

Jharkhand State Electricity Regulatory Commission



True-up for FY 2017-18, FY 2018-19, FY 2019-20 and
Annual Performance Review for FY 2020-21
for
Adhunik Power and Natural Resources Limited (APNRL)

Ranchi
June 22, 2023



A 1: TABLE OF CONTENTS

| | |
|--|-----------|
| A 1: INTRODUCTION | 12 |
| Jharkhand State Electricity Regulatory Commission | 12 |
| Adhunik Power and Natural Resources Limited (APNRL) | 14 |
| Overview of the Thermal Station | 16 |
| The Petitioner's Prayers | 16 |
| Scope of the Present Order | 17 |
| A 2: PROCEDURAL HISTORY | 18 |
| Background | 18 |
| Information Gaps in the Petitions | 18 |
| Inviting Public Comments/Suggestions | 19 |
| Submission of Comments/Suggestions and Conduct of Public Hearing | 20 |
| A 3: BRIEF FACTS OF THE PETITION | 21 |
| Truing up for FY 2017-18, FY 2018-19, FY 2019-20 | 21 |
| <i>Operational Parameters of Plant</i> | 21 |
| <i>Aggregate Revenue Requirement (ARR)</i> | 21 |
| Annual Performance Review for FY 2020-21 | 22 |
| <i>Aggregate Revenue Requirement (ARR)</i> | 23 |
| A 4: PUBLIC CONSULTATION PROCESS | 24 |
| <i>Gross fixed asset and capitalization</i> | 24 |
| <i>Additional Capitalization for Unit-1 and Unit-2. for FY 2017-18</i> | 25 |
| <i>Additional Capitalization for Unit-1 and Unit-2. for FY 2018-19</i> | 26 |
| <i>Depreciation for FY 2017-18 to FY 2019-20 as per MYT order dt 19.02.2018</i> | 27 |
| <i>Return on Equity for FY 2017-18 to FY 2019-20</i> | 28 |
| <i>Operations and Maintenance (O&M) Expenses</i> | 29 |
| <i>Interest on working capital</i> | 29 |
| <i>Summary of Annual Fixed Charges</i> | 30 |
| <i>True up of Tariff for FY 2017-18 to FY 2019-20 and Table 20: AFC share of Discom for FY 2017-18 to FY 2019-20</i> | 30 |
| <i>Truing-Up of Energy Charges</i> | 31 |
| <i>Water Charges</i> | 32 |
| <i>Ash disposal and Transportation charges</i> | 32 |



| | |
|---|-----------|
| Impact of Truing-up..... | 33 |
| Allowable incentives | 34 |
| A 5: TRUE-UP FOR FY 2017-18..... | 35 |
| Operational Performance | 35 |
| Plant Availability Factor (PAF) | 35 |
| Auxiliary Consumption | 36 |
| Plant Load Factor and Generation..... | 36 |
| Gross Station Heat Rate (GHR)..... | 37 |
| Specific Fuel Oil Consumption | 38 |
| Fuel Cost Parameters | 38 |
| Coal Mix and Gross Calorific Value (GCV) of Primary Fuel..... | 38 |
| Transit Loss | 40 |
| Landed Cost of Coal | 40 |
| Calorific value and Landed price of Secondary Fuel | 42 |
| Energy Charge Rate (ECR)..... | 43 |
| Determination of Fixed Cost | 46 |
| Additional Capitalization & De-capitalization..... | 46 |
| Depreciation..... | 50 |
| Operation & Maintenance Expenses..... | 51 |
| Interest on Loan..... | 53 |
| Interest on Working Capital (IoWC)..... | 56 |
| Return on Equity | 59 |
| Annual Fixed Charge | 61 |
| Water Charges, Capital Spare Expenses..... | 62 |
| Ash Disposal Expenses | 65 |
| Tariff for Unit-1 and Unit-2 | 66 |
| Revenue | 68 |
| Impact of True up | 69 |
| A 6: TRUE-UP FOR FY 2018-19..... | 73 |
| Operational Performance | 73 |
| Plant Availability Factor (PAF) | 73 |
| Auxiliary Consumption | 74 |
| Plant Load Factor and Generation..... | 74 |



| | |
|---|------------|
| Gross Station Heat Rate (GHR)..... | 75 |
| Specific Fuel Oil Consumption | 76 |
| Fuel Cost Parameters | 76 |
| Coal Mix and Gross Calorific Value (GCV) of Primary Fuel..... | 76 |
| Transit Loss | 77 |
| Landed Cost of Coal | 78 |
| Calorific value and Landed price of Secondary Fuel | 79 |
| Energy Charge Rate (ECR)..... | 80 |
| Determination of Fixed Cost | 81 |
| Additional Capitalization & De-capitalization..... | 81 |
| Depreciation..... | 84 |
| Operation & Maintenance Expenses..... | 85 |
| Interest on Loan | 86 |
| Interest on Working Capital (IoWC)..... | 87 |
| Return on Equity | 89 |
| Annual Fixed Charge | 90 |
| Water Charges, Capital Spare Expenses..... | 91 |
| Ash Disposal Expenses | 93 |
| Tariff for Unit-1 and Unit-2 | 94 |
| Revenue | 96 |
| Impact of True up | 97 |
| A 7: TRUE-UP FOR FY 2019-20..... | 101 |
| Operational Performance | 101 |
| Plant Availability Factor (PAF) | 101 |
| Auxiliary Consumption | 102 |
| Plant Load Factor and Generation..... | 102 |
| Gross Station Heat Rate (GHR)..... | 103 |
| Specific Fuel Oil Consumption | 104 |
| Fuel Cost Parameters | 104 |
| Coal Mix and Gross Calorific Value (GCV) of Primary Fuel..... | 104 |
| Transit Loss | 106 |
| Landed Cost of Coal | 106 |
| Calorific value and Landed price of Secondary Fuel | 107 |



| | |
|---|------------|
| Energy Charge Rate (ECR) | 108 |
| Determination of Fixed Cost | 109 |
| <i>Additional Capitalization & De-capitalization</i> | 109 |
| <i>Depreciation</i> | 111 |
| <i>Operation & Maintenance Expenses</i> | 112 |
| <i>Interest on Loan</i> | 113 |
| <i>Interest on Working Capital (IoWC)</i> | 114 |
| <i>Return on Equity</i> | 116 |
| <i>Annual Fixed Charge</i> | 117 |
| <i>Incentive</i> | 119 |
| <i>Water Charges, Capital Spare Expenses</i> | 119 |
| <i>Ash Disposal Expenses</i> | 121 |
| Shakti Coal Discount | 122 |
| Tariff for Unit-1 and Unit-2 | 123 |
| Revenue | 125 |
| Impact of True up | 126 |
| A 8: ANNUAL PERFORMANCE REVIEW FOR FY 2020-21 | 129 |
| Operational Performance | 129 |
| <i>Plant Availability Factor (PAF)</i> | 129 |
| <i>Auxiliary Consumption</i> | 130 |
| <i>Plant Load Factor and Generation</i> | 131 |
| <i>Gross Station Heat Rate (GHR)</i> | 131 |
| <i>Specific Fuel Oil Consumption</i> | 132 |
| Fuel Cost Parameters | 132 |
| <i>Coal Mix and Gross Calorific Value (GCV) of Primary Fuel</i> | 132 |
| <i>Transit Loss</i> | 134 |
| <i>Landed Cost of Coal</i> | 134 |
| <i>Calorific value and Landed price of Secondary Fuel</i> | 135 |
| Energy Charge Rate (ECR) | 136 |
| Determination of Fixed Cost | 138 |
| <i>Additional Capitalization & De-capitalization</i> | 138 |
| <i>Depreciation</i> | 139 |
| <i>Operation & Maintenance Expenses</i> | 140 |



| | |
|---|------------|
| <i>Interest on Loan</i> | 141 |
| <i>Interest on Working Capital (IoWC)</i> | 143 |
| <i>Return on Equity</i> | 144 |
| <i>Annual Fixed Charge</i> | 146 |
| <i>Incentive</i> | 147 |
| <i>Water Charges, Capital Spare Expenses</i> | 147 |
| <i>Ash Disposal Expenses</i> | 149 |
| Tariff for Unit-1 and Unit-2 | 150 |
| A 9: STATUS OF EARLIER DIRECTIVES AND NEW DIRECTIVES | 154 |
| Timely and Data Adequacy in the Next Tariff Petition..... | 154 |
| Submission of Unit-wise Operational Parameters Separately | 154 |
| Development of a Fuel Procurement Plan | 154 |
| Transit Loss | 154 |
| Notice to the Commission..... | 154 |
| Fly Ash Brick Plant | 155 |
| ANNEXURE | 156 |
| Annexure-1: List of participating members of the public in the public hearing | 156 |

**List of Abbreviations**

| Abbreviation | Description |
|---------------------|---|
| A&G | Administrative and General |
| APNRL | Adhunik Power and Natural Resources Limited |
| ARR | Aggregate Revenue Requirement |
| CEA | Central Electricity Authority |
| COD | Commercial Operation Date |
| CFBC | Circulating Fluidized Bed Combustion |
| CCL | Central Coalfield Limited |
| CIL | Coal India Limited |
| ECR | Energy Charge Rate |
| FY | Financial Year |
| GCV | Gross Calorific Value |
| GFA | Gross Fixed Assets |
| GHR | Gross Station Heat Rate |
| GoI | Government of India |
| GoJ | Government of Jharkhand |
| IoWC | Interest on Working Capital |
| JBVNL | Jharkhand Bijli Vitran Nigam Limited |
| JSEB | Jharkhand State Electricity Board |
| JSERC | Jharkhand State Electricity Regulatory Commission |
| JUVNL | Jharkhand Urja Vikas Nigam Limited |
| kCal | Kilocalorie |
| kg | Kilogram |
| kWh | Kilowatt-hour |
| MAT | Minimum Alternative Tax |
| ML | Millilitre |
| MOU | Memorandum of Understanding |
| MT | Million Tonnes |
| MU | Million Units |
| MW | Megawatt |
| MYT | Multi-Year Tariff |
| NAPAF | Normative Annual Plant Availability Factor |
| O&M | Operations and Maintenance |
| PAF | Plant Availability Factor |
| PLF | Plant Load Factor |
| PPA | Power Purchase Agreement |
| R&M | Repair and Maintenance |
| RoE | Return on Equity |
| Rs. | Rupees |
| SBI | State Bank of India |
| SERC | State Electricity Regulatory Commission |
| SLDC | State Load Dispatch Centre |
| SLM | Straight Line Method |

List of Tables

| | |
|--|----|
| Table 1: List of newspapers and dates of publication of public notice by the Petitioner | 19 |
| Table 2: List of newspapers and dates of publication of public notice by the Commission | 19 |
| Table 3: Operational Parameters for FY 2017-18 as submitted by the Petitioner | 21 |
| Table 4: Operational Parameters for FY 2018-19 as submitted by the Petitioner | 21 |
| Table 5: Operational Parameters for FY 2019-20 as submitted by the Petitioner | 21 |
| Table 6: Annual Revenue Requirement for FY 2017-18 as submitted by the Petitioner (Rs. Crore)..... | 22 |
| Table 7: Annual Revenue Requirement for FY 2018-19 as submitted by the Petitioner (Rs. Crore)..... | 22 |
| Table 8: Annual Revenue Requirement for FY 2019-20 as submitted by the Petitioner (Rs. Crore)..... | 22 |
| Table 9: Operational Parameters for FY 2020-21 as submitted by the Petitioner | 23 |
| Table 10: Annual Revenue Requirement for FY 2020-21 as submitted by the Petitioner (Rs. Crore)..... | 23 |
| Table 11: Plant availability as approved by the Commission..... | 36 |
| Table 12: Auxiliary Consumption as approved by the Commission | 36 |
| Table 13: Plant Load Factor and Generation as approved by the Commission | 37 |
| Table 14: Gross Station Heat Rate (GHR) as approved by the Commission | 38 |
| Table 15: Specific Fuel Oil Consumption as approved by the Commission | 38 |
| Table 16: Coal Mix and GCV for Unit-1 as approved by the Commission..... | 39 |
| Table 17: Coal Mix and GCV for Unit-2 as approved by the Commission..... | 39 |
| Table 18: Transit Loss as approved by the Commission | 40 |
| Table 19: Landed price of Coal as approved by the Commission | 42 |
| Table 20: Calorific value and Landed price of Secondary fuel as approved by the Commission | 42 |
| Table 21: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission | 45 |
| Table 22: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission | 45 |
| Table 23: Details of additional capitalization as submitted by the Petitioner (Rs. Cr.) | 46 |
| Table 24: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore) | 48 |
| Table 25: Additional Capitalization for Unit-1 and Unit-2 for FY 2017-18 | 48 |
| Table 26: Details of the Additional Capitalization as approved by the Commission (Rs. Crore) | 50 |
| Table 27: Depreciation as submitted by the Petitioner (Rs. Crore)..... | 50 |
| Table 28: Depreciation as approved by the Commission (Rs. Crore) | 51 |
| Table 29: O&M Expenses as submitted by the Petitioner (Rs. Crore)..... | 52 |
| Table 30: O&M Expenses as approved by the Commission (Rs. Crore) | 53 |
| Table 31: Interest on Loan as submitted by the Petitioner (Rs. Crore) | 54 |
| Table 32: Interest on Loan as approved by the Commission (Rs. Crore) | 56 |
| Table 33: Interest on Working Capital as submitted by the Petitioner (Rs. Crore) | 57 |
| Table 34: Interest on Working Capital as approved by the Commission (Rs. Crore) | 59 |
| Table 35: RoE as submitted by the Petitioner (Rs. Crore) | 59 |
| Table 36: RoE as approved by the Commission (Rs. Crore)..... | 61 |
| Table 37: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore) | 61 |
| Table 38: Annual Fixed Charge as approved by the Commission (Rs. Crore) | 62 |
| Table 39: Water charge and Capital spare as submitted by the Petitioner (Rs. Cr.)..... | 63 |
| Table 40: Water charge and Capital Spare as approved by the Commission (Rs. Cr) | 65 |
| Table 41: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)..... | 65 |
| Table 42: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)..... | 66 |
| Table 43: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge) | 66 |
| Table 44: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge) | 66 |
| Table 45: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge) | 67 |
| Table 46: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge)..... | 67 |
| Table 47: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge)..... | 68 |
| Table 48: Revenue as submitted by the Petitioner (Rs. Crore)..... | 68 |
| Table 49: Revenue as approved by the Commission (Rs. Crore) | 69 |
| Table 50: Impact of True up as submitted by the Petitioner | 69 |
| Table 51: Gap/(Surplus) as approved by the Commission (Rs. Crore). | 70 |
| Table 52: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore) | 71 |
| Table 53: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore) | 71 |
| Table 54: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.) | 72 |
| Table 55: Plant availability as approved by the Commission..... | 74 |
| Table 56: Auxiliary Consumption as approved by the Commission | 74 |
| Table 57: Plant Load Factor and Generation as approved by the Commission | 75 |
| Table 58: Gross Station Heat Rate (GHR) as approved by the Commission | 76 |
| Table 59: Specific Fuel Oil Consumption as approved by the Commission | 76 |
| Table 60: Coal Mix and GCV for Unit-1 as approved by the Commission..... | 77 |
| Table 61: Coal Mix and GCV for Unit-2 as approved by the Commission..... | 77 |
| Table 62: Transit Loss as approved by the Commission | 78 |
| Table 63: Landed price of Coal as approved by the Commission | 79 |
| Table 64: Calorific value and Landed price of Secondary fuel as approved by the Commission | 80 |
| Table 65: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission | 81 |



| | |
|---|-----|
| Table 66: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission | 81 |
| Table 67: Details of additional capitalization as submitted by the Petitioner (Rs. Crore) | 82 |
| Table 68: Details of Decapitalization as submitted by the Petitioner (Rs. Crore) | 82 |
| Table 69: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore) | 82 |
| Table 70: Discrepancy between Petitioner Claim and audited accounts in De-Capitalization (Rs. Crore) | 83 |
| Table 71: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore) | 84 |
| Table 72: Depreciation as submitted by the Petitioner (Rs. Crore) | 84 |
| Table 73: Depreciation as approved by the Commission (Rs. Crore) | 85 |
| Table 74: O&M Expenses as submitted by the Petitioner (Rs. Crore) | 85 |
| Table 75: O&M Expenses as approved by the Commission (Rs. Crore) | 85 |
| Table 76: Interest on Loan as submitted by the Petitioner (Rs. Crore) | 86 |
| Table 77: Interest on Loan as approved by the Commission (Rs. Crore) | 87 |
| Table 78: Interest on Working Capital as submitted by the Petitioner (Rs. Crore) | 88 |
| Table 79: Interest on Working Capital as approved by the Commission (Rs. Crore) | 88 |
| Table 80: Return On Equity as submitted by the Petitioner (Rs. Crore) | 89 |
| Table 81: RoE as approved by the Commission (Rs. Crore) | 90 |
| Table 82: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore) | 90 |
| Table 83: Annual Fixed Charge as approved by the Commission (Rs. Crore) | 91 |
| Table 84: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.) | 92 |
| Table 85: Water charge and Capital Spare as approved by the Commission (Rs. Cr) | 93 |
| Table 86: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 93 |
| Table 87: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 94 |
| Table 88: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge) | 94 |
| Table 89: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge) | 94 |
| Table 90: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge) | 95 |
| Table 91: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge) | 95 |
| Table 92: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge) | 96 |
| Table 93: Revenue as submitted by the Petitioner (Rs. Crore) | 97 |
| Table 94: Revenue as approved by the Commission (Rs. Crore) | 97 |
| Table 95: Impact of True up as submitted by the Petitioner | 97 |
| Table 96: Gap/(Surplus) as approved by the Commission (Rs. Crore). | 98 |
| Table 97: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore) | 99 |
| Table 98: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore) | 99 |
| Table 99: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.) | 99 |
| Table 100: Plant availability as approved by the Commission | 101 |
| Table 101: Auxiliary Consumption as approved by the Commission | 102 |
| Table 102: Plant Load Factor and Generation as approved by the Commission | 103 |
| Table 103: Gross Station Heat Rate (GHR) as approved by the Commission | 103 |
| Table 104: Specific Fuel Oil Consumption as approved by the Commission | 104 |
| Table 105: Coal Mix and GCV for Unit-1 as approved by the Commission | 105 |
| Table 106: Coal Mix and GCV for Unit-2 as approved by the Commission | 105 |
| Table 107: Transit Loss as approved by the Commission | 106 |
| Table 108: Landed price of Coal as approved by the Commission | 107 |
| Table 109: Calorific value and Landed price of Secondary fuel as approved by the Commission | 108 |
| Table 110: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission | 109 |
| Table 111: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission | 109 |
| Table 112: Details of additional capitalization as submitted by the Petitioner (Rs. Crore) | 110 |
| Table 113: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore) | 110 |
| Table 114: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore) .. | 111 |
| Table 115: Depreciation as submitted by the Petitioner (Rs. Crore) | 111 |
| Table 116: Depreciation as approved by the Commission (Rs. Crore) | 112 |
| Table 117: O&M Expenses as submitted by the Petitioner (Rs. Crore) | 112 |
| Table 118: O&M Expenses as approved by the Commission (Rs. Crore) | 113 |
| Table 119: Interest on Loan as submitted by the Petitioner (Rs. Crore) | 114 |
| Table 120: Interest on Loan as approved by the Commission (Rs. Crore) | 114 |
| Table 121: Interest on Working Capital as submitted by the Petitioner (Rs. Crore) | 115 |
| Table 122: Interest on Working Capital as approved by the Commission (Rs. Crore) | 116 |
| Table 123: RoE as submitted by the Petitioner (Rs. Crore) | 116 |
| Table 124: RoE as approved by the Commission (Rs. Crore) | 117 |
| Table 125: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore) | 118 |
| Table 126: Annual Fixed Charge as approved by the Commission (Rs. Crore) | 118 |
| Table 127: Incentive as submitted by the Petitioner (Rs. Crore) | 119 |
| Table 128: Incentive as approved by the Commission (Rs. Crore) | 119 |
| Table 129: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.) | 120 |
| Table 130: Water charge and Capital Spare as approved by the Commission (Rs. Cr) | 121 |
| Table 131: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 122 |
| Table 132: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 122 |
| Table 133: Shakti Scheme Discount as submitted by Petitioner (Rs. Crore) | 122 |



