%)     | 1341047                                     | 1155817   | 1341047   | 1155817   | 1341047   | 1155817   |  |  |
| Average Cost of Coal (Rs/MT)  | 3751.51                                     | 3751.51   | 3957.84   | 3957.84   | 4155.74   | 4155.74   |  |  |
| Cost of Coal (Rs. In Lakh)    | 50309.55                                    | 43360.61  | 53076.57  | 45745.44  | 55730.40  | 48032.72  |  |  |
| Cost of Fuel (Parin Lokh)     | 52350.77                                    | 45061.63  | 55199.44  | 47514.50  | 57938.18  | 49872.54  |  |  |
| Cost of Fuel (Rs. In Lakh)    | 97412.40                                    |           | 102713.94 |           | 107810.72 |           |  |  |
| Variable Charges (Paisa/kWh)  | 276.  | 90        | 291.97    |           | 306.45    |           |  |  |

Finally, DPL projects 'Variable Charges' as 276.90 paise/kWh, 291.97 paise/kWh and 306.45 paise/kWh for 2023-24, 2024-25 and 2025-26 respectively whereas, the same





were allowed as **210.88** paisa/kWh, **156.31** paisa/kWh and **157.50** paisa/kWh for 2020-21, 2021-22 and 2022-23 respectively in the Tariff Order for 7<sup>th</sup> Control Period. It is noted that DPL has already submitted FCA petition with the audited figures for 2020-21 and 2021-22, showing an adjustment of **+27** paisa/kWh and **+14** paisa/kWh for 2020-21 and 2021-22 respectively. So, this Commission decides to analyze the information in detail provided by DPL in the following paragraphs.

3.7.1 Cost of Oil: As proposed by DPL, this Commission admits the average 'GCV of Oil' as 9393 kcal/l for the 8<sup>th</sup> Control Period which resembles to the audited figure for 2022-23. The average price of oil projected by DPL as Rs.97089.99/kl, Rs.100973.59/kl and Rs.105012.53/kl for 2023-24, 2024-25 and 2025-26 respectively, whereas the same for 2021-22 & 2022-23 was Rs.60420.12/kl and Rs.84087.86/kl respectively as per Auditor's Certificate. However, the purchase rate of oil during the year 2022-23 was Rs.94884.82/kl as observed from the audited data submitted by DPL in their FPPCA petition for 2022-23. Having so much variations, this Commission considers the price of oil at Rs.94884.82/kl being the purchase rate oil during 2022-23 for all the three years 2023-24, 2024-25 and 2025-26. Any variation in price of oil can be adjusted through Monthly Fuel Cost Adjustment (MFCA) and Fuel Cost Adjustment (FCA) at the end of the year.

Table: 3.4

| Admissible Average Cost of Oil | 2023-24  | 2024-25  | 2025-26  |  |
|--------------------------------|----------|----------|----------|--|
| (Rs/kl) for 8th control period | 94884.82 | 94884.82 | 94884.82 |  |

This Commission admits the 'Cost of Oil' as below:

Table: 3.5

| Particulars as Admitted       | Required Heat from Primary Fuel (Gcal) & Cost of Oil (Rs. In Lakh) |           |          |           |          |           |  |  |
|-------------------------------|--|-----------|----------|-----------|----------|-----------|--|--|
|                               | 2023-24  |           | 2024-25  |           | 2025-26  |           |  |  |
|                               | Unit-VII   | Unit-VIII | Unit-VII | Unit-VIII | Unit-VII | Unit-VIII |  |  |
| Gross Heat Requirement (Gcal) | 4943635  | 4260240   | 4930128  | 4248600   | 4930128  | 4248600   |  |  |
| Gross Oil Consumption (kl)    | 2108.16  | 1756.80   | 2102.40  | 1752.00   | 2102.40  | 1752.00   |  |  |
| GCV of Oil (kcal/l)           | 9393   | 9393      | 9393     | 9393      | 9393     | 9393      |  |  |
| Heat from Oil (Gcal)          | 19801.95   | 16501.62  | 19747.84 | 16456.54  | 19747.84 | 16456.54  |  |  |
| Heat from Primary Fuel (Gcal) | 4923833  | 4243738   | 4910380  | 4232143   | 4910380  | 4232143   |  |  |
| Average Price of Oil (Rs/kl)  | 94884.82   | 94884.82  | 94884.82 | 94884.82  | 94884.82 | 94884.82  |  |  |
| Cost of Oil (Rs. In Lakh)     | 2000.32  | 1666.94   | 1994.86  | 1662.38   | 1994.86  | 1662.38   |  |  |