| | |
|--|-----|
| Table 134: Shakti Scheme Discount as approved by the Commission (Rs. Crore) | 122 |
| Table 135: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge) | 123 |
| Table 136: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge) | 123 |
| Table 137: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge) | 124 |
| Table 138: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge) | 124 |
| Table 139: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge) | 125 |
| Table 140: Revenue as submitted by the Petitioner (Rs. Crore) | 125 |
| Table 141: Revenue as approved by the Commission (Rs. Crore) | 126 |
| Table 142: Impact of True up as submitted by the Petitioner | 126 |
| Table 143: Gap/(Surplus) as approved by the Commission (Rs. Crore). | 127 |
| Table 144: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore) | 127 |
| Table 145: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore) | 128 |
| Table 146: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.) .. | 128 |
| Table 147: Plant availability as approved by the Commission | 130 |
| Table 148: Auxiliary Consumption as approved by the Commission | 130 |
| Table 149: Plant Load Factor and Generation as approved by the Commission | 131 |
| Table 150: Gross Station Heat Rate (GHR) as approved by the Commission | 132 |
| Table 151: Specific Fuel Oil Consumption as approved by the Commission | 132 |
| Table 152: Coal Mix and GCV for Unit-1 as approved by the Commission | 133 |
| Table 153: Coal Mix and GCV for Unit-2 as approved by the Commission | 133 |
| Table 154: Transit Loss as approved by the Commission | 134 |
| Table 155: Landed price of Coal as approved by the Commission | 135 |
| Table 156: Calorific value and Landed price of Secondary fuel as approved by the Commission | 136 |
| Table 157: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission | 137 |
| Table 158: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission | 137 |
| Table 159: Details of additional capitalization as submitted by the Petitioner (Rs. Crore) | 138 |
| Table 160: Details of decapitalization as submitted by the Petitioner (Rs. Crore) | 138 |
| Table 161: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore) ... | 139 |
| Table 162: Depreciation as submitted by the Petitioner (Rs. Crore) | 140 |
| Table 163: Depreciation as approved by the Commission (Rs. Crore) | 140 |
| Table 164: O&M Expenses as submitted by the Petitioner (Rs. Crore) | 141 |
| Table 165: O&M Expenses as approved by the Commission (Rs. Crore) | 141 |
| Table 166: Interest on Loan as submitted by the Petitioner (Rs. Crore) | 142 |
| Table 167: Interest on Loan as approved by the Commission (Rs. Crore) | 142 |
| Table 168: Interest on Working Capital as submitted by the Petitioner (Rs. Crore) | 143 |
| Table 169: Interest on Working Capital as approved by the Commission (Rs. Crore) | 144 |
| Table 170: RoE as submitted by the Petitioner (Rs. Crore) | 145 |
| Table 171: RoE as approved by the Commission (Rs. Crore) | 145 |
| Table 172: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore) | 146 |
| Table 173: Annual Fixed Charge as approved by the Commission (Rs. Crore) | 146 |
| Table 174: Incentive as submitted by the Petitioner (Rs. Crore) | 147 |
| Table 175: Incentive as approved by the Commission (Rs. Crore) | 147 |
| Table 176: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.) | 148 |
| Table 177: Water charge and Capital Spare as approved by the Commission (Rs. Cr) | 149 |
| Table 178: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 149 |
| Table 179: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.) | 150 |
| Table 180: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge) | 150 |
| Table 181: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge) | 150 |
| Table 182: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge) | 151 |
| Table 183: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge) | 151 |
| Table 184: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge) | 152 |
| Table 185: Total Tariff for JBVNL as submitted by the Petitioner | 152 |
| Table 186: Total Tariff for JBVNL as Approved by the Commission | 153 |



BEFORE

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 02 of 2022

In the matter of:

**Petition for
True-up for FY 2017-18, FY 2018-19, FY 2019-20
and
Annual Performance Review for FY 2020-21**

In the matter:

Adhunik Power and Natural Resources Limited (APNRL),
H-29, Harmu Housing Colony, Harmu, Ranchi-834002

.... Petitioner

PRESENT

Shri. Justice Amitav K. Gupta
Shri. Mahendra Prasad
Shri. Atul Kumar

Chairperson
Member (Legal)
Member (Technical)

Order dated June 22, 2023

Adhunik Power and Natural Resources Limited (hereinafter referred to as APNRL or the Petitioner) has filed the petition for Truing up for FY 2017-18, FY 2018-19, FY 2019-20 and Annual Performance Review for FY 2020-21.



A 1: INTRODUCTION

Jharkhand State Electricity Regulatory Commission

- 1.1 The Jharkhand State Electricity Regulatory Commission (hereinafter referred to as the JSERC or the Commission) was established by the Government of Jharkhand under Section 17 of the Electricity Regulatory Commission Act, 1998 on August 22, 2002. The Commission became operational with effect from April 24, 2003.
- 1.2 The Government of Jharkhand vide its notification dated August 22, 2002, had defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely:
 - (a) to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be, in the manner provided in section 29;
 - (b) to determine the tariff payable for the use of the transmission facilities in the manner provided in section 29;
 - (c) to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
 - (d) to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.
- 1.3 After the Electricity Act, 2003 came into force, the earlier Electricity Regulatory Commission Act of 1998 stand repealed and the functions of State Electricity Regulatory Commission are now defined under Section 86 of the Act 2003.
- 1.4 In accordance with Section 86 (1) of the Act, the JSERC discharges the following functions:
 - (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:
Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
 - (b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the



- generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- (c) facilitate intra-state transmission and wheeling of electricity;
 - (d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
 - (e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
 - (f) adjudicate upon the disputes between the licensees and generating companies, and to refer any dispute for arbitration;
 - (g) levy fee for the purposes of this Act;
 - (h) specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79;
 - (i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
 - (j) fix the trading margin in the intra-state trading of electricity, if considered, necessary;
 - (k) discharge such other functions as may be assigned to it under this Act.
- 1.5 The Commission has to also advise the State Government as per sub section 2 of Section 86 of the Act, on all or any of the following matters, namely:
- (a) promotion of competition, efficiency and economy in activities of the electricity industry;
 - (b) promotion of investment in electricity industry;
 - (c) reorganisation and restructuring of electricity industry in the State;
 - (d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.
- 1.6 The State Commission shall ensure transparency while exercising its powers and discharging its functions.
- 1.7 In discharge of its functions, the State Commission is also guided by the National Tariff Policy as brought out by GoI in compliance to Section 3 of the Act. The objectives of the National Tariff Policy are to:



- (a) ensure availability of electricity to consumers at reasonable and competitive rates;
- (b) ensure financial viability of the sector and attract investments;
- (c) promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;
- (d) promote competition, efficiency in operations and improvement in quality of supply.

Adhunik Power and Natural Resources Limited (APNRL)

- 1.8 Adhunik Power and Natural Resources Limited (hereinafter referred to as APNRL or the Petitioner) is a company incorporated under the provisions of the Indian Companies Act, 1956.
- 1.9 Originally incorporated as “Adhunik Thermal Energy Ltd.” (ATEL), in the year 2007, ATEL was renamed to “Neepaz Thermal Energy Limited” (NTEL) and subsequently renamed as “Adhunik Power & Natural Resources Ltd.” (APNRL) in the year 2008 after complying with the applicable provisions of the Companies Act, 1956.
- 1.10 ATEL, in October 2005, had signed a Memorandum of Understanding (hereinafter referred to as “the MoU”) with Government of Jharkhand to develop a 1,000 MW coal based thermal power plant. Further in January 2007, the Petitioner and Government of Jharkhand agreed to extend the validity period of the MoU further for a period of 12 months. In February 2008, the Petitioner and Government of Jharkhand agreed to extend the validity period of the MoU further for a period of three years upto October 31, 2010. Subsequently in May 2011, the validity of the MoU was again extended for a period of three years from November 1, 2010 to October 31, 2013. In November 2013, the validity of MoU was again extended for a period of three years from November 1, 2013 to October 31, 2016.
- 1.11 Accordingly, APNRL has set up a 540 MW coal based power plant in Stage-1 (consisting of Unit 1 and Unit 2 of 270 MW each) and is planning to develop an additional 540 MW coal based power plant in Stage-2. Unit 1 of the power plant was synchronized on November 13, 2012 and COD for the same was declared on January 21, 2013. Unit 2 of the power plant was synchronized on March 29, 2013 and COD for the same was declared on May 19, 2013.
- 1.12 Further, as per the provisions of the MOU, the Government of Jharkhand or Distribution Licensees authorized by it will have the first right of claim on



purchase upto 25% of power delivered to the system by the proposed power station.

- 1.13 Further, the extension of the MoU stipulates that the Government of Jharkhand moved to Government of India for the policy decision through suitable arrangements for making available to the State, 12% of the total power generated at variable cost, by APNRL. Hence, as stated above, as per MoU and its extension's conditions, JSEB will have first right of claim on purchase upto 25% of power delivered to the system, out of which 12% power will be made available to the state at variable cost only.
- 1.14 Pursuant to the MoU signed between Government of Jharkhand and APNRL, APNRL signed a Power Purchase Agreement (hereinafter also referred to as "the PPA") with Jharkhand State Electricity Board (now Jharkhand Urja Vikas Nigam Limited or "JUVNL") on September 28, 2012 for supplying contracted capacity of 122.85 MW (25% of 491.4 MW, i.e., gross capacity of 2 units of 270 MW each, totaling to 540 MW less normative auxiliary consumption) from Stage-1 of the Project on long term basis.
- 1.15 As per the terms of the PPA, 63.882 MW capacity, i.e., 13% of Net Capacity of Stage-1 shall be supplied to JSEB (now JUVNL) at total tariff and the balance 58.968 MW capacity, i.e. 12% of total Net Capacity of Stage-1 shall be supplied at variable cost only.
- 1.16 As per clause 3.1 (ii) and (iii) of the PPA entered into by the Petitioner and JSEB (now JUVNL), the tariff payable shall be determined by the State Commission:

3.1(ii) "The tariff for sale of power by seller to procurer for the contracted capacity of 63.882 MW shall be payable by the procurer as determined by JSERC in accordance with the "Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2010 as amended from time to time or any other competent authority authorized from time to time. The annual fixed charges determined in accordance with the "Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2010 shall be recoverable from the net saleable capacity of 432.432 MW (i.e. Gross capacity minus auxiliary consumption minus 12% power to be supplied to procurer at energy charge)".



3.1(iii) *The energy charge for sale of power by seller to procurer for the contracted capacity of 59.968 MW shall be payable by the procurer as determined by the JSERC in accordance with the “Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2010”, as amended from time to time.”*

Overview of the Thermal Station

1.17 The Petitioner had achieved COD of its two units of 270 MW each in the year 2013. Both these units are subject to ARR and Tariff determination. The following table summarizes the information pertaining to both the units:

| Sr. no. | Unit | Installed Capacity (MW) | Status of Operation | Actual Date of Commercial Operation |
|----------------|-------------|--------------------------------|----------------------------|--|
| 1 | Unit 1 | 270 MW | Operational | January 21, 2013 |
| 2 | Unit 2 | 270 MW | Operational | May 19, 2013 |

The Petitioner’s Prayers

1.18 The Petitioner in this Petition has prayed before the Commission:

- Approve the True-up of ARR for 540 MW (2x270 MW) coal based thermal power plant in Jharkhand, for supplying the regulated Contracted Capacity of 122.85 MW to DISCOM for FY 2017-18, FY 2018-19 and FY 2019-20 and APR for FY 2020-21;
- Approve the APR for 540 MW (2x270 MW) coal based thermal power plant in Jharkhand, for supplying the regulated Contracted Capacity of 122.85 MW to Discom for FY 2020-21;
- Approve the recovery of upward and downward variation in fuel prices and calorific values including fuel mix through Fuel Price Adjustment as part of monthly Energy Charges;
- The petitioner respectfully seeks an opportunity to present their case prior to the finalization of the tariff order. The petitioner believes that such an approach would provide a fair treatment to all the stakeholders and may eliminate the need of a review or clarification;
- Condone any inadvertent omissions/errors/ rounding off difference/shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required by the Commission; and
- Pass such further and other Order, as the Commission may deem fit and proper, keeping in view the facts and circumstances of the case.



Scope of the Present Order

- 1.19 The Commission in this Order has approved the True-up for FY 2017-18, FY 2018-19, FY 2019-20, and APR for FY 2020-21.
- 1.20 While approving this Order, the Commission has taken into consideration:
- a) Material placed on record by the Petitioner
 - b) Provisions of the Electricity Act, 2003
 - c) Principles laid down in the National Electricity Policy
 - d) Principles laid down in the National Tariff Policy
 - e) Follow the Methodology used in previous order
 - f) Provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 (hereinafter referred to as JSERC Generation Tariff Regulations, 2015 or the Regulations).
- 1.21 Accordingly, the Commission has scrutinized the Petition in detail and hereby issues the Order on Truing-up for FY 2017-18, FY 2018-19, FY 2019-20 and APR for FY 2020-21 of APNRL.



A 2: PROCEDURAL HISTORY

Background

- 2.1 The Commission had notified Provisional Order on the Petition for approval of Capital Cost, Business Plan, and MYT Petition for FY 2012-13 to FY 2015-16 for Adhunik Power and Natural Resources Limited (APNRL) on May 26, 2014.
- 2.2 The Commission had notified Order on petition for approval of final Capital Cost of 540MW (2x270) Coal Based Thermal Power Plant in Jharkhand, True Up of ARR for FY 2012-13, FY 2013-14, APR of FY 2014-15 and ARR and Tariff Determination for FY 2015-16 on September 01, 2016. Further, the Petitioner filed a petition on September 29, 2016 seeking review of Order dated September 01, 2016. The Order, against the Review Petition, was issued by Commission on January 09, 2018.
- 2.3 The Commission vide Order dated February 19, 2018 approved the True-up for FY 2014-15 and FY 2015-16, Business Plan, ARR and Tariff for Multi Year Tariff Period from FY 2016-17 to FY 2020-21.
- 2.4 The Commission vide Order dated April 10, 2019 issued the Corrigendum Order by the Commission in Case No. 05 of 2018.
- 2.5 The Petitioner has now sought approval from the Commission on True-up for FY 2017-18, FY 2018-19, FY 2019-20 and APR for FY 2020-21.

Information Gaps in the Petitions

- 2.6 As part of the tariff determination exercise, several deficiencies/ information gaps were observed in the Petition submitted by the Petitioner. The information gaps were pointed out and communicated to the Petitioner vide letter nos. JSERC/Case (Tariff) No. 02 of 2022/206 dated October 14, 2022.
- 2.7 The Petitioner submitted its response to the aforesaid letters and furnished additional data/information vide letter nos. APNRL/PT-JBVNL/FY22-23/1435 January 18, 2023.
- 2.8 The Petitioner further submitted additional data vide letter nos. APNRL/PT-JBVNL/FY23-24/22 dated May 24, 2023 and also via E-mail.
- 2.9 The Commission scrutinized the additional data/ information submitted and considered the same while passing this Order on the Petition filed by the Petitioner. The Commission has also examined the replies and supporting



documents, as supplied by the Petitioner on the discrepancies pointed out to it only on material already on record in the Petition filed by the Petitioner.

Inviting Public Comments/Suggestions

2.10 The Commission directed the Petitioner to make available copies of the Petition to the members of the general public on request and also issued a public notice inviting comments/ suggestions on the Petition for approval of True-up for FY 2017-18, FY 2018-19, FY 2019-20, and APR for FY 2020-21.

2.11 The aforesaid public notice was issued by the Petitioner in various newspapers and a period of twenty-one (21) days was given to the members of the general public for submitting their comments/suggestions.

Table 1: List of newspapers and dates of publication of public notice by the Petitioner

| Newspaper | Date of Publication |
|------------------------|----------------------------|
| Sanmarg Ranchi | 30.01.2023 |
| The Pioneer | 30.01.2023 |
| The Hindustan Times | 30.01.2023 |
| Hindustan | 30.01.2023 |
| Sanmarg Jharkhand | 31.01.2023 |
| Sunday Pioneer | 31.01.2023 |
| Sunday Hindustan Times | 31.01.2023 |
| Hindustan Ranchi | 31.01.2023 |

2.12 Subsequently, the Commission also issued a notice on its website www.jserc.org, and various newspapers for conducting the public hearing on the Petition. The details of the newspapers publishing the notice by the Commission are as under:

Table 2: List of newspapers and dates of publication of public notice by the Commission

| Newspaper | Date of Publication |
|-------------------------------|----------------------------|
| Prabhat Khabar (Hindi) | 05.03.2023 |
| Danik Bhaskar (Hindi) | 05.03.2023 |
| The Times of India (English) | 05.03.2023 |
| The Hindustan Times (English) | 05.03.2023 |
| Prabhat Khabar (Hindi) | 19.03.2023 |
| Hindustan Dainik (Hindi) | 19.03.2023 |
| The Times of India (English) | 19.03.2023 |
| Morning India (English) | 19.03.2023 |



Submission of Comments/Suggestions and Conduct of Public Hearing

- 2.13 In order to provide adequate opportunities to all stakeholders and general public, as mandated under Section 64 (3) of the Electricity Act, 2003 and in relevant provisions of Regulation(s) framed by the Commission and in order to ensure transparency in the process of tariff determination, the Commission held public hearing on March 20, 2023 in Ranchi.
- 2.14 The objections/ comments/ suggestions, if any of the Public, Petitioner's responses and Commission's views thereon are detailed in **Section A4** of this Order.

**A 3: BRIEF FACTS OF THE PETITION**

3.1 The following sub-section presents a summary of True-up for FY 2017-18, FY 2018-19, FY 2019-20 and Annual Performance Review for FY 2020-21.

Truing up for FY 2017-18, FY 2018-19, FY 2019-20**Operational Parameters of Plant**

3.2 The summary of operational parameters approved by the Commission in MYT Order dated February 19, 2018 vis-à-vis as submitted by the Petitioner for FY 2017-18, FY 2018-19, and FY 2019-20 of Unit-1 and Unit-2 is provided in the table below:

Table 3: Operational Parameters for FY 2017-18 as submitted by the Petitioner

| Particulars | UoM | Unit-1 | | Unit-2 | |
|----------------------------------|----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Annual Plant Availability Factor | % | 85.00 | 73.09 | 85.00 | 73.09 |
| Auxiliary Energy Consumption | % | 9.00 | 9.00 | 9.00 | 9.00 |
| Gross Station Heat Rate | kcal/kWh | 2387 | 2387 | 2387 | 2387 |
| Secondary fuel oil Consumption | mL/kWh | 1.00 | 1.00 | 1.00 | 1.00 |

Table 4: Operational Parameters for FY 2018-19 as submitted by the Petitioner

| Particulars | UoM | Unit-1 | | Unit-2 | |
|----------------------------------|----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Annual Plant Availability Factor | % | 85.00 | 82.18 | 85.00 | 82.18 |
| Auxiliary Energy Consumption | % | 9.00 | 9.00 | 9.00 | 9.00 |
| Gross Station Heat Rate | kcal/kWh | 2387 | 2387 | 2387 | 2387 |
| Secondary fuel oil Consumption | mL/kWh | 1.00 | 1.00 | 1.00 | 1.00 |

Table 5: Operational Parameters for FY 2019-20 as submitted by the Petitioner

| Particulars | UoM | Unit-1 | | Unit-2 | |
|----------------------------------|----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Annual Plant Availability Factor | % | 85.00 | 89.56 | 85.00 | 89.56 |
| Auxiliary Energy Consumption | % | 9.00 | 9.00 | 9.00 | 9.00 |
| Gross Station Heat Rate | kcal/kWh | 2387 | 2387 | 2387 | 2387 |
| Secondary fuel oil Consumption | mL/kWh | 1.00 | 1.00 | 1.00 | 1.00 |

Aggregate Revenue Requirement (ARR)

3.3 The summary of Annual Revenue Requirement (ARR) as submitted by the Petitioner including subsequent replies for FY 2017-18 vis-à-vis as approved by



the Commission in MYT Order dated February 19, 2018 and corrigendum dated March 08, 2019 is tabulated below.

Table 6: Annual Revenue Requirement for FY 2017-18 as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.57 | 83.15 | 83.34 |
| Interest on Loan | 110.84 | 97.06 | 116.38 | 101.01 |
| O&M Expenses | 75.56 | 75.56 | 75.56 | 75.56 |
| Return on Equity (Pre-Tax) | 70.62 | 78.39 | 69.79 | 79.05 |
| Interest on Working Capital | 30.71 | 64.77 | 30.85 | 65.16 |
| Total AFC (Excluding water and ash Disposal Charge) | 370.10 | 398.36 | 375.73 | 404.11 |

Table 7: Annual Revenue Requirement for FY 2018-19 as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.64 | 83.15 | 83.09 |
| Interest on Loan | 100.02 | 88.07 | 105.34 | 91.98 |
| O&M Expenses | 79.28 | 79.28 | 79.28 | 79.28 |
| Return on Equity (Pre-Tax) | 70.62 | 78.51 | 69.79 | 79.16 |
| Interest on Working Capital | 30.69 | 76.90 | 30.83 | 76.17 |
| Total AFC (Excluding water and ash Disposal Charge) | 362.98 | 405.40 | 368.39 | 409.68 |

Table 8: Annual Revenue Requirement for FY 2019-20 as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.65 | 83.15 | 83.42 |
| Interest on Loan | 89.21 | 78.00 | 94.30 | 81.84 |
| O&M Expenses | 83.19 | 83.19 | 83.19 | 83.19 |
| Return on Equity (Pre-Tax) | 70.62 | 78.57 | 69.79 | 79.22 |
| Interest on Working Capital | 30.69 | 72.64 | 30.82 | 73.29 |
| Total AFC (Excluding water and ash Disposal Charge) | 356.08 | 395.06 | 361.25 | 400.96 |

Annual Performance Review for FY 2020-21

3.4 The Petitioner has projected the Operational Parameter for FY 2020-21 based on the actual figures for first six months of FY 2020-21 and estimated for the



remaining six months for FY 2020-21 vis-à-vis as approved by the Commission in MYT Order dated February 19, 2018 as tabulated below.

Table 9: Operational Parameters for FY 2020-21 as submitted by the Petitioner

| Particulars | UoM | Unit-1 | | Unit-2 | |
|----------------------------------|----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Annual Plant Availability Factor | % | 85.00 | - | 85.00 | - |
| Auxiliary Energy Consumption | % | 9.00 | 9.00 | 9.00 | 9.00 |
| Gross Station Heat Rate | kcal/kWh | 2387 | 2387 | 2387 | 2387 |
| Secondary fuel oil Consumption | mL/kWh | 1.00 | 1.00 | 1.00 | 1.00 |

Aggregate Revenue Requirement (ARR)

3.5 The summary of Annual Revenue Requirement (ARR) as submitted by the Petitioner including subsequent replies for FY 2020-21 vis-à-vis as approved by the Commission in MYT Order dated February 19, 2018 is tabulated below.

Table 10: Annual Revenue Requirement for FY 2020-21 as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.93 | 83.15 | 83.70 |
| Interest on Loan | 78.39 | 68.31 | 83.25 | 72.05 |
| O&M Expenses | 87.28 | 87.28 | 87.28 | 87.28 |
| Return on Equity (Pre-Tax) | 70.62 | 78.84 | 69.79 | 79.49 |
| Interest on Working Capital | 30.69 | 63.09 | 30.82 | 64.73 |
| Total AFC (Excluding water and ash Disposal Charge) | 349.35 | 380.44 | 354.29 | 387.24 |



A 4: PUBLIC CONSULTATION PROCESS

- 4.1 The Public Hearing was held on March 20, 2023 at Ranchi to ensure the maximum public participation and transparency wherein stakeholders put forth their comments and suggestions before the Commission in the presence of the Petitioner. The list of the attendees is attached as **Annexure-1** to this Order.
- 4.2 In course of public hearing, the Commission also allowed persons/representatives of entities who had not submitted prior written representations but attended the public hearing to express their views, in person, regarding the Petition filed by the Petitioner and also about ways and means to improve the services rendered by the Petitioner.
- 4.3 The comments and suggestions of the member of the public along with the response thereon of the Petitioner and the view of the Commission are summarised in this Section. Some of the issues raised by the stakeholders, which do not relate to True-up, and APR are not discussed in this Chapter.

Gross fixed asset and capitalization

JBVNL's objections

The details of these capital expenditures are not clear from the petition. The nature of these expenses in plant and machinery, building and civil engineering works should have been given details and the reasons for such changes had to be highlighted. In the absence of such details, it should not be passed on to the stakeholders. The additional capitalization for FY 16-17 and FY 17-18 for unit 1 and unit 2 are same and there is no bifurcation of these expenditures in the petition. It is not clear for which these expenses are made and to which unit.

Reply from APNRL

The Petitioner had provided the justification for the additional capitalization for FY 2016-17 in the reply to query 1 of this Hon'ble Commission, dated 11th November 2022.

Further, the petitioner wants to convey that the detailed bi-furcation of additional capitalization for FY 2017-18 had been provided in its true-up petition, case no: 02 of 2022, dated 2nd July 2021, which is sub-judice before this Hon'ble Commission. However, for the ease of reference, the submissions are again enclosed as Annexure-1.



Ash Handling System: The Petitioner submits that ash handling system required strengthening and accordingly the Petitioner purchased an automatic bagging and packing machine for sending bagged fly ash through railway rake to different customer in accordance with the norms of Ministry of Environment, Forest and Climate Change. Hence the Petitioner claims that this expense is justifiable and require increase in efficiency and compliance.

Site Development: The Petitioner at Birajpur, Jharkhand had developed a railway siding which is 800 meters away from the plant truck tippler area and the Petitioner has developed a road from truck tippler at coal handling plant to Birajpur railway siding for transportation of coal. This will increase the efficiency of coal unloading and movement.

Merry-Go-Round (MGR) / Railway Siding: The Petitioner has developed the railway siding at Birajpur, Jharkhand for unloading of coal near the plant. This railway siding is 800 meters far away the coal handling plant area.

Coal Handling System: The Petitioner has to procure coal from multiple sources, the coal handling system has to be strengthened to take care of multiple trucks reaching the power plant premises. Accordingly, a 100 MT weight bridge has been installed. Beside this 6 LPM oil filtration machine is purchased for truck tippler and stacker reclaimer for filtration of oil. Hence, the Petitioner claims that this expense is justifiable and necessary for operations.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Additional Capitalization for Unit-1 and Unit-2. for FY 2017-18

JBVNL's objections

APNRL has shown an expenses of around 2 crores for site development and 4.37 crores for railway siding. The necessity of such expenditure is not clear and thus, these expenditures should not be passed by the stakeholders.

In ash handling plant, the automatic bagging and packing machine was not necessary and was therefore a wasteful expenditure. Also, for site development, the road construction for coal movement should be probed accordingly. Similarly, the claim of expenses of MGR and railway siding needs to be thoroughly checked and its necessity vis-avis expenses should be probed upon and the expenses should be disallowed as_ it unnecessarily burdens the stakeholders and



ultimately the consumers of the state will face the tariff increase. Coal handling system is not justifiable in the name of strengthening the logistics.

Reply from APNRL

The Petitioner submits that the Petitioner at Birajpur, Jharkhand had developed a railway siding which is 800 meters away from plant truck tippler area. Earlier to this, the nearest railway siding was around 4 Km away from the coal handling plant. In order to increase the efficiency of coal unloading and movement, the said expenditure towards the railway siding development had been incurred.

In line with this, the Petitioner had developed a road from truck tippler at coal handling plant to Birajpur railway siding for the transportation of coal. This had been done in order to increase the efficiency of coal unloading and movement.

Similarly, the Petitioner submits that automatic bagging and packing machine had been purchased to strengthen the ash handling system and efficient movement of bagged fly ash through railway rake to different customer in accordance with the norms of Environment, Forest and Climate Change. Hence, the Petitioner submits that the expenses incurred towards the automatic bagging and packing machine is justifiable and required for increase in efficiency and compliance.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Additional Capitalization for Unit-1 and Unit-2. for FY 2018-19

JBVNL's objections

It is not clear what constitutes other ready assets where in APNRL claims to have an expense of 1.88 crores. In CHP (Coal handling Plant), the change from 12 wheeler truck to 14 wheeler truck expense is not justifiable. Only claiming such expenditure as per clause 7.6 (iv) of JSERC Generation Regulations, 2015 is not at all acceptable and should be discarded.

Reply from APNRL

Regarding this, the Petitioner had already given the justification in its petition. It has been again submitted that in order to procure large quantity of coal the Petitioner had purchased the truck tipplers. Since, the 14-wheel truck is much more spacious and coal from such trucks can transport substantially. Therefore,



the Petitioner has enhanced the capacity of the truck from 12 wheeled trucks to 14 wheeled trucks. Hence, the Petitioner claims that this expense is justifiable and required for efficient for movement of coal.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Depreciation for FY 2017-18 to FY 2019-20 as per MYT order dt 19.02.2018

JBVNL's objections

It is wrong to calculate the depreciation according to allowable figure. The depreciation should have been calculated on actual assets capitalized and the life of the assets that was not followed. Hence, it is not clear how the depreciation value is coming and thus, it should not have been passed on to the consumer.

Reply from APNRL

The Petitioner submits that the depreciation has been calculated as per the Regulation 7.28 and 7.29 of the JSERC Regulation, 2015 and similarly the depreciation rate has been used as per the depreciation schedule provided in the Appendix-1 of the JSERC Regulation, 2015.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Interest on debt repayment

JBVNL's objections

The weighted avg rate of interest for all such debtors seem to be at a higher side. The APNRL should be advised to recast their loan and refinance it with Financial institutions at lower interest rate. As the assets are mature and the business is generating profit, APNRL could have easily refinanced its loan at a lower rate of interest. The higher interest rate is eventually a burden for the end consumers as the increased rate would amount to a higher tariff for the consumer. Such higher interest rate should be discouraged and should not be allowed to the APNRL. For FY 17-18 to FY 19-20, there is an interest burden of around INR 540 crores which is huge to be passed on to the consumers.



Reply from APNRL

The Petitioner submits that as per Regulation 7.23 of the JSERC Regulation, 2015, the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year. Accordingly, the petitioner had worked out the interest rate in the petition.

Further, the petitioner submits that considering the benefit of the beneficiaries the Petitioner is continuously trying to restructure its finance at a lower rate. The Hon'ble Commission would appreciate that the company has gone through refinancing in FY 2020-21, which resulted in a lower interest rate of 9% from FY 2021-22.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Return on Equity for FY 2017-18 to FY 2019-20

JBVNL's objections

The JSERC in its petition has not provisioned for any fresh equity additions. Hence, the fresh equity additions to APNRL should be disapproved and not passed through to the consumers.

Reply from APNRL

In this regard, the Petitioner submits that the additional capitalization is a part of the capital cost of the company and as per regulation 7.13 and 7.14 of the JSERC Regulation, 2015 the financing of the capital should be in the form of debt equity ratio as allowed by the Hon'ble Commission and equity should be restricted to 30%. Accordingly, the Petitioner has considered the equity addition.

Apart from the petitioner wants to convey to the Hon'ble Commission that the JBVNL has itself considered fresh equity addition for FY 2017-18 & FY 2018-19 and the same has been approved of by the Hon'ble Commission vide its order dated 27.04.2018. Hence, it is unjustifiable for JBVNL to say that any fresh additions to APNRL should be disapproved.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.



Operations and Maintenance (O&M) Expenses

JBVNL's objections

The O&M expenses should have been probed in details and actual expenses after prudence check should have been passed. Claiming O&M expenses based on normative values should be disapproved.

Reply from APNRL

The Petitioner wants to submit that as per the regulation 6.14 (b) of the JSERC Regulation, 2015, any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR. Accordingly the Petitioner has claimed the O&M expense which was approved by the Hon'ble Commission in its MYT order dated 19.02.2018. Hence, it is submitted that the objection is incorrect and are in violation of the normative principles.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Interest on working capital

JBVNL's objections

The elements like Coal cost 1 month or max coal stock whichever is lower, Cost of Coal for 1 month, Receivable's equivalent to 180 days average billing Vs receivables against 60 days of billing. It is disheartening to see that APNRL is claiming 180 days of receivables in interest on working capital without any base. Also, it does not have any control over the cost of coal. Such huge working capital requirement is a blunder on the part of APNRL and at any cost, it should not be passed on to the consumers that are already reeling under huge tariff burden. JBVNL requests JSERC to disallow this instantly.

Reply from APNRL

The company has claimed interest on working capital for 180 days as the company received payment too late and on the other hand the company is paying advance for purchase of coal.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Summary of Annual Fixed Charges

JBVNL's objections

Such fixed charges from APNRL is not desirable that constitutes elements at inflated cost and should be disallowed instantly.

Reply from APNRL

No Comments

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

True up of Tariff for FY 2017-18 to FY 2019-20 and Table 20: AFC share of Discom for FY 2017-18 to FY 2019-20

JBVNL's objections

The incentive on the AFC entitlement should be based on the PLF and not on the plant availability.

Reply from APNRL

As per the JSERC Tariff Regulations, 2015, the generating company is allowed to claim incentives as per the provision mentioned below.

"8.15 Incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF)."

Further, the Regulation provides the definition of PLF as provided below:

"43) 'Plant Load Factor' or '(PLF)' in relation to thermal generating station or unit for a given period means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \sum_{i=1}^N SG_i / \{N \times IC \times (100 - AUX_n)\} \%$$

Where,

IC = Installed Capacity of the generating station or unit in MW,

SG_i = Scheduled Generation in MW for the ith time block of the period,

N = Number of time blocks during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross energy generations;"

The Regulation further provides the definition of availability as below:

"Plant Availability Factor (PAF)" in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during



that period expressed as a percentage of the installed capacity in MW reduced by the normative auxiliary energy consumption,”

In the current case, APNRL is supplying power to JBVNL for only part of the capacity (i.e., 188.85 MW net capacity). A total of around 100 MW net capacity is supplied to Tamil Nadu & West Bengal each and the remaining 103.15 MW (Net capacity) is operated under merchant sales. Therefore, while the availability of the units depicts the clear position on dispatch capability, however the PLF for overall capacity can be lower depending on dispatches required by West Bengal, Tamil Nadu and merchant sales. Historically, JBVNL has been dispatching the entire declared capacity against the contracted capacity. It is noteworthy that the definition of PLF takes into account the entire capacity of the station since the Regulation does not envisage a situation in which a generator can be supplying only part of the capacity.

Taking into account the above facts, the Petitioner has considered the availability of the station to be taken as the operating PLF for JBVNL. Accordingly, since the plant/station has remained available and gets dispatched fully for JBVNL's contracted capacity, the Petitioner has raised the claim for incentives against the same and requests the Hon'ble Commission to kindly approve the submission.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Truing-Up of Energy Charges

JBVNL's objections

In actual coal mix, APNRL claims to purchase coal above 95% from e-auction which is not desirable. It failed to get linkage coal for FY 17-18 and FY 18-19 and also in FY 19-20, the linkage coal is only around 30% that ultimately increases the cost of coal. Also, middling coal also increases the fuel mix that is not desirable. The inefficiency of APNRL in having a proper fuel mix should not be passed on to the consumers and should be discarded instantly. The weighted average cost of oil and coal is huge as compared to approved figures of JSERC. Instead of SHAKTI scheme, the APNRL prefer to purchase coal from auction market that is undesirable and should be disallowed.

Reply from APNRL

Regarding this, the Petitioner submits that in FY 2019-20 the APNRL had won the Shakti linkage coal and the supply of the same was commenced from mid of



the FY 2019-20. Since, the supply of Shakti linkage coal had started in the mid of FY 2019-20 and APNRL had to supply full contracted power to JBVNL, the balance coal had been procured from the auction/open market. Hence the share of Shakti coal for the period FY 2019-20 was 30% of the overall coal required for supply of contracted power to JBVNL.

Further the Petitioner submits that in order to reduce the cost of coal, the petitioner is continuously putting in efforts. The Hon'ble Commission would appreciate that the Petitioner has signed another FSA for supply of Shakti coal in FY 2022-23, which will further increase the share of Shakti coal from FY 2022-23 onwards.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Water Charges

JBVNL's objections

JBVNL should not be penalized for any inefficiency in the part of APNRL in water agreement and its charges.

Reply from APNRL

APNRL has already given a detailed deliberation on this matter. It is requested to the Hon'ble Commission to kindly consider the same.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Ash disposal and Transportation charges

JBVNL's objections

JBVNL submits that ash disposal and its transportation is the responsibility of APNRL and moreover, by selling these waste residual matters to other industries such as brick kiln and cement, APNRL is generating revenue. So, any expenditure related to the ash disposal and its transportation should not be passed on to the consumers.

Reply from APNRL



The Petitioner submits that ash disposal and transportation is the statutory requirement of the power plant. The Petitioner has been disposing of and transporting the Ash from its power station in accordance with the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) notification dated 25.01.2016.

The Petitioner has already provided the justification for the same in its reply to the query raised by the Hon'ble Commission, vide the letter of the Petitioner dated 18" January 2023.

In connection with the above, it is submitted that the APNRL is trying to fulfill the MOEF guidelines for the Ash utilizations by giving Ash to cement plant / Ash brick manufacturing plant.

Commission Analysis

The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Impact of Truing-up

JBVNL's objections

In FY 19-20, APNRL claims for an incentive of INR 1.17 crores for unit 1 and unit 2 which is un reasonable. Incentives as per JSERC should have been based on PLF and not on the PAF (Plant Availability factor).

Reply from APNRL

It has been stated above that historically, JBVNL has been dispatching the entire declared capacity against the contracted capacity. It is noteworthy that the definition of PLF takes into account the entire capacity of the station since the Regulation does not envisage a situation in that a generator can be supplying only part of the capacity.

Given the above facts, the Petitioner has considered the availability of the station to be taken as the operating PLF for JBVNL. Accordingly, since the plant/station has remained available and gets dispatched fully for JBVNL's contracted capacity, the Petitioner has raised the claim for incentives against the same and requests the Hon'ble Commission to kindly approve the submission.

Commission Analysis



The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

Allowable incentives

JBVNL's objections

The incentives on the AFC (Annual Fixed Charge) on the account of its calculation is disputed with APNRL. While it should have been on the basis of PLF, APNRL takes into account the availability while deciding on the AFC. Hence, it should be corrected accordingly. The PLF of the power plant is never shared by APNRL.

In Energy Charges, the inflated value of coal due to inefficient purchase should not be passed on to the JBVNL.

Reply from APNRL

It has been stated above that historically, JBVNL has been dispatching the entire declared capacity against the contracted capacity. It is noteworthy that the definition of PLF takes into account the entire capacity of the station since the Regulation does not envisage a situation in that a generator can be supplying only part of the capacity.

Given the above facts, the Petitioner has considered the availability of the station to be taken as the operating PLF for JBVNL. Accordingly, since the plant/station has remained available and gets dispatched fully for JBVNL's contracted capacity, the Petitioner has raised the claim for incentives against the same and requests the Hon'ble Commission to kindly approve the submission.



A 5: TRUE-UP FOR FY 2017-18

- 5.1 The Petitioner has submitted the True-up petition for FY 2017-18 based on the Audited Accounts taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in the earlier Orders.
- 5.2 The Commission has now carried out the True-up for FY 2017-18 taking into consideration:
- a) JSERC Generation Tariff Regulations, 2015;
 - b) Audited (Statutory) accounts for the FY 2017-18;
 - c) MYT Order for FY 2016-17 to FY 2020-21 vide dated February 19, 2018;
 - d) Corrigendum Order issued by the Commission dated April 10, 2019;
 - e) Methodology adopted by the Commission in its earlier Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

- 5.3 The Petitioner has submitted the actual availability for Unit-1 & Unit-2 as 73.09% respectively for FY 2017-18.

Commission's Analysis

- 5.4 The Commission in its MYT Order dated February 19, 2018, had approved the Normative Annual Plant Availability Factor (NAPAF) as 85.00% for the Control Period (FY 2016-17 to FY 2020-21) in line with Clause 8.4 of JSERC Generation Tariff Regulation, 2015.
- 5.5 The Commission noted the reply submitted by the Petitioner and scrutinized the month wise actual availability and approves the actual availability for FY 2017-18 as 73.09% for both Units.
- 5.6 Based on the information provided by the Petitioner, the Commission observes that the actual availability supplied during the FY 2017-18 is less than the normative value of 85.00%.
- 5.7 The actual Plant Availability as approved by the Commission in the MYT Order dated February 19, 2018 as submitted by the Petitioner and approved now by the Commission for FY 2017-18 is summarized below.

**Table 11: Plant availability as approved by the Commission**

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 73.09 | 73.09 |
| UNIT-2 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 73.09 | 73.09 |

Auxiliary Consumption**Petitioner's Submission**

5.8 The Petitioner has submitted the auxiliary consumption for FY 2017-18 on normative basis as 9.00% for both the Units in accordance with the approved value in MYT Order dated February 19, 2018.

Commission's Analysis

5.9 The Commission while dealing with the matter of approving the auxiliary consumption in the MYT Order dated February 19, 2018 for the Control period (FY 2016-17 to FY 2020-21) had verified the Purchase Order (PO) submitted by the Petitioner and approved the auxiliary consumption at normative level of 8.50% and an additional 0.50% for the induced cooling tower.

5.10 The Commission has therefore adopted the same methodology & also in accordance with the Clause 8.6(d)(i) of Generation Tariff Regulation 2015 approved the normative auxiliary consumption as 9.00% for both the Units as summarized below.

Table 12: Auxiliary Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |
| UNIT-2 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |

Plant Load Factor and Generation**Petitioner's Submission**

5.11 The Petitioner has submitted the actual Plant Load Factor (PLF) for Unit-1 as 89.00% and Unit-2 as 34.00% for FY 2017-18 against the normative value of 85.00% approved by the Commission in the MYT Order dated February 19, 2018.



5.12 Further, the Petitioner has submitted the Gross Generation as 1454.92 MU for both the Units which is average of 2106.07 MU for Unit-1 and 803.78 MU for Unit-2 for FY 2017-18.

Commission's Analysis

5.13 The Commission is of the view that the Petitioner should look into the reasons for the sub-optimal utilization of its assets which could be due to high cost of generation. The Petitioner should take steps towards reduction of the cost of generation so that more power can be scheduled thus increasing the utilization.

5.14 The Commission has scrutinized the detail submitted along with the Petition and approved the actual Plant Load Factor, Gross Generation and Net Generation as submitted by the Petitioner for FY 2017-18 as shown below.

Table 13: Plant Load Factor and Generation as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Gross Generation | MU | 2010.42 | 1454.92 | 2106.07 |
| Net Generation | MU | - | 1323.98 | 1916.53 |
| Plant Load Factor | % | - | 89.00 | 89.00 |
| UNIT-2 | | | | |
| Gross Generation | MU | 2010.42 | 1454.92 | 803.78 |
| Net Generation | MU | - | 1323.98 | 731.44 |
| Plant Load Factor | % | - | 34.00 | 34.00 |

Gross Station Heat Rate (GHR)

Petitioner's Submission

5.15 The Petitioner has claimed the Gross Station Heat Rate (GHR) for both the Units as 2387.00 kcal/kWh in line with the approved value in the MYT Order dated February 19, 2018.

Commission's Analysis

5.16 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and JSERC Generation Tariff Regulations, 2015. Hence, the Commission approves the Gross Station Heat Rate as submitted by the Petitioner for FY 2017-18 as shown below:

**Table 14: Gross Station Heat Rate (GHR) as approved by the Commission**

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|----------|-----------|----------|----------|
| UNIT-1 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| UNIT-2 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |

Specific Fuel Oil Consumption***Petitioner's Submission***

5.17 The Petitioner has submitted the specific fuel oil consumption as 1.00 mL/kWh in line with JSERC Generation Tariff Regulations, 2015 for both the Units for FY 2017-18.

Commission's Analysis

5.18 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and Generation Tariff Regulations, 2015. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner for FY 2017-18 as shown below:

Table 15: Specific Fuel Oil Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------------------|--------|-----------|----------|----------|
| UNIT-1 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |
| UNIT-2 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |

Fuel Cost Parameters**Coal Mix and Gross Calorific Value (GCV) of Primary Fuel*****Petitioner's Submission***

5.19 The Petitioner has submitted that there is variation in coal mix, GCV and landed price of primary fuel against the approved value in MYT Order dated February 19, 2018. Further, the Petitioner has added that the reason for variation is not attributable to Petitioner.

5.20 The Petitioner has submitted the source wise break up of coal consumed, GCV of coal for each unit during FY 2017-18 duly certified by the auditor in support of his claim.



Commission's Analysis

- 5.21 The Commission vide letter dated September 21, 2022 had directed the Petitioner to provide the detailed computation of GCV of the primary fuel. In compliance, the Petitioner submitted that the weighted average GCV for Unit-1 as 3543.44 kcal/kg and GCV for Unit-2 as 3466.28 kcal/kg respectively and also submitted the detailed excel computation of GCV.
- 5.22 The Commission observed that there has been significant deviation in the blending ratio, GCV of primary fuel-mix and its price as compared to the approved values by the Commission.
- 5.23 The Commission has taken note of submission made by the Petitioner and statutory audited detailing month wise quantity consumed and GCV for FY 2017-18 of each Unit.
- 5.24 The following table summarize the fuel mix and weighted average GCV as submitted by the Petitioner and approved by the Commission for FY 2017-18 is tabulated below.

Table 16: Coal Mix and GCV for Unit-1 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| E-Auction Coal | - | 97.73% | 97.73% | - | 3542.97 | 3542.97 |
| Middling Coal | - | 2.27% | 2.27% | - | 3563.77 | 3563.77 |
| Wt. average | - | - | - | 3408 | 3543.44 | 3543.44 |

Table 17: Coal Mix and GCV for Unit-2 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| E-Auction Coal | - | 95.49% | 95.49% | - | 3464.70 | 3464.70 |
| Middling Coal | - | 4.51% | 4.51% | - | 3499.77 | 3499.77 |
| Wt. average | - | - | - | 3408 | 3466.28 | 3466.28 |



Transit Loss

Petitioner's Submission

5.25 The Petitioner has claimed the normative transit loss as 0.8% for domestic coal and 0.2% for imported coal in accordance with MYT Order dated February 19, 2018.

Commission's Analysis

5.26 The Commission observes that the actual transit loss of coal depends on various factors like category of coal, foreign particles content, moisture content, distance from mines etc. Considering all the factors, the Commission has computed the weighted average normative transit loss of 0.80% for non-pit head plant and 0.20% for pit head plant is stipulated in the JSERC Generation Tariff Regulations, 2015.

5.27 Thus, in accordance with Clause 8.21 of JSERC Generation Tariff Regulation, 2015, the Commission approves the normative transit loss as 0.80% for domestic coal and 0.20% for imported coal as shown below.

Table 18: Transit Loss as approved by the Commission

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% |

Landed Cost of Coal

Petitioner's Submission

5.28 The Petitioner has submitted that the month wise landed price of primary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

5.29 The Commission for reason stated in this Order has approved the normative transit loss for the calculation of landed price of the coal.

5.30 The Commission analysed and considered the submission made by the Petitioner and also arrived at the weighted average landed cost of coal by following methodology: -

- a) Audited figures of the Base price of coal including base price, applicable tax, transportation charges, handling charges and



- provisional adjustment/stock adjustment (if any);
- b) Normative Transit loss as approved by the Commission;
- c) Actual consumption of various types of coal.
- d) Price and quality of the coal is uncontrollable in nature

5.31 The Commission has outlined the provision for approval of landed price of primary fuel for generating station as mention in the JSERC Generation Tariff Regulation, 2015, in terms of the Clause stated below: -

“8.21 The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing stations and immediately preceding three months in case of new generating stations shall be taken into account.

The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means, and, for the purpose of computation of energy charge, and in case of coal/lignite shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:

Pithead generating stations: 0.2%

Non-pithead generating stations: 0.8%

Provided that in case of pit head stations if coal or lignite is procured from sources other than the pit head mines which is transported to the station through rail, transit loss of 0.8% shall be applicable:

Provided further that in case of imported coal, the transit and handling losses shall be 0.2%.

5.32 The Commission has scrutinized the details submitted by the Petitioner in its reply and observed that the weighted average landed price of coal for Unit-1 as Rs. 3253.47/MT and for Unit-2 as Rs 3184.92/MT respectively.

5.33 The weighted average price of coal as approved in it MYT corrigendum order dated April 10, 2019 as submitted by the Petitioner and approved now by the



Commission for FY 2017-18 is provided in the table below.

Table 19: Landed price of Coal as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|--------------------|--------------|--------------|----------------|----------------|
| UNIT-1 | | | | |
| F-Auction Coal | Rs/MT | - | 3248.68 | 3248.68 |
| Middling Coal | Rs/MT | - | 3459.21 | 3459.21 |
| Wt. average | Rs/MT | 3298* | 3253.47 | 3253.47 |
| UNIT-2 | | | | |
| F-Auction Coal | Rs/MT | - | 3156.38 | 3156.38 |
| Middling Coal | Rs/MT | - | 3767.16 | 3767.16 |
| Wt. average | Rs/MT | 3298* | 3183.92 | 3183.92 |

*As per Corrigendum Order dated April 10, 2019

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

5.34 The Petitioner has submitted that the month wise landed price and GCV of secondary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

5.35 The Commission has analysed the month wise quantity of secondary fuel consumption, GCV and landed price of secondary fuel duly certified by an auditor.

5.36 The Commission on scrutinizing the details submitted in reply by the Petitioner observed that the weighted average landed price of oil for Unit-1 as Rs. 43470/KL and for Unit-2 as Rs 43855/KL respectively, While the weighted average GCV of oil as 9350 kCal/KL for both Unit.

5.37 On the basis of record available with the Commission, the Commission has approved Calorific value and Landed price of Secondary Fuel for each Unit as shown below:

Table 20: Calorific value and Landed price of Secondary fuel as approved by the Commission

| Particulars | Calorific Value (kcal/L) | | | Landed Price (Rs./kL) | | |
|---------------|--------------------------|----------|----------|-----------------------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| UNIT-1 | 9337* | 9350 | 9350 | 42637* | 43470 | 43470 |
| UNIT-2 | 9334* | 9350 | 9350 | 45134* | 43855 | 43855 |

*As per Corrigendum Order dated April 10, 2019



Energy Charge Rate (ECR)

Petitioner's Submission

- 5.38 The Petitioner has stated the energy charge rate as Rs. 2.447/kWh and Rs. 2.449/kWh for Unit-1 and Unit-2 respectively against the approved value of Rs. 2.567/kWh and Rs. 2.570/kWh for FY 2017-18.
- 5.39 For calculation of ECR, the Petitioner has considered the normative Gross Station Heat Rate of 2387 kCal/kWh, normative Auxiliary Consumption of 9.00% and normative Secondary fuel oil as 1.00 ml/kWh for both the Units.

Commission's Analysis

- 5.40 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy charge (i.e. Variable Charge) shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).
- 5.41 The formula for calculation of energy charge payable to a Generating Company is specified in JSERC Generation Tariff Regulation, 2015 as quoted below: -

"8.17 The energy (variable) charge shall cover primary fuel and secondary fuel costs and limestone consumption cost (where applicable), shall be payable by every Beneficiary for the total energy scheduled to be supplied to such Beneficiary during the calendar month on ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment and limestone adjustment)."

"8.18 Total Energy charge payable to the Generating Company for a month shall be: = (Energy charge rate in Rs. /kWh) x {Scheduled energy (ex-bus) for the month in kWh.}"

8.19 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the the following formula:

(a) For coal based stations

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)\}$$

.....

Where,

AUX - Normative auxiliary energy consumption in percentage



CVPF – Weighted Average Gross calorific value of coal as received, in KCal per kg, for coal based stations. In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.

CVSF - Calorific value of secondary fuel, in KCal per ml

ECR - Energy charge rate, in Rupees per kWh sent out.

GHR - Gross station heat rate, in KCal per kWh.

LC – Normative limestone consumption in kg per kWh

LPPF - Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of

blending of fuel from different sources, the weighted average landed price of

primary fuel shall be arrived in proportion to blending ratio)

LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during

the month

LPL = Weighted average landed price of limestone in Rupees per kg

SFC - Specific fuel oil consumption, in ml per kWh”.

8.21 The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing stations and immediately preceding three months in case of new generating stations shall be taken into account.

The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means, and, for the purpose of computation of energy charge, and in case of coal/lignite shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:

Pithead generating stations: 0.2%

Non-pithead generating stations: 0.8%



Provided that in case of pit head stations if coal or lignite is procured from sources other than the pit head mines which is transported to the station through rail, transit loss of 0.8% shall be applicable:

Provided further that in case of imported coal, the transit and handling losses shall be 0.2%.

5.42 Accordingly, the Commission has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015. The detail of ECR and Fuel Cost for truing up of FY 2017-18 for both the Units as submitted by the Petitioner and approved by the Commission is tabulated hereunder:

Table 21: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission

| Particulars | UoM | FY 2017-18 | | |
|---|---------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1454.92 | 2106.07 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419.00 | 3543.44 | 3543.44 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.25 | 3.25 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.04 | 0.04 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.567 | 2.447 | 2.447 |

*As per Corrigendum Order dated April 10, 2019

Table 22: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission

| Particulars | UoM | FY 2017-18 | | |
|---|----------|------------|----------|----------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1454.92 | 803.78 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419 | 3466.28 | 3466.28 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.18 | 3.18 |



| Particulars | UoM | FY 2017-18 | | |
|--|--------|------------|----------|----------|
| | | MYT* Order | Petition | Approved |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.04 | 0.04 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.570 | 2.449 | 2.448 |

*As per Corrigendum Order dated April 10, 2019

Determination of Fixed Cost

Additional Capitalization & De-capitalization

Petitioner's Submission

- 5.43 It is submitted that an additional capitalization of Rs. 3.54 Crore for each Unit of the generating station for FY 2017-18 has been incurred by the Petitioner.
- 5.44 The details of additional capitalisation as claimed by the Petitioner for FY 2017-18, is tabulated hereunder:

Table 23: Details of additional capitalization as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|------------------------|-----------|-------------|-----------|-------------|
| | MYT Order | Petition | MYT Order | Petition |
| Plant & Machinery | - | 2.33 | - | 2.33 |
| Building & Civil Works | - | 1.22 | - | 1.22 |
| Total | - | 3.54 | - | 3.54 |

- 5.45 In support of capitalization, the Petitioner has submitted the statutory Auditor certificate attesting the closing value of GFA of Rs. 3389.38 Crore as on March 31, 2018.

Commission's Analysis

- 5.46 The Commission has outlined the provisions for the approval of any additional capitalization, for a generating station in Clause 7.5 and Clause 7.6 of the JSERC Generation Tariff Regulation, 2015, and the relevant clauses are outlined below:

Additional Capitalisation

"7.5 The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;



- (iii) *Procurement of initial capital spares within the original scope of work, subject to the provisions under clause 7.3, 7.4 of these Regulations;*
- (iv) *Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*
- (v) *Change in law.*

Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

‘7.6 The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

- (i) *Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*
- (ii) *Change in law;*
- (iii) *Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (iv) *Any additional works/ services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost;*
- (v) *Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.*
- (vi) *Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:*

5.47 The Commission observed that there is discrepancy in the representation of additional capitalisation when as compared to the Petitioner’s claim and audited accounts as shown below.

**Table 24: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|------------------------|------------------|-------------------------|------------------|-------------------------|
| | Petitioner Claim | As per Audited Accounts | Petitioner Claim | As per Audited Accounts |
| Plant & Machinery | 2.33 | 2.33 | 2.33 | 2.33 |
| Building & Civil Works | 1.22 | 1.03 | 1.22 | 1.03 |
| Furniture and Fixtures | - | 0.01 | - | 0.01 |
| Vehicles | - | 0.13 | - | 0.13 |
| Office Equipment | - | 0.02 | - | 0.02 |
| Computer | - | 0.03 | - | 0.03 |
| Other | - | - | - | - |
| Total | 3.54 | 3.54 | 3.54 | 3.54 |

5.48 The Commission has also scrutinized the submission supplied by the Petitioner regarding the Capitalization of assets for FY 2017-18 and after a prudent check approves the Capitalization as shown below.

Table 25: Additional Capitalization for Unit-1 and Unit-2 for FY 2017-18

| Sr. No. | Detail of Assets | Value (Rs. Cr.) | Justification |
|---------|---------------------|-----------------|---|
| 1 | Ash Handling System | 0.14 | The Petitioner submits that ash handling system required strengthening and accordingly the Petitioner has purchased an automatic bagging and packing machine for sending bagged fly ash through railway rake to different customer in accordance with norms of Ministry of Environment, Forest and Climate Change. Hence the Petitioner claims that this expenses are justifiable and required for increase in efficiency and compliance. The Commission may allow the expenditure under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015. |
| 2 | Site Development | 2.06 | The Petitioner at Birajpur, Jharkhand had developed a railway siding which is 800 meters away from plant truck tippler area and the Petitioner has developed a road from truck tippler at coal handling plant to Birajpur railway siding for transportation of coal. This will increase the efficiency of coal unloading and movement. The Commission may allow the expenditure under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015. |



| Sr. No. | Detail of Assets | Value (Rs. Cr.) | Justification |
|--------------------------|--------------------------------------|-----------------|--|
| 3 | Merry-Go-Round (MGR)/ Railway Siding | 4.37 | The Petitioner has developed the railway siding at Birajpur, Jharkhand for unloading of coal near the plant. This railway siding is 800 meters far from the coal handling plant area. The Commission may allow the expenditure under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015. |
| 4 | Coal Handling System | 0.51 | The Petitioner has to procure coal from multiple sources, the coal handling system had to be strengthened to take care of multiple trucks reaching the power plant premises. Accordingly, a 100 MT weight bridge has been installed. Beside this 6 LPM oil filtration machine is purchased for truck tippler and stacker reclaimer for filtration of oil. Hence, the Petitioner claims that this expenses is justifiable and necessary requirement for operations. The Commission may allow the expenditure under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015. |
| Total (Rs. Crore) | | 7.08 | |

5.49 It is observed by the Commission that all the assets capitalized during the FY 2017-18 were not part of the original project. Further, the Petitioner has requested the Commission to allow the above mentioned assets under Clause 7.6 (iv) of JSERC Tariff Regulations 2015 i.e. any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost.

5.50 The Commission has examined the audited accounts of FY 2017-18 and as per Note-4 (Property, Plant and Equipment) of audited accounts, substantiates the fact that Rs. 7.08 Crore (cumulative for both the Units) of assets is capitalized during the FY 2017-18. Based on the submission and justification made by the Petitioner and after a prudent check, the Commission approves the additional capitalization of Rs. 7.08 Crore (cumulative for both the Units) for FY 2017-18 under Clause 7.6 (iv) of JSERC Tariff Regulations 2015. Further, In FY 2017-18, the additional capitalization as per the audited accounts of 2017-18 is Rs. 7.08 Crores, leading to closing value of GFA as on 31st March, 2018 as Rs. 3,389.38 Crores.

**Table 26: Details of the Additional Capitalization as approved by the Commission (Rs. Crore)**

| Particulars | Unit-1 | | | Unit-2 | | |
|----------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Capitalization | - | 3.54 | 3.54 | - | 3.54 | 3.54 |

Depreciation**Petitioner's Submission**

5.51 The Petitioner has submitted that depreciation is calculated based on 'Single Line Method' and at the depreciation rates provided in Appendix-I of the JSERC Generation Tariff Regulations 2015.

5.52 Further, the Petitioner has submitted that the depreciation so allowed shall be up to maximum of 90% of the capital cost of the project and the balance is to be considered as the salvage value of the asset.

Table 27: Depreciation as submitted by the Petitioner (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.38 | 74.63 | 75.20 | 75.44 |
| Building & civil works | 3.34% | 7.25 | 7.12 | 7.21 | 7.08 |
| Other Assets | 5.28% | 0.37 | 0.40 | 0.37 | 0.40 |
| Net Depreciation | Rs.cr. | 82.37 | 82.53 | 83.15 | 83.30 |

Commission's Analysis

5.53 The JSERC Generation Tariff Regulation, 2015 has specified the following methodology for the calculation of depreciation expense for existing generating station are reproduced below: -

"7.28 Depreciation shall be calculated for each year of the tariff period, on the amount of Capital Cost of the assets admitted by the Commission;

Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant

7.29 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.



.....

7.31 Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in Appendix-I to these Regulations for the assets of the generating station:

Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

7.32 In case of existing projects, the balance depreciable value as on 1st April 2016 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31st March 2016 from the gross depreciable value of the assets.

The rate of depreciation shall be continued to be charged at the rate specified in Appendix-I till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

7.33 Depreciation shall be chargeable from the first Year of commercial operation. In case of commercial operation of the asset for part of the Year, depreciation shall be charged on pro rata basis."

5.54 The Commission has computed depreciation for both the Units in accordance with the above mention regulations. The following table shows the depreciation approved by the Commission against that submitted by the Petitioner.

Table 28: Depreciation as approved by the Commission (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|----------------------------------|--------------|--------------|--------------|--------------|
| | | Petition | Approve | Petition | Approve |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.63 | 74.63 | 75.44 | 75.44 |
| Building & civil works | 3.34% | 7.12 | 7.12 | 7.08 | 7.08 |
| Other Assets | 5.28% | 0.40 | 0.40 | 0.40 | 0.40 |
| Net Depreciation | Rs.cr. | 82.53 | 82.53 | 83.30 | 83.30 |

Operation & Maintenance Expenses

Petitioner's Submission

5.55 The Petitioner has claimed the normative operational & Maintenance (O&M)



Expenses as approved in the MYT Order dated February 19, 2018.

5.56 Further, the Petitioner has outlined the Clause 6.14 of the Tariff JSERC Regulations, 2015 provides that any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR

5.57 In view of the reasons mentioned above, the Petitioner has prayed to the Commission to allow the O&M expenses as mentioned below.

Table 29: O&M Expenses as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| O&M Expenses | 75.56 | 75.56 | 75.56 | 75.56 |

Commission's Analysis

5.58 As per JSERC Generation Tariff Regulations, 2015 Clause 7.40 and Clause 7.41 lays out the provision for determination of O&M expenses and the same is quoted below: -

“7.40 Operation and Maintenance (O&M) expenses shall comprise of the following:

- (a) Salaries, wages, pension contribution and other employee costs;*
- (b) Administrative and General costs;*
- (c) Repairs and maintenance expenses; and*
- (d) Other miscellaneous expenses statutory levies and taxes (except corporate incometax).*

7.41 Existing Thermal Generating Stations:

- (a) The Applicant shall submit details of O&M expenses as required by the Commission. The O&M expenses excluding terminal liabilities for the Base Year shall be determined based on accounting statements for the base year, estimates of the Generating Company for relevant years and other factors considered relevant.*
- (b) The O&M expenses excluding terminal liabilities permissible towards determination of tariff for each year of the Control Period shall be determined after a prudency check by the Commission based on submissions of the Generating Company, previous years' actual expenses and any other factor considered relevant.*
- (c) Terminal Liabilities will be approved as per actual submitted by the*



Generating Company or be established through actuarial studies.

(d) Increase in O&M charges on account of war, insurgency or changes in laws, or like eventualities where the Commission is of the opinion that an increase in O&M charges is justified, may be considered by the Commission for a specified period.”

5.59 The Commission has scrutinized the submission made by the Petitioner and approved the operational & maintenance expenses as per MYT Order dated February 19, 2018.

Table 30: O&M Expenses as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| O&M Expenses | 75.56 | 75.56 | 75.56 | 75.56 | 75.56 | 75.56 |

Interest on Loan

Petitioner's Submission

- 5.60 The Petitioner has considered the opening balance of loan for FY 2017-18 as Rs 836.27 crores and Rs 869.03 crores for unit-1, unit-2 respectively based on closing values of 2016-17 truing up petition. Further, the gross additional capitalisation (without deletion) have been funded in the ratio of 70:30.
- 5.61 The Petitioner has considered the repayment during the year equivalent to the normative depreciation for the year being in line with the methodology prescribed in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.
- 5.62 The Petitioner has submitted that the actual loan portfolio is in the line with the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015., and also considered 70% of the actual capitalization as Normative Loan for FY 2017-18 with interest rate of 12.19% for Unit-1 and Unit-2.
- 5.63 Further, the Petitioner has submitted the weighted average rate of interest for Unit-1 and Unit-2 duly certified by the auditor.
- 5.64 The Petitioner has considered the weighted average rate of interest based on actual loan portfolio and repayment equal to depreciation proposed by Petitioner for calculation of interest on loan for FY 2017-18.

**Table 31: Interest on Loan as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|-----------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Debt Balance | 885.33 | 836.27 | 917.92 | 869.03 |
| Net Additions | - | 2.48 | - | 2.48 |
| Repayment | 82.37 | 82.53 | 83.15 | 83.30 |
| Closing Debt Balance | 802.96 | 756.22 | 834.77 | 788.21 |
| Rate of Interest (%) | 13.13% | 12.19% | 13.28% | 12.19% |
| Interest on Debt | 110.84 | 97.06 | 116.38 | 101.01 |

Commission's Analysis

5.65 The Commission has calculated the gross normative loan for FY 2017-18 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as reproduced below: -

“7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 shall be considered for determination of tariff.

During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2017 shall be considered for determination of tariff.

7.14 For the project declared under commercial operation on or after 1.04.2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -

i. The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.

ii. Provided, further that any consumer contribution, deposit work



and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.

iii. Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation.”

.....

“7.19 The loans arrived at in the manner indicated in clause 7.13 and 7.14 of these Regulations shall be considered as gross normative loan for calculation of interest on loan.

7.20 The normative loan outstanding as on 1st April 2016 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31st March 2016 from the gross normative loan

7.21 The repayment for any year during the Tariff Period shall be deemed to be equal to the depreciation allowed for that Year.

7.22 Notwithstanding any moratorium period availed by the Generating Company, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

7.23 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the Project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered

7.24 The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

5.66 The Commission has scrutinized the details submitted by the Petitioner and observed that weighted average interest rate as 12.19% for both Unit-1 & Unit-2.



5.67 The Commission has calculated the normative opening balance of debt for FY 2017-18 as trued up closing balance for FY 2016-17 vide Order dated May 22, 2023 for each Unit.

5.68 The Commission has approved the repayment as approved of depreciation in line with the methodology specified in JSERC Generation Tariff Regulations, 2015 to arrive at the closing balance of normative debt component as shown below.

Table 32: Interest on Loan as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Loan | 885.33 | 836.27 | 885.71 | 917.92 | 869.03 | 918.32 |
| Deemed Loan Addition | 0.00 | 2.48 | 2.48 | 0.00 | 2.48 | 2.48 |
| Deemed Loan Repayment | 82.37 | 82.53 | 82.53 | 83.15 | 83.30 | 83.30 |
| Closing Loan | 802.96 | 756.22 | 805.66 | 834.77 | 788.21 | 837.51 |
| Interest Rate | 13.13% | 12.19% | 12.19% | 13.28% | 12.19% | 12.19% |
| Interest on Loan | 110.84 | 97.06 | 103.09 | 116.38 | 101.01 | 107.02 |

Interest on Working Capital (IoWC)

Petitioner's Submission

5.69 The Petitioner has mentioned that Clause 6.14 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 provides for Truing-up of Interest on Working Capital on account of variation in actual capital expenditure incurred vis-à-vis approved capital expenditure. The relevant clause has been reproduced below:

“6.14(c) at the end of the control period –

- i. the Commission shall review actual capital investment vis-à-vis approved capital investment.*
- ii. depreciation and financing cost, which includes cost of debt including working capital (interest), cost of equity (return) shall be trued up on the basis of actual/audited information and prudence check by the Commission”*

5.70 Further, the Petitioner craves for liberty before the Hon'ble Commission to claim Receivables equivalent to 180 days of average billing as outstanding dues of the Petitioner w.r.t JBVNL supply is pending for more than 180 days. Hence, the



Petitioner requests before the Hon'ble Commission to relax and allow the receivables of 180 days under Regulation A 33 i.e. Power of relaxation.

- 5.71 The Petitioner has worked out the normative working capital requirement for Unit-1 and Unit-2 for FY 2017-18 and has considered the rate of interest on working capital equal to the Bank Rate specified by State Bank as on April 01, 2017 plus 350 basis points. Accordingly, the Petitioner has considered 12.60% for Unit-1 and Unit-2 as rate of interest on working capital. The detailed computation of interest on working capital for Unit-1 and Unit-2 for FY 2017-18 based on the above rationale is shown below.

Table 33: Interest on Working Capital as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Coal Cost for 2 Months | 76.84 | 73.04 | 76.84 | 73.16 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.48 | 1.51 | 1.50 |
| O&M Expenses for 1 month | 140.34 | 6.30 | 141.22 | 6.30 |
| Receivable for 2 month | 6.30 | 418.09* | 6.30 | 421.09* |
| Maintenance Spare | 15.11 | 15.11 | 15.11 | 15.11 |
| Total Working Capital | 239.92 | 514.02 | 241.04 | 517.15 |
| Rate of Interest | 12.80% | 12.60% | 12.80% | 12.60% |
| Interest on Working Capital | 30.71 | 64.77 | 30.85 | 65.16 |

* the Petitioner claim receivable for 180 days

Commission's Analysis

- 5.72 The Commission has computed the interest on working capital (IoWC) for FY 2017-18 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as reproduced below: -

“7.34 The Commission shall determine the Working Capital requirement for coal based generating stations containing the following components:

(a) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;

(b) Cost of coal or lignite and limestone for 30 days for generation corresponding to normative annual plant availability factor;

(c) Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor;



(c) Maintenance spares @ 20% of operation and maintenance expenses;

(d) Operation and Maintenance expenses for 1 month; and

(e) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor.

7.37 The cost of fuel in cases covered under clause 7.34 and 7.35 of these Regulations shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.”

“7.38 Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 01.04.2016 or as on 1st April of the year during the tariff period 2016-17 to 2020-21 in which the generating station or a unit thereof, is declared under commercial operation, whichever is later.

Provided that the rate of interest on working capital shall be trued up on the basis of actual bank rate as on 1st April of the respective year at the time of true up for that year.

7.39 The interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures”.

5.73 The Commission has scrutinized the submission made by Petitioner and allow Receivable for 2 months only as per Clause 7.34 (e) of the JSERC generation Tariff Regulation 2015.

5.74 The Commission has computed the working capital requirement as per the above mentioned Regulations. The interest on working capital is considered as per JSERC Generation Tariff Regulations, 2015 i.e., Bank rate as April 01, 2017. The detailed calculation made by the Commission is shown in the tables below.

**Table 34: Interest on Working Capital as approved by the Commission (Rs. Crore)**

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------------|---------------|----------------|---------------|---------------|----------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Coal Cost for 2 Months | 76.84 | 73.04 | 76.63 | 76.84 | 73.16 | 29.26 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.48 | 1.53 | 1.51 | 1.50 | 0.59 |
| O&M Expenses for 1 month | 140.34 | 6.30 | 6.30 | 141.22 | 6.30 | 6.30 |
| Receivable for 2 month | 6.30 | 418.09* | 138.77 | 6.30 | 421.09* | 89.30 |
| Maintenance Spare | 15.11 | 15.11 | 15.11 | 15.11 | 15.11 | 15.11 |
| Total Working Capital | 239.92 | 514.02 | 238.33 | 241.04 | 517.15 | 140.55 |
| Rate of Interest | 12.80% | 12.60% | 12.60% | 12.80% | 12.60% | 12.60% |
| Interest on Working Capital | 30.71 | 64.77 | 30.03 | 30.85 | 65.16 | 17.71 |

* the Petitioner claim receivable for 180 days

Return on Equity

Petitioner's Submission

- 5.75 The Petitioner has considered the opening value of equity for FY 2017-18 as Rs 505.24 crores and Rs 509.44 crores for unit-1, unit-2 respectively based on closing values of 2016-17 truing up petition. Further, the gross additional capitalisation (without deletion) have been funded in the ratio of 70:30.
- 5.76 The Petitioner has mention Clause 7.15 to 7.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 to prescribe the provisions for computing the normative return on equity for determination of tariff.
- 5.77 Further, the Petitioner while calculating return on equity has considered post-tax return as 15.50% in accordance with Generation Tariff Regulations 2015 and approach adopted by the Commission in earlier Orders.
- 5.78 Accordingly, the Return on Equity (Pre-Tax) claimed by the Petitioner for Unit-1 and Unit-2 for FY 2017-18 is summarized in the table below:

Table 35: RoE as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Equity | 455.63 | 505.24 | 450.25 | 509.44 |
| Net Addition | - | 1.06 | - | 1.06 |
| Closing Equity | 455.63 | 506.30 | 450.25 | 510.50 |
| Average Equity | 455.63 | 505.77 | 450.25 | 509.97 |
| Rate of Return on Equity | 15.50% | 15.50% | 15.50% | 15.50% |



| Particulars | Unit-1 | | Unit-2 | |
|------------------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Return on Equity (ROE) | 70.62 | 78.39 | 69.79 | 79.05 |

Commission's Analysis

5.79 The Commission has calculated the gross normative equity for FY 2017-18 as per Clause 7.13 and 7.14 of the JSERC Generation Tariff Regulations, 2015, as reproduce below: -

“7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 shall be considered for determination of tariff.

During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2017 shall be considered for determination of tariff.

7.14 For the project declared under commercial operation on or after 1.04.2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -

- The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.*
- Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.*
- Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional*



capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation.”

- 5.80 The Commission has calculated the normative opening balance of equity for FY 2017-18 as trued up closing balance for FY 2016-17 vide Order dated May 22, 2023 for each Unit.
- 5.81 The Commission has scrutinized the discrepancies reply supplied by the Petitioner and observed the revised Debt: Equity ratio from FY 2016-17 onwards as 70:30.
- 5.82 The Commission has noted the reply of the Petitioner and in accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the rate of return on equity at the rate of 15.50% as given below:

Table 36: RoE as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Equity | 455.63 | 505.24 | 455.81 | 450.25 | 509.44 | 460.16 |
| Net Addition | - | 1.06 | 1.06 | - | 1.06 | 1.06 |
| Closing Equity | 455.63 | 506.30 | 456.87 | 450.25 | 510.50 | 461.22 |
| Average Equity | 455.63 | 505.77 | 456.34 | 450.25 | 509.97 | 460.69 |
| Rate of RoE | 15.50 % | 15.50% | 15.50% | 15.50 % | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.39 | 70.73 | 69.79 | 79.05 | 71.41 |

Annual Fixed Charge

Petitioner's Submission

- 5.83 The summary of Annual Fixed Charge (AFC) as submitted by the Petitioner is shown below:

Table 37: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|----------------------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.53 | 83.15 | 83.30 |
| Interest on Debt | 110.84 | 97.06 | 116.38 | 101.01 |
| O&M Expenses | 75.56 | 75.56 | 75.56 | 75.56 |
| Return on Equity (Pre-Tax) | 70.62 | 78.39 | 69.79 | 79.05 |



| Particulars | Unit-1 | | Unit-2 | |
|---|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Interest on Working Capital | 30.71 | 64.77 | 30.85 | 65.16 |
| Total AFC (Excluding Water and Ash disposal charges) | 370.10 | 398.32 | 375.73 | 404.07 |

Commission's Analysis

5.84 Clause 8.2 of the JSERC Generation Tariff Regulations, 2015 states that Annual Fixed Cost (AFC) of a thermal generating station shall consist of the following components:

- Return on Equity;
- Interest and Financing Charges on Loan Capital;
- Depreciation;
- Operation and Maintenance Expenses;
- Interest Charges on Working Capital; and
- Special allowance in lieu of R&M or separate compensation allowance, wherever applicable;

5.85 The Annual Fixed Cost (AFC) as submitted by Petitioner and approved by the Commission has been tabulated below.

Table 38: Annual Fixed Charge as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Depreciation | 82.37 | 82.53 | 82.53 | 83.15 | 83.30 | 83.30 |
| Interest on Debt | 110.84 | 97.06 | 103.09 | 116.38 | 101.01 | 107.02 |
| O&M Expenses | 75.56 | 75.56 | 75.56 | 75.56 | 75.56 | 75.56 |
| RoE (Pre-Tax) | 70.62 | 78.39 | 70.73 | 69.79 | 79.05 | 71.41 |
| IoWC | 30.71 | 64.77 | 30.03 | 30.85 | 65.16 | 17.71 |
| Total AFC (Excluding Water and Ash disposal charges) | 370.10 | 398.32 | 361.94 | 375.73 | 404.07 | 354.99 |

Water Charges, Capital Spare Expenses

Petitioner's Submission

5.86 The Petitioner has entered into an MoU with Govt. of Jharkhand for drawl of water to an extent of 35.60 MCM (4064 m³ per hour) in a phased manner from Subarnarekha river, flowing at a distance of eight km downstream of water intake point from APNRL Project site, vide agreement dated August 29, 2008. The said



agreement stipulates that a pump house has to be installed for drawl of required water from the river Subarnarekha withdrawn directly from river and not from any reservoir. Subsequently, Water Department of Govt. of Jharkhand vide its Notification No. 2/PMC/Jalapurti-175/2007 dated April 01, 2011 has revised various categories for water off-take and APNRL was asked to pay @ Rs. 26.40 per thousand gallons. The Petitioner aggrieved by the rate, filed a Writ Petition before High Court of Jharkhand on February 07, 2012 with regard to demand raised by Subarnarekha Dam Division towards withdrawal of water at higher than the agreed rates.

- 5.87 The Hon'ble High Court of Jharkhand was pleased to pass a stay Order in the above mentioned Writ Petition, restricting the payment of water charges at pre-revised rate of Rs. 4.50 per thousand gallons.
- 5.88 The Petitioner further mention that clause 18 of the Water agreement, which contains provisions for reduction of the Water quantity, the Petitioner has requested WRD, Government of Jharkhand for lowering of the permitted water quantity from 35.60 MCM to 17.60 MCM i.e. almost 50% of the original allocated quantity, which is yet to be considered by the WRD, State of Jharkhand. As a result, the Petitioner has filed another petition before the Hon'ble High Court at Ranchi for resolution of dispute regarding the billed water quantum in the bill, which is pending.
- 5.89 Therefore, the Petitioner is paying at Rs. 4.50 per thousand gallon of water withdrawn from river, amounting to Rs. 1.74 Crore for FY 2017-18, as reflected in audited accounts. The same is apportioned in proportion to JBVNL share (25%) i.e., 0.44 Crore (Rs. 0.22 Crore for each Unit).
- 5.90 The Petitioner has claimed capital spare expenses well within the clause 7.46 of the JSERC generation Tariff Regulation 2015.

Table 39: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|----------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Water Charges | 1.74 | 0.22 | 1.74 | 0.22 |
| Capital Spares | - | 0.55 | - | 0.55 |

Commission's Analysis

- 5.91 The treatment of water charges and capital spares for thermal generating stations is governed by the Clause 7.46 as stated below: -

"7.46 The Water Charges and capital spares for thermal generating stations



shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Clause 7.47 of the Regulation or special allowance as per Clause 7.10 and 7.11 of the Regulation or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

- 5.92 The Commission has scrutinized the detail as submitted by the Petitioner and observed that the matter related to water charge is sub-judice before the Hon'ble Jharkhand High Court. Thus, the Commission in the Present petition approved the water charges as per audited accounts for FY 2017-18 in proportion of power allocated to JBVNL.
- 5.93 In regard to Capital spares, the Commission is of the view that in compliance to 2nd proviso of Regulation 7.46 of the JSERC Generation Tariff Regulations, the Petitioner is required to submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Regulation 7.47 of the JSERC Generation Tariff Regulations or special allowance as per Regulations 7.10 and 7.11 of the JSERC Generation Tariff Regulations or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization. In compliance, the Petitioner has submitted the details of critical spares consumed in FY 2017-18 duly certified by auditor along with the purpose of consumption.
- 5.94 The Commission has examined the details of critical spares consumed in FY 2017-18 duly certified by auditor along with the purpose of consumption. The Commission approves Rs. 1.09 Crore (cumulative for both units) based on the ratio of the power allocation to JBVNL. Thus, based on the submission and justification made by the Petitioner and after a prudent check, the Commission approves the critical spares of Rs. 0.55 Crore for each unit for FY 2017-18.



5.95 The Commission observed that, the overall capital spare and water charges are well within the clause 7.46 of JSERC Generation Tariff Regulation 2015. The Commission has therefore approved the capital spare and water charge as shown below.

Table 40: Water charge and Capital Spare as approved by the Commission (Rs. Cr)

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Water charge | 1.74 | 0.22 | 0.22 | 1.74 | 0.22 | 0.22 |
| Capital Spare | - | 0.55 | 0.55 | - | 0.55 | 0.55 |

Ash Disposal Expenses

Petitioner's Submission

- 5.96 The Petitioner submits that ash disposal and transportation is the statutory requirement of the power plant. The Petitioner has been disposing and transporting the Ash from its power station in accordance with the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) notification dated 25.1.2016.
- 5.97 Further, the Petitioner has submitted that as per the environmental norms and MOEFCC guidelines, the Petitioner has been transporting ash from its power station to various cement and bricks manufacturing units. The details of quantity of ash disposal and its expenditures is being provided as below:

Table 41: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Disposal | - | 2.20 | - | 2.20 |

Commission's Analysis

- 5.98 The Commission has scrutinized the submission made by the Petitioner and approves the Ash Disposal Expenses as per audited accounts.
- 5.99 Considering the facts and circumstances the Commission approved the Ash Disposal Expense for FY 2017-18 is shown below.

**Table 42: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)**

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Ash Disposal | - | 2.20 | 2.20 | - | 2.20 | 2.20 |

Tariff for Unit-1 and Unit-2**Petitioner's Submission**

5.100 The Petitioner has submitted that in accordance with provisions of Power Purchase Agreement (PPA) executed with Discom, out of the total Contracted Capacity of 122.85 MW, APNRL will supply 63.882 MW capacity (i.e., 13% of the total net Capacity at total Tariff (both fixed and Variable Charge) and the balance 58.96 MW capacity, i.e., 12% of the Net capacity at variable cost i.e., Energy Charge as approved by the Commission. Accordingly, the tariff for supply of regulated capacity for JUVNL/JBVNL is summarized below:

Table 43: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.567 | 2.447 | 2.570 | 2.449 |

Table 44: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|-----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Gross Capacity | MW | 270.00 | 270.00 | 270.00 | 270.00 |
| Auxiliary Consumption | % | 9.00% | 9.00% | 9.00% | 9.00% |
| Net Capacity | MW | 245.70 | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | MW | 29.48 | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | MW | 216.22 | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | Rs Cr. | 371.84 | 398.32 | 377.47 | 404.07 |
| Annual Fixed charges/MW | Rs Cr./MW | 1.72 | 1.84 | 1.75 | 1.87 |



| Particulars | Units | Unit-1 | | Unit-2 | |
|--|-------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| 13% of Net Capacity for supply to JUVNL at full tariff | MW | 31.94 | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | MW | 54.93 | 58.84 | 55.76 | 59.69 |

Commission's Analysis

5.101 The tariff for 12% of the total net capacity shall be the variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) approved by the Commission, whereas the tariff for next 13% of total net capacity shall be total tariff i.e., variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) and fixed charges as approved by the Commission as tabulated below.

Table 45: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|----------|----------|----------|----------|
| | | Petition | Approved | Petition | Approved |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.447 | 2.447 | 2.449 | 2.448 |

Table 46: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge)

| Particulars | Derivation | Units | Unit-1 | | |
|---|------------------------|-----------|-----------|----------|----------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270.00 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00% | 9.00% | 9.00% |
| Net Capacity | $C = A \times (1 - B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D = C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E = C - D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 371.84 | 398.32 | 361.94 |
| Annual Fixed Charges/MW | $G = F/E$ | Rs Cr./MW | 1.72 | 1.84 | 1.67 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H = C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |



| Particulars | Derivation | Units | Unit-1 | | |
|------------------------------------|----------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| AFC for 13% of Net Capacity | I=G x H | MW | 54.93 | 58.84 | 53.47 |

Table 47: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge).

| Particulars | Derivation | Units | Unit-2 | | |
|---|--------------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270.00 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00% | 9.00% | 9.00% |
| Net Capacity | $C=A \times (1-B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D=C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E=C-D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 377.47 | 404.07 | 354.99 |
| Annual Fixed Charges/MW | $G=F/E$ | Rs Cr./MW | 1.75 | 1.87 | 1.64 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H=C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | I=G x H | MW | 55.76 | 59.69 | 52.44 |

Revenue

Petitioner's Submission

5.102 The Petitioner has submitted that the billed amount to JUVNL/JBVNL comprises of capacity charge, energy charges and fuel cost adjustment bill. The Petitioner further added that the revenue billed to JUVNL/JBVNL amounts to Rs. 179.02 Crore and Rs. 176.58 Crore for Unit-1 and Unit-2 respectively as shown below:

Table 48: Revenue as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | Unit-2 |
|----------------------|----------|----------|
| | Petition | Petition |
| Annual Fixed Charge | 51.90 | 52.70 |
| Fuel Cost Adjustment | 2.31 | 2.31 |
| Energy Charge | 87.19 | 87.19 |



| Particulars | Unit-1 | Unit-2 |
|----------------------------|----------|----------|
| | Petition | Petition |
| Revenue from Sale of Power | 141.40 | 142.20 |

Commission's Analysis

5.103 The Commission has scrutinized the details submitted by the Petitioner and approves the revenue as tabulated below:

Table 49: Revenue as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-----------------------------------|---------------|---------------|---------------|---------------|
| | Petition | Approved | Petition | Approved |
| Annual Fixed Charge | 51.90 | 51.90 | 52.70 | 52.70 |
| Fuel Cost Adjustment | 2.31 | 2.31 | 2.31 | 2.31 |
| Energy Charge | 87.19 | 87.19 | 87.19 | 87.19 |
| Revenue from Sale of Power | 141.40 | 141.40 | 142.20 | 142.20 |

Impact of True up

Petitioner's Submission

5.104 The Petitioner has worked out the impact of true up considering the Trued-up annual fixed charges, trued-up per unit variable charges for the year and the actual availability against the contracted capacity to JBVNL for the year, based on the availability.

Table 50: Impact of True up as submitted by the Petitioner

| Particulars | Units | Unit-1 | Unit-2 |
|--|--------|---------------|---------------|
| | | Petition | Petition |
| Net Energy Supplied to JUVNL/JBVNL | MU | 393.29 | 393.29 |
| Rate of Energy Charge | Rs/kWh | 2.447 | 2.449 |
| AFC Entitlement on True Up | Rs Cr | 50.60 | 51.33 |
| Incentive | Rs Cr | | |
| Energy Charge Entitlement upon True up | Rs Cr | 96.25 | 96.32 |
| Water Charges | Rs Cr | 0.22 | 0.22 |
| Capital Spares | Rs Cr | 0.55 | 0.55 |
| Additional Ash Disposal Charge | | 2.20 | 2.20 |
| Total Entitlement | Rs Cr | 149.82 | 150.62 |
| Revenue Billed | | | |
| AFC | Rs Cr | 51.90 | 52.70 |
| FPA | Rs Cr | 2.31 | 2.31 |
| EC | Rs Cr | 87.19 | 87.19 |
| Total Revenue Billed to JUVNL/JBVNL | Rs Cr | 141.40 | 142.20 |
| Gap/(Surplus) | Rs Cr | 8.42 | 8.41 |
| Rate of Interest | % | 12.60% | 12.60% |
| From 1st true-up FY 2017-18 to till date | Days | 1461 | 1461 |
| Allowable Interest for the year | Rs Cr | 2.12 | 2.12 |



| Particulars | Units | Unit-1 | Unit-2 |
|---|--------------|--------------|--------------|
| | | Petition | Petition |
| Total Amount to be additionally recovered / (paid back to JUVNL) | Rs Cr | 10.54 | 10.54 |

Commission's Analysis

5.105 The JSERC Generation Tariff Regulations, 2015, states that:

“6.16 Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company shall refund to the beneficiaries as the case may be, the excess amount so recovered shall be as specified in the Clause 6.18 of this regulation.”

“6.17 Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations; the generating company licensee shall recover from the beneficiaries the under-recovered amount shall be as specified in the Clause 6.18 of this regulation.

6.18 The amount under-recovered or over-recovered, along with simple interest at the rate equal to the bank rate as on 1st April of the respective year, shall be recovered or refunded by the generating company in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission”.

5.106 Based on the above approved values and revenue, the Commission has approved the impact of True up for FY 2017-18 as shown below:

Table 51: Gap/(Surplus) as approved by the Commission (Rs. Crore).

| Particulars | MoU | Unit-1 | | Unit-2 | |
|--|---------|---------------|---------------|---------------|---------------|
| | | Petition | Approved | Petition | Approved |
| Net Energy Supplied to JUVNL/JBVNL | MU | 393.29 | 393.29 | 393.29 | 393.29 |
| Rate of Energy Charge | Rs/kWh | 2.447 | 2.447 | 2.449 | 2.448 |
| AFC Entitlement on True Up | Rs. Cr. | 50.60 | 45.98 | 51.33 | 45.09 |
| Incentive | Rs. Cr. | - | - | - | - |
| Energy Charge Entitlement upon True up | Rs. Cr. | 96.25 | 96.23 | 96.32 | 96.28 |
| Water Charges | Rs. Cr. | 0.22 | 0.22 | 0.22 | 0.22 |
| Capital Spares | Rs. Cr. | 0.55 | 0.55 | 0.55 | 0.55 |
| Ash Disposal Expenses | | 2.20 | 2.20 | 2.20 | 2.20 |
| Total Entitlement | Rs. Cr. | 149.82 | 145.17 | 150.62 | 144.34 |
| Revenue Billed | | | | | |



| Particulars | MoU | Unit-1 | | Unit-2 | |
|--|----------------|---------------|---------------|---------------|---------------|
| | | Petition | Approved | Petition | Approved |
| Annual Fixed Charge | Rs. Cr. | 51.90 | 51.90 | 52.70 | 52.70 |
| Fuel Price Adjustment | Rs. Cr. | 2.31 | 2.31 | 2.31 | 2.31 |
| Energy Charge | Rs. Cr. | 87.19 | 87.19 | 87.19 | 87.19 |
| Total Revenue Billed to JUVNL/JBVNL | Rs. Cr. | 141.40 | 141.40 | 142.20 | 142.20 |
| Gap/(Surplus) | Rs. Cr. | 8.42 | 3.77 | 8.41 | 2.14 |

5.107 The Commission has approved the cumulative surplus for FY 2017-18 along with carrying as shown below:

Table 52: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore)

| Particulars | FY 2017-18 | FY 2018-19 | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved | Approved | Approved |
| Opening Balance | - | 3.77 | 3.77 | 3.77 | 3.77 | 3.77 |
| Addition during the Year | 3.77 | - | - | - | - | 0 |
| Closing Balance | 3.77 | 3.77 | 3.77 | 3.77 | 3.77 | 3.77 |
| Average Balance | 3.77 | 3.77 | 3.77 | 3.77 | 3.77 | 3.77 |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% | 10.50% | 10.50% |
| Carrying Cost for respective Year | 0.24 | 0.23 | 0.24 | 0.22 | 0.20 | 0.20 |

Table 53: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore)

| Particulars | FY 2017-18 | FY 2018-19 | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved | Approved | Approved |
| Opening Balance | - | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
| Addition during the Year | 2.14 | - | - | - | - | - |
| Closing Balance | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
| Average Balance | 1.07 | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% | 10.50% | 10.50% |
| Carrying Cost for respective Year | 0.07 | 0.13 | 0.13 | 0.12 | 0.11 | 0.11 |



Table 54: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.)

| Particulars | Unit-1 | Unit-2 |
|--|-------------|-------------|
| | Approved | Approved |
| Opening Gap/Surplus for FY 2017-18 | - | - |
| Gap/(Surplus) addition during the FY 2017-18 | 3.77 | 2.14 |
| Closing Gap/ (Surplus) for FY 2017-18 | 3.77 | 2.14 |
| Carrying Cost of FY 2017-18 | 0.24 | 0.07 |
| Carrying Cost of FY 2018-19 | 0.23 | 0.13 |
| Carrying Cost of FY 2019-20 | 0.24 | 0.13 |
| Carrying Cost of FY 2020-21 | 0.22 | 0.12 |
| Carrying Cost of FY 2021-22 | 0.20 | 0.11 |
| Carrying Cost of FY 2022-23 | 0.20 | 0.11 |
| Net Gap/(Surplus) | 5.09 | 2.83 |

- 5.108 The Commission would like to clarify that the above Gap/(Surplus) is computed based on the information submitted before the Commission. In case there is any other adjustment between Petitioner and its Beneficiaries, the same need to be taken into account while final adjustment which shall be carried out mutually.
- 5.109 The Commission has directed the Petitioner to adjust the Gap as per Clause 6.17 & Clause 6.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.



A 6: TRUE-UP FOR FY 2018-19

- 6.1 The Petitioner has submitted the True-up petition for FY 2018-19 based on the Audited Accounts taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in the earlier Orders.
- 6.2 The Commission has now carried out the True-up for FY 2018-19 taking into consideration:
- a) JSERC Generation Tariff Regulations, 2015;
 - b) Audited (Statutory) accounts for the FY 2018-19;
 - c) MYT Order for FY 2016-17 to FY 2020-21 vide dated February 19, 2018;
 - d) Corrigendum Order issued by the Commission dated April 10, 2019;
 - e) Methodology adopted by the Commission in its earlier Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

- 6.3 The Petitioner has submitted the actual availability for Unit-1 & Unit-2 as 82.18% respectively for FY 2018-19.

Commission's Analysis

- 6.4 The Commission in its MYT Order dated February 19, 2018, had approved the Normative Annual Plant Availability Factor (NAPAF) as 85.00% for the Control Period (FY 2016-17 to FY 2020-21) in line with Clause 8.4 of JSERC Generation Tariff Regulation, 2015.
- 6.5 The Commission noted the reply submitted by the Petitioner and scrutinized the month wise actual availability and approves the actual availability for FY 2018-19 as 82.18% for both Units.
- 6.6 Based on the information provided by the Petitioner, the Commission observes that the actual availability supplied during the FY 2018-19 is less than the normative value of 85.00%.
- 6.7 The actual Plant Availability as approved by the Commission in the MYT Order dated February 19, 2018 as submitted by the Petitioner and approved now by the



Commission for FY 2018-19 is summarized below.

Table 55: Plant availability as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 82.18 | 82.18 |
| UNIT-2 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 82.18 | 82.18 |

Auxiliary Consumption

Petitioner's Submission

6.8 The Petitioner has submitted the auxiliary consumption for FY 2018-19 on normative basis as 9.00% for both the Units in accordance with approved value in MYT Order dated February 19, 2018.

Commission's Analysis

6.9 The Commission, while dealing with the matter of approving the auxiliary consumption in the MYT Order dated February 19, 2018 for the Control period (FY 2016-17 to FY 2020-21) had verified the Purchase Order (PO) submitted by Petitioner and approved the auxiliary consumption at normative level of 8.50% and an additional 0.50% for the induced cooling tower.

6.10 The Commission has therefore adopted the same methodology & also in line with the Clause 8.6(d)(i) of Generation Tariff Regulation 2015 approved the normative auxiliary consumption as 9.00% for both the Units as summarize below.

Table 56: Auxiliary Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |
| UNIT-2 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |

Plant Load Factor and Generation

Petitioner's Submission

6.11 The Petitioner has submitted the actual Plant Load Factor (PLF) for Unit-1 as 69.00% and Unit-2 as 52.00% for FY 2018-19 against the normative value of 85.00% approved by the Commission in the MYT Order dated February 19, 2018.



6.12 Further, the Petitioner has submitted Gross Generation as 1438.26 MU which is average of 1639.63 MU for Unit-1 and 1236.89 MU for Unit-2 for FY 2018-19.

Commission's Analysis

6.13 The Commission is of the view that the Petitioner should look into the reasons for the sub-optimal utilization of its assets which could be due to high cost of generation. The Petitioner should take steps towards reduction of the cost of generation so that more power can be scheduled thus increasing the utilization.

6.14 The Commission has scrutinized the detail submitted along with the Petition and approved the actual Plant Load Factor, Gross Generation and Net Generation as submitted by the Petitioner for FY 2018-19 as shown below.

Table 57: Plant Load Factor and Generation as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Gross Generation | MU | 2010.42 | 1438.26 | 1639.63 |
| Net Generation | MU | - | 1308.82 | 1492.06 |
| Plant Load Factor | % | - | 69.00 | 69.00 |
| UNIT-2 | | | | |
| Gross Generation | MU | 2010.42 | 1438.26 | 1236.89 |
| Net Generation | MU | - | 1308.82 | 1125.57 |
| Plant Load Factor | % | - | 52.00 | 52.00 |

Gross Station Heat Rate (GHR)

Petitioner's Submission

6.15 The Petitioner has claimed the Gross Station Heat Rate (GHR) for both the Units as 2387.00 kcal/kWh in line with the approved value in the MYT Order dated February 19, 2018.

Commission's Analysis

6.16 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and JSERC Generation Tariff Regulations, 2015. Hence, the Commission approves the Gross Station Heat Rate as submitted by the Petitioner for FY 2018-19 as shown below:

**Table 58: Gross Station Heat Rate (GHR) as approved by the Commission**

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|----------|-----------|----------|----------|
| UNIT-1 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| UNIT-2 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |

Specific Fuel Oil Consumption***Petitioner's Submission***

6.17 The Petitioner has submitted the specific fuel oil consumption as 1.00 mL/kWh in line with JSERC Generation Tariff Regulations, 2015 for both the Units for FY 2018-19.

Commission's Analysis

6.18 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and Generation Tariff Regulations, 2015. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner for FY 2018-19 as shown below:

Table 59: Specific Fuel Oil Consumption as approved by the Commission

| | UoM | MYT Order | Petition | Approved |
|-------------------------------|--------|-----------|----------|----------|
| UNIT-1 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |
| UNIT-2 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |

Fuel Cost Parameters**Coal Mix and Gross Calorific Value (GCV) of Primary Fuel*****Petitioner's Submission***

6.19 The Petitioner has submitted that there is variation in coal mix, GCV and landed price of primary fuel against the approved value in MYT Order dated February 19, 2018. The Petitioner has further added that the reason for variation are not attributable to the Petitioner.

6.20 The Petitioner submitted the source wise break up of coal consumed, GCV of coal for each unit during FY 2018-19 duly certified by auditor in support of his claim.



Commission's Analysis

- 6.21 The Commission vide letter dated September 21, 2022 directed the Petitioner to provide the detail computation of GCV of the primary fuel. In compliance, the Petitioner submitted that the weighted average GCV for Unit-1 as 3493.89 kcal/kg and GCV for Unit-2 as 3457.38 kcal/kg respectively and also submitted the detailed excel computation of GCV.
- 6.22 The Commission has observed that there has been significant deviation in the blending ratio, GCV of primary fuel-mix and its price as compared to the approved values by the Commission. It is also observed that there is decrease in GCV of coal, leading to increase in consumption of primary fuel.
- 6.23 The Commission has taken note of the submission made by the Petitioner along with statutory audited detailing month wise quantity consumed and GCV for FY 2018-19 of each Unit.
- 6.24 The following table summarize the fuel mix and weighted average GCV as submitted by the Petitioner and approved by the Commission for FY 2018-19.

Table 60: Coal Mix and GCV for Unit-1 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | 0.68% | 0.68% | 3827 | 4697.58 | 4697.58 |
| F-Auction Coal | - | 99.32% | 99.32% | - | 3485.62 | 3485.62 |
| Wt. average | - | - | - | - | 3493.89 | 3493.89 |

Table 61: Coal Mix and GCV for Unit-2 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| F-Auction Coal | - | 100.00% | 100.00% | - | 3457.38 | 3457.38 |
| Wt. average | - | - | - | - | 3457.38 | 3457.38 |

Transit Loss

Petitioner's Submission

- 6.25 The Petitioner has claimed the normative transit loss as 0.8% for domestic coal



and 0.2% for imported coal in accordance with MYT Order dated February 19, 2018.

Commission's Analysis

6.26 The Commission observes that the actual transit loss of coal depends on various factors like category of coal, foreign particles content, moisture content, distance from mines etc. Considering all the factors, the Commission has computed the weighted average normative transit loss of 0.80% for non-pit head plant and 0.20% for pit head plant as stipulated in the JSERC Generation Tariff Regulations, 2015.

6.27 Thus, in accordance with Regulation 8.21 of JSERC Generation Tariff Regulation, 2015, the Commission approves the normative transit loss as 0.80% for domestic coal and 0.20% for imported coal.

Table 62: Transit Loss as approved by the Commission

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% |
| Imported Coal | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% |

Landed Cost of Coal

Petitioner's Submission

6.28 The Petitioner has submitted that the month wise landed price of primary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

6.29 The Commission for reason stated in this Order approved the normative transit loss for the calculation of landed price of the coal.

6.30 The Commission analysed and considered the submission made by the Petitioner and arrived at the weighted average landed cost of coal by following methodology:

- Audited figures of the Base price of coal including base price, applicable tax, transportation charges, handling charges and provisional adjustment/stock adjustment (if any);
- Normative Transit loss as approved by the Commission;
- Actual consumption of various types of coal.
- Price and quality of the coal is uncontrollable in nature



- 6.31 The Commission has outlined the provision for approval of landed price of primary fuel for generating station as mentioned in the JSERC Generation Tariff Regulation, 2015, in terms of Clause mentioned in para 5.31.
- 6.32 The Commission had scrutinized the details submitted by the Petitioner in its reply and observed that the weighted average landed price of coal for Unit-1 as Rs. 4416.59/MT and for Unit-2 as Rs 4276.93/MT respectively.
- 6.33 The weighted average price of coal as approved in its MYT corrigendum order dated April 10, 2019 as submitted by the Petitioner and approved now by the Commission for FY 2018-19 is provided in the table below.

Table 63: Landed price of Coal as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|--------------------|--------------|--------------|----------------|----------------|
| UNIT-1 | | | | |
| F-Auction Coal | Rs/MT | - | 4396.77 | 4396.77 |
| Imported Coal | Rs/MT | - | 7302.59 | 7302.59 |
| Wt. Average | Rs/MT | 3298* | 4416.59 | 4416.59 |
| UNIT-2 | | | | |
| F-Auction Coal | Rs/MT | - | 4275.96 | 4275.96 |
| Imported Coal | Rs/MT | - | 7354.46 | 7354.46 |
| Wt. Average | Rs/MT | 3298* | 4276.93 | 4276.93 |

*As per Corrigendum Order dated April 10, 2019

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

- 6.34 The Petitioner has submitted that the month wise landed price and GCV of secondary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

- 6.35 The Commission has analysed the month wise quantity of secondary fuel consumption, GCV and landed price of secondary fuel duly certified by an auditor.
- 6.36 The Commission on scrutinizing the details submitted in reply by the Petitioner and observed that the weighted average landed price of oil for Unit-1 as Rs. 52789/KL and for Unit-2 as Rs 52540/KL respectively. While the weighted average GCV of oil as 9350 kCal/KL for both Unit.
- 6.37 On the basis of record available with the Commission, the Commission has approved Calorific value and Landed price of Secondary Fuel for each Unit is



shown below:

Table 64: Calorific value and Landed price of Secondary fuel as approved by the Commission

| Particulars | Calorific Value (kcal/L) | | | Landed Price (Rs./kL) | | |
|---------------|--------------------------|----------|----------|-----------------------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| UNIT-1 | 9337* | 9350 | 9350 | 42637* | 52789 | 52789 |
| UNIT-2 | 9334* | 9350 | 9350 | 45134* | 52540 | 52540 |

*As per Corrigendum Order dated April 10, 2019

Energy Charge Rate (ECR)

Petitioner's Submission

- 6.38 The Petitioner has stated the energy charge rate as Rs. 3.361/kWh and Rs. 3.290/kWh for Unit-1 and Unit-2 respectively against the approved value of Rs. 2.567/kWh and Rs. 2.570/kWh for FY 2018-19.
- 6.39 For calculation of ECR, the Petitioner has considered the normative Gross Station Heat Rate of 2387 kCal/kWh, normative Auxiliary Consumption of 9.00% and normative Secondary fuel oil as 1.00 ml/kWh for both the Units.

Commission's Analysis

- 6.40 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy charge (i.e. Variable Charge) shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).
- 6.41 The formula for calculation of energy charge payable to a Generating Company is specified in JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.41.
- 6.42 Accordingly, the Commission has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015. The detail of ECR and Fuel Cost for truing up of FY 2018-19 for both the Units as submitted by the Petitioner and approved by the Commission is tabulated hereunder:

**Table 65: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission**

| Particulars | UoM | FY 2018-19 | | |
|---|---------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1438.26 | 1639.63 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419.00 | 3493.89 | 3493.89 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 4.42 | 4.42 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.567 | 3.361 | 3.361 |

*As per Corrigendum Order dated April 10, 2019

Table 66: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission

| Particulars | UoM | FY 2018-19 | | |
|---|---------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1438.26 | 1236.89 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419 | 3457.38 | 3457.38 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 4.27 | 4.27 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.570 | 3.290 | 3.290 |

*As per Corrigendum Order dated April 10, 2019

Determination of Fixed Cost

Additional Capitalization & De-capitalization

Petitioner's Submission

6.43 Is is submitted that an additional capitalization and de-capitalisation of Rs. 2.82 Crore and Rs. (5.48) Crore respectively for each Unit of the generating station for FY 2018-19, has been incurred by the Petitioner.

6.44 The details of additional capitalisation and de-capitalisation as claimed by the Petitioner for FY 2018-19, is shown below:

**Table 67: Details of additional capitalization as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|----------------------|-----------|-------------|-----------|-------------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Handling System | - | 0.035 | - | 0.035 |
| Coal Handling System | - | 0.345 | - | 0.345 |
| Other Ready Assets | - | 0.94 | | 0.94 |
| Workshop, Laboratory | - | 0.09 | | 0.09 |
| Total | - | 1.41 | - | 1.41 |

Table 68: Details of Decapitalization as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------------|-----------|---------------|-----------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Other Ready Assets | - | (2.74) | - | (2.74) |
| Total | - | (2.74) | - | (2.74) |

6.45 In support of capitalization, the Petitioner has submitted the Statutory Auditor certificate attesting the closing value of GFA of Rs. 3386.72 Crore as on March 31, 2019.

Commission's Analysis

6.46 The Commission has outlined the provisions for the approval of any additional capitalization, for a generating station in Clause 7.5 and Clause 7.6 of the JSERC Generation Tariff Regulation, 2015, and the relevant clause is mentioned in Para 5.46.

6.47 The Commission has observed that there is discrepancy in the representation of additional capitalisation when as compared to Petitioner claim and audited accounts as shown below.

Table 69: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|------------------------|------------------|-------------------------|------------------|-------------------------|
| | Petitioner Claim | As per Audited Accounts | Petitioner Claim | As per Audited Accounts |
| Plant & Machinery | - | 0.47 | - | 0.47 |
| Building & Civil Works | - | - | - | - |
| Furniture and Fixtures | - | 0.003 | - | 0.003 |
| Vehicles | - | 0.1422 | - | 0.1422 |
| Office Equipment | - | 0.0132 | - | 0.0132 |
| Computer | - | 0.78 | - | 0.78 |
| Ash Handling System | 0.035 | - | 0.035 | - |
| Coal Handling System | 0.345 | - | 0.345 | - |



| Particulars | Unit-1 | | Unit-2 | |
|----------------------|------------------|-------------------------|------------------|-------------------------|
| | Petitioner Claim | As per Audited Accounts | Petitioner Claim | As per Audited Accounts |
| Other Ready Assets | 0.94 | - | 0.94 | - |
| Workshop, Laboratory | 0.09 | - | 0.09 | - |
| Total | 1.41 | 1.41 | 1.41 | 1.41 |

Table 70: Discrepancy between Petitioner Claim and audited accounts in De-Capitalization (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|------------------------|------------------|-------------------------|------------------|-------------------------|
| | Petitioner Claim | As per Audited Accounts | Petitioner Claim | As per Audited Accounts |
| Plant & Machinery | - | 0.002 | - | 0.002 |
| Building & Civil Works | - | - | - | - |
| Furniture and Fixtures | - | 0.182 | - | 0.182 |
| Vehicles | - | 0.005 | - | 0.005 |
| Office Equipment | - | 0.161 | - | 0.161 |
| Computer | - | 2.39 | - | 2.39 |
| Other Ready Asset | (2.74) | - | (2.74) | - |
| Total | (2.74) | (2.74) | (2.74) | (2.74) |

- 6.48 The Commission observes that all the assets capitalized during the FY 2018-19 were not part of the original project. Further, the Petitioner requested the Commission to allow the above mention assets under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015 i.e. any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost.
- 6.49 The Commission examined the audited accounts of FY 2018-19 and as per Note-4 (Property, Plant and Equipment) of audited accounts, substantiates the fact that Rs. 2.82 Crore (cumulative for both the Units) of assets is capitalized while Rs 5.48 Crore is de-capitalized during the FY 2018-19. Based on the submission and justification made by the Petitioner and after a prudent check, the Commission approves the additional capitalization of Rs. 2.82 Crore (cumulative for both the Units) and de-capitalization as Rs 5.48 Crore for FY 2018-19 under Clause 7.6 (iv) of JSERC Tariff Regulations 2015. Further in FY 2018-19, the net additional capitalization as per the audited accounts of 2018-19 is Rs. (2.66) Crores, leading to closing value of GFA as on 31st March, 2019 at Rs. 3,386.72 Crores.

**Table 71: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore)**

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------------|-----------|----------|---------------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Capitalization | - | 1.41 | 1.41 | - | 1.41 | 1.41 |
| De-capitalization | - | (2.74) | (2.74) | | (2.74) | (2.74) |
| Net addition | | | (2.66) | | | |

Depreciation**Petitioner's Submission**

6.50 The Petitioner has submitted that depreciation is calculated based on 'Single Line Method' and at the depreciation rates provided in Appendix-I of the JSERC Generation Tariff Regulations 2015.

6.51 Further, the Petitioner has submitted that the depreciation so allowed shall be up to maximum of 90% of the capital cost of the project and the balance is to be considered as the salvage value of the asset.

Table 72: Depreciation as submitted by the Petitioner (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.38 | 74.74 | 75.20 | 75.55 |
| Building & civil works | 3.34% | 7.25 | 7.12 | 7.21 | 7.08 |
| Other Assets | 5.28% | 0.37 | 0.40 | 0.37 | 0.40 |
| Net Depreciation | Rs.cr. | 82.37 | 82.64 | 83.15 | 83.40 |

Commission's Analysis

6.52 The JSERC Generation Tariff Regulation, 2015 has specified the methodology for the calculation of depreciation expense for existing generating station as mentioned in para 5.53.

6.53 The Commission has computed depreciation for both the Units in accordance with the above mentioned regulations. The following table shows the depreciation approved by the Commission against that submitted by the Petitioner.

**Table 73:: Depreciation as approved by the Commission (Rs. Crore)**

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|----------------------------------|--------------|--------------|--------------|--------------|
| | | Petition | Approve | Petition | Approve |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.74 | 74.74 | 75.55 | 75.55 |
| Building & civil works | 3.34% | 7.12 | 7.11 | 7.08 | 7.06 |
| Other Assets | 5.28% | 0.40 | 0.40 | 0.40 | 0.40 |
| Net Depreciation | Rs.cr. | 82.64 | 82.62 | 83.40 | 83.39 |

Operation & Maintenance Expenses**Petitioner's Submission**

- 6.54 The Petitioner has claimed the normative operational & Maintenance (O&M) Expenses as approved in the MYT Order dated February 19, 2018.
- 6.55 Further, the Petitioner has submitted that Clauses 6.14 of the Tariff JSERC Regulations, 2015 provides that any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR
- 6.56 In view of the reasons mentioned above, the Petitioner has prayed to the Commission to allow the O&M expenses as mentioned below.

Table 74: O&M Expenses as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| O&M Expenses | 79.28 | 79.28 | 79.28 | 79.28 |

Commission's Analysis

- 6.57 As per JSERC Generation Tariff Regulations, 2015 Clause 7.40 and Clause 7.41 lays out the provision for determination of O&M expenses and the same is mentioned in para 5.58.
- 6.58 The Commission has scrutinized the submission made by the Petitioner and approved the operational & maintenance expenses as per MYT Order dated February 19, 2018.

Table 75: O&M Expenses as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|--------|----------|----------|--------|----------|----------|
| | MYT | Petition | Approved | MYT | Petition | Approved |
| O&M Expenses | 79.28 | 79.28 | 79.28 | 79.28 | 79.28 | 79.28 |



Interest on Loan

Petitioner's Submission

- 6.59 The Petitioner has considered the opening balance of loan for FY 2018-19 as Rs 802.96 crores and Rs 834.77 crores for unit-1, unit-2 respectively based on closing values of 2017-18 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.
- 6.60 The Petitioner has considered the repayment during the year equivalent to the normative depreciation for the year being in line with the methodology prescribed in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.
- 6.61 The Petitioner has submitted that the actual loan portfolio is in the line with the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015., and also considered 70% of the actual capitalization as Normative Loan for FY 2018-19 with interest rate of 12.31% for Unit-1 and Unit-2.
- 6.62 Further, the Petitioner has submitted the weighted average rate of interest for Unit-1 and Unit-2 duly certified by the auditor.
- 6.63 The Petitioner has considered the weighted average rate of interest based on actual loan portfolio and repayment equal to depreciation proposed by Petitioner for calculation of interest on loan for FY 2018-19.

Table 76: Interest on Loan as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Debt Balance | 802.96 | 756.22 | 834.77 | 788.21 |
| Net Additions | 0.00 | 0.99 | 0.00 | 0.99 |
| Repayment | 82.37 | 82.64 | 83.15 | 83.40 |
| Closing Debt Balance | 720.60 | 674.57 | 751.63 | 705.80 |
| Rate of Interest (%) | 13.13% | 12.31% | 13.28% | 12.31% |
| Interest on Debt | 100.02 | 88.08 | 105.34 | 91.97 |

Commission's Analysis

- 6.64 The Commission has calculated the gross normative loan for FY 2018-19 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.65
- 6.65 The Commission has scrutinized the details submitted by the Petitioner and observed that weighted average interest rate as 12.31% for both Unit-1 & Unit-2.



- 6.66 The Commission has calculated the normative opening balance of debt for FY 2018-19 as trued up closing balance for FY 2017-18 approved in table 32.
- 6.67 The Commission has approved the repayment as approved depreciation in line with the methodology specified in JSERC Generation Tariff Regulations, 2015 to arrive at the closing balance of normative debt component as shown below.

Table 77: Interest on Loan as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-----------------------|---------------|---------------|--------------|---------------|---------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Loan | 802.96 | 756.22 | 805.66 | 834.77 | 788.21 | 837.51 |
| Deemed Loan Addition | 0.00 | 0.99 | (1.59) | 0.00 | 0.99 | (1.59) |
| Deemed Loan Repayment | 82.37 | 82.64 | 82.62 | 83.15 | 83.40 | 83.39 |
| Closing Loan | 720.60 | 674.57 | 721.45 | 751.63 | 705.80 | 752.53 |
| Interest Rate | 13.13% | 12.31% | 12.31% | 13.28% | 12.31% | 12.31% |
| Interest on Loan | 100.02 | 88.08 | 94.01 | 105.34 | 91.97 | 97.88 |

Interest on Working Capital (IoWC)***Petitioner's Submission***

- 6.68 The Petitioner has mentioned that Clause 6.14 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 provides for Truing-up of Interest on Working Capital on account of variation in actual capital expenditure incurred vis-à-vis approved capital expenditure. The relevant clause has been mentioned in para 5.69.
- 6.69 Further, the Petitioner craves liberty before the Hon'ble Commission to claim Receivables equivalent to 180 days of average billing as outstanding dues of the Petitioner w.r.t JBVNL supply is pending for more than 180 days. Hence, the Petitioner requests before the Hon'ble Commission to relax and allow the receivables of 180 days under Regulation A 33 i.e. Power of relaxation.
- 6.70 The Petitioner has worked out the normative working capital requirement for Unit-1 and Unit-2 for FY 2018-19 and has considered the rate of interest on working capital equal to the Bank Rate specified by State Bank as on April 01, 2018 plus 350 basis points. Accordingly, the Petitioner has considered 12.20% for Unit-1 and Unit-2 as rate of interest on working capital. The detailed computation of interest on working capital for Unit-1 and Unit-2 for FY 2018-19 based on the above rationale is shown below.

**Table 78: Interest on Working Capital as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Coal Cost for 2 Months | 76.84 | 102.07 | 78.77 | 100.37 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.77 | 1.51 | 1.76 |
| O&M Expenses for 1 month | 6.61 | 6.61 | 6.61 | 6.61 |
| Receivable for 2 month | 139.06 | 504.00* | 140.04 | 499.87* |
| Maintenance Spare | 15.86 | 15.86 | 15.86 | 15.86 |
| Total Working Capital | 239.79 | 630.30 | 240.86 | 624.46 |
| Rate of Interest | 12.80% | 12.20% | 12.80% | 12.20% |
| Interest on Working Capital | 30.69 | 76.90 | 30.83 | 76.18 |

* the Petitioner claim receivable for 180 days

Commission's Analysis

- 6.71 The Commission has computed the interest on working capital (IoWC) for FY 2018-19 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as mention in para 5.72.
- 6.72 The Commission has scrutinized the submission made by the Petitioner and allow Receivable for 2 months only as per Clause 7.34 (e) of the JSERC generation Tariff Regulation 2015.
- 6.73 The Commission has computed the working capital requirement as per the above mentioned Regulations. The interest on working capital is considered as per JSERC Generation Tariff Regulations, 2015 i.e., Bank rate as April 01, 2018. The detailed calculation made by the Commission is shown in the tables below.

Table 79: Interest on Working Capital as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------------|---------------|----------------|---------------|---------------|----------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Coal Cost for 2 Months | 76.84 | 102.07 | 82.13 | 78.77 | 100.37 | 60.63 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.77 | 1.44 | 1.51 | 1.76 | 1.08 |
| O&M Expenses for 1 month | 6.61 | 6.61 | 6.61 | 6.61 | 6.61 | 6.61 |
| Receivable for 2 month | 139.06 | 504.00* | 143.38 | 140.04 | 499.87* | 121.52 |
| Maintenance Spare | 15.86 | 15.86 | 15.86 | 15.86 | 15.86 | 15.86 |
| Total Working Capital | 239.79 | 630.30 | 249.42 | 240.86 | 624.46 | 205.70 |
| Rate of Interest | 12.80% | 12.20% | 12.20% | 12.80% | 12.20% | 12.20% |
| Interest on Working Capital | 30.69 | 76.90 | 30.43 | 30.83 | 76.18 | 25.10 |

* the Petitioner claim receivable for 180 days



Return on Equity

Petitioner's Submission

- 6.74 The Petitioner has considered the opening value of equity for FY 2018-19 as Rs 506.30 crores and Rs 510.50 crores for unit-1, unit-2 respectively based on closing values of 2017-18 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.
- 6.75 The Petitioner has mentioned Clause 7.15 to 7.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 prescribed in the provisions for computing the normative return on equity for determination of tariff.
- 6.76 Further, the Petitioner while calculating return on equity has considered post-tax return as 15.50% in line with Regulations and approach adopted by the Commission in earlier Orders.
- 6.77 Accordingly, the Return on Equity (Pre-Tax) claimed by the Petitioner for Unit-1 and Unit-2 for FY 2018-19 is summarized in the table below:

Table 80: Return On Equity as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Equity | 455.63 | 506.30 | 450.25 | 510.50 |
| Net Addition | - | 0.42 | - | 0.42 |
| Closing Equity | 455.63 | 506.73 | 450.25 | 510.93 |
| Average Equity | 455.63 | 506.51 | 450.25 | 510.71 |
| Rate of Return on Equity | 15.50% | 15.50% | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.51 | 69.79 | 79.16 |

Commission's Analysis

- 6.78 The Commission has calculated the gross normative equity for FY 2018-19 as per Clause 7.13 and 7.14 of the JSERC Generation Tariff Regulations, 2015. The relevant abstract is mentioned in para 5.79.
- 6.79 The Commission has calculated the normative opening balance of equity for FY 2018-19 as trued up closing balance for FY 2017-18 as approved in table no. 36.
- 6.80 The Commission has scrutinized the discrepancies reply submitted by the Petitioner and observed the revised Debt: Equity ratio from FY 2016-17 onwards as 70:30.
- 6.81 The Commission has noted the reply of the Petitioner and in accordance with



Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the rate of return on equity at the rate of 15.50% as shown below-

Table 81: RoE as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Equity | 455.63 | 506.30 | 456.87 | 450.25 | 510.50 | 461.22 |
| Net Addition | - | 0.42 | (0.68) | - | 0.42 | (0.40) |
| Closing Equity | 455.63 | 506.73 | 456.19 | 450.25 | 510.93 | 460.82 |
| Average Equity | 455.63 | 506.51 | 456.53 | 450.25 | 510.71 | 461.02 |
| Rate of RoE | 15.50% | 15.50% | 15.50% | 15.50% | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.51 | 70.76 | 69.79 | 79.16 | 71.46 |

Annual Fixed Charge

Petitioner's Submission

6.82 The summary of Annual Fixed Charge (AFC), as submitted by the Petitioner is shown below:

Table 82: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|---|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.64 | 83.15 | 83.40 |
| Interest on Debt | 100.02 | 88.08 | 105.34 | 91.97 |
| O&M Expenses | 79.28 | 79.28 | 79.28 | 79.28 |
| Return on Equity (Pre-Tax) | 70.62 | 78.51 | 69.79 | 79.16 |
| Interest on Working Capital | 30.69 | 76.90 | 30.83 | 76.18 |
| Total AFC (Excluding Water and Ash disposal charges) | 362.98 | 405.40 | 368.39 | 410.00 |

Commission's Analysis

6.83 Regulation 8.2 of the JSERC Generation Tariff Regulations, 2015 states that Annual Fixed Cost (AFC) of a thermal generating station shall consist of the following components:

- Return on Equity;
- Interest and Financing Charges on Loan Capital;
- Depreciation;
- Operation and Maintenance Expenses;
- Interest Charges on Working Capital; and



- Special allowance in lieu of R&M or separate compensation allowance, wherever applicable;

6.84 The Annual Fixed Cost (AFC), as submitted by the Petitioner and approved by the Commission has been tabulated below.

Table 83: Annual Fixed Charge as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Depreciation | 82.37 | 82.64 | 82.62 | 83.15 | 83.09 | 83.39 |
| Interest on Debt | 100.02 | 88.08 | 94.01 | 105.34 | 91.98 | 97.88 |
| O&M Expenses | 79.28 | 79.28 | 79.28 | 79.28 | 79.28 | 79.28 |
| RoE (Pre-Tax) | 70.62 | 78.51 | 70.76 | 69.79 | 79.16 | 71.46 |
| IoWC | 30.69 | 76.90 | 30.43 | 30.83 | 76.17 | 25.10 |
| Total AFC (Excluding Water and Ash disposal charges) | 362.98 | 405.40 | 357.10 | 368.39 | 409.68 | 357.10 |

Water Charges, Capital Spare Expenses

Petitioner's Submission

- 6.85 The Petitioner has entered into an MoU with Govt. of Jharkhand for drawl of water to an extent of 35.60 MCM (4064 m³ per hour) in a phased manner from Subarnarekha river, flowing at a distance of eight km downstream of water intake point from APNRL Project site, vide agreement dated August 29, 2008. The said agreement stipulates that a pump house has to be installed for drawl of required water from the river Subarnarekha withdrawn directly from the river and not from any reservoir. Subsequently, Water Department of Govt. of Jharkhand vide its Notification No. 2/PMC/Jalapurti-175/2007 dated April 01, 2011 has revised various categories for water off-take and APNRL was asked to pay @ Rs. 26.40 per thousand gallons. The Petitioner aggrieved by the rate, filed a Writ Petition before High Court of Jharkhand on February 07, 2012 with regard to demand raised by Subarnarekha Dam Division towards withdrawal of water at higher than the agreed rates.
- 6.86 The Hon'ble High Court of Jharkhand was pleased to pass a stay Order in the above mentioned Writ Petition, restricting the payment of water charges at pre-revised rate of Rs. 4.50 per thousand gallons.
- 6.87 The Petitioner further mention that clause 18 of the Water agreement, which contains provisions for reduction of the Water quantity, the Petitioner has requested WRD, Government of Jharkhand for lowering of the permitted water



quantity from 35.60 MCM to 17.60 MCM i.e. almost 50% of the original allocated quantity, which is yet to be considered by the WRD, State of Jharkhand. As a result, the Petitioner has filed another petition before the Hon'ble High Court at Ranchi for resolution of dispute regarding the billed water quantum in the bill, which is pending.

6.88 Therefore, the Petitioner is paying at Rs. 4.50 per thousand gallon of water withdrawn from the river, amounting to Rs. 1.74 Crore for FY 2018-19, as reflected in the audited accounts. The same is apportioned in proportion to JBVNL share (25%) i.e., 0.44 Crore (Rs. 0.22 Crore for each Unit).

6.89 The Petitioner has claimed capital spare expenses well within the clause 7.46 of the JSERC generation Tariff Regulation 2015.

Table 84: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|----------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Water Charges | 1.74 | 0.22 | 1.74 | 0.22 |
| Capital Spares | - | 0.44 | - | 0.44 |

Commission's Analysis

6.90 The treatment of water charges and capital spares for thermal generating stations is governed by Clause 7.46 of GTR 2015, the relevant extract of the Regulations is mentioned in para 5.91.

6.91 The Commission has scrutinized the detail submitted by the Petitioner and observed that the matter related to water charge is sub-judice before the Hon'ble Jharkhand High Court. Thus, the Commission in the Present petition approved the water charges as per audited accounts for FY 2018-19 in proportion of power allocated to JBVNL.

6.92 With regard to Capital spares, the Commission is of the view that in compliance to 2nd proviso of Clause 7.46 of the JSERC Generation Tariff Regulations 2015, the Petitioner is required to submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Clause 7.47 of the JSERC Generation Tariff Regulations 2015 or special allowance as per Clause 7.10 and 7.11 of the JSERC Generation Tariff Regulations or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization. In compliance, the



Petitioner submitted the details of critical spares consumed in FY 2018-19, duly certified by the auditor along with the purpose of consumption.

- 6.93 The Commission examines the details of critical spares consumed in FY 2018-19 duly certified by auditor along with purpose of consumption. The Commission approves Rs. 0.88 Crore (cumulative for both units) based on the ratio of the power allocation to JBVNL. Thus, based on the submission and justification made by the Petitioner and after a prudent check, the Commission approves the critical spares of Rs. 0.44 Crore for each unit for FY 2018-19.
- 6.94 The Commission observed that, the overall capital spare and water charges are well within clause 7.46 of JSERC Generation Tariff Regulation 2015. The Commission has therefore approved the capital spare and water charge as shown below.

Table 85: Water charge and Capital Spare as approved by the Commission (Rs. Cr)

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Water charge | 1.74 | 0.22 | 0.22 | 1.74 | 0.22 | 0.22 |
| Capital Spare | - | 0.44 | 0.44 | - | 0.44 | 0.44 |

Ash Disposal Expenses

Petitioner's Submission

- 6.95 The Petitioner submits that ash disposal and transportation is the statutory requirement of the power plant. The Petitioner has been disposing and transporting the Ash from its power station in accordance with the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) notification dated 25.1.2016.
- 6.96 Further, the Petitioner has submitted that as per the environmental norms and MOEFCC guidelines, the Petitioner has been transporting ash from its power station to various cement and brick manufacturing units. The details of the quantity of ash disposal and its expenditures is being provided as below:

Table 86: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Disposal | - | 3.94 | - | 3.94 |



Commission's Analysis

6.97 The Commission has scrutinized the submission made by the Petitioner and approves the Ash Disposal Expenses as per audited accounts.

6.98 Considering the facts and circumstances of the given petition the Commission approved the Ash Disposal Expense for FY 2018-19 as shown below.

Table 87: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Ash Disposal | - | 3.94 | 3.94 | - | 3.94 | 3.94 |

Tariff for Unit-1 and Unit-2

Petitioner's Submission

6.99 The Petitioner has submitted that in accordance with provisions of Power Purchase Agreement (PPA) executed with Discom, out of the total Contracted Capacity of 122.85 MW, APNRL will supply 63.882 MW capacity (i.e., 13% of the total net Capacity at total Tariff (both fixed and Variable Charge) and the balance 58.96 MW capacity, i.e., 12% of the Net capacity at variable cost i.e., Energy Charge as approved by the Commission. Accordingly, the tariff for supply of regulated capacity for JUVNL/JBVNL is summarized below:

Table 88: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.567 | 3.361 | 2.570 | 3.290 |

Table 89: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|--|-------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Gross Capacity | MW | 270 | 270.00 | 270 | 270.00 |
| Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 | 9.00 |
| Net Capacity | MW | 245.70 | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | MW | 29.48 | 29.48 | 29.48 | 29.48 |



| Particulars | Units | Unit-1 | | Unit-2 | |
|---|-----------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| Remaining Capacity from which Fixed Charges are to be recovered | MW | 216.22 | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | Rs Cr. | 364.73 | 405.40 | 370.13 | 410.00 |
| Annual Fixed Charges/MW | Rs Cr./MW | 1.69 | 1.87 | 1.71 | 1.90 |
| 13% of Net Capacity for supply to JUVNL at full tariff | MW | 31.94 | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | MW | 53.88 | 59.89 | 54.68 | 60.57 |

Commission's Analysis

6.100 The tariff for 12% of the total net capacity shall be the variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) approved by the Commission, whereas the tariff for next 13% of total net capacity shall be total tariff i.e., variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) and fixed charges as approved by the Commission is tabulated below.

Table 90: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|----------|----------|----------|----------|
| | | Petition | Approved | Petition | Approved |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 3.361 | 3.361 | 3.290 | 3.290 |

Table 91: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge)

| Particulars | Derivation | Units | Unit-1 | | |
|--|------------------------|-------|-----------|----------|----------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00 | 9.00 | 9.00% |
| Net Capacity | $C = A \times (1 - B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D = C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |



| Particulars | Derivation | Units | Unit-1 | | |
|---|----------------------------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Remaining Capacity from which Fixed Charges are to be recovered | $E=C-D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 364.73 | 405.40 | 357.10 |
| Annual Fixed Charges/MW | $G=F/E$ | Rs Cr./MW | 1.69 | 1.87 | 1.65 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H=C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | $I=G \times H$ | MW | 53.88 | 59.89 | 52.75 |

Table 92: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge).

| Particulars | Derivation | Units | Unit-2 | | |
|---|----------------------------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00 | 9.00 | 9.00% |
| Net Capacity | $C=A \times (1-B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D=C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E=C-D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 370.13 | 410.00 | 357.10 |
| Annual Fixed Charges/MW | $G=F/E$ | Rs Cr./MW | 1.71 | 1.90 | 1.65 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H=C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | $I=G \times H$ | MW | 54.68 | 60.57 | 52.75 |

Revenue

Petitioner's Submission

6.101 The Petitioner submitted that the billed amount to JUVNL/JBVNL comprises of capacity charge, energy charges and fuel cost adjustment bill. The Petitioner further added that the revenue billed to JUVNL/JBVNL amounts to Rs. 179.02 Crore and Rs. 176.58 Crore for Unit-1 and Unit-2 respectively as shown below:

**Table 93: Revenue as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | Unit-2 |
|-----------------------------------|---------------|---------------|
| | Petition | Petition |
| Annual Fixed Charge | 58.36 | 59.26 |
| Fuel Cost Adjustment | 43.97 | 43.97 |
| Energy Charge | 98.04 | 98.04 |
| Revenue from Sale of Power | 200.37 | 201.27 |

Commission's Analysis

6.102 The Commission has scrutinized the details submitted by the Petitioner and approves the revenue as tabulated below:

Table 94: Revenue as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-----------------------------------|---------------|---------------|---------------|---------------|
| | Petition | Approved | Petition | Approved |
| Annual Fixed Charge | 58.36 | 58.36 | 59.26 | 59.26 |
| Fuel Cost Adjustment | 43.97 | 43.97 | 43.97 | 43.97 |
| Energy Charge | 98.04 | 98.04 | 98.04 | 98.04 |
| Revenue from Sale of Power | 200.37 | 200.37 | 201.27 | 201.27 |

Impact of True up**Petitioner's Submission**

6.103 The Petitioner has worked out the impact of true up considering the Trued-up annual fixed charges, trued-up per unit variable charges for the year and the actual availability against the contracted capacity to JBVNL for the year, based on the availability.

Table 95: Impact of True up as submitted by the Petitioner

| Particulars | Units | Unit-1 | Unit-2 |
|--|--------|---------------|---------------|
| | | Petition | Petition |
| Net Energy Supplied to JUVNL/JBVNL | MU | 442.20 | 442.20 |
| Rate of Energy Charge | Rs/kWh | 3.361 | 3.290 |
| AFC Entitlement on True Up | Rs Cr | 57.90 | 58.56 |
| Incentive | Rs Cr | | |
| Energy Charge Entitlement upon True up | Rs Cr | 148.62 | 145.48 |
| Water Charges | Rs Cr | 0.22 | 0.22 |
| Capital Spares | Rs Cr | 0.44 | 0.44 |
| Additional Ash Disposal Charge | Rs Cr | 3.94 | 3.94 |
| Total Entitlement | Rs Cr | 211.11 | 208.63 |
| Revenue Billed | | | |
| AFC | Rs Cr | 58.36 | 59.26 |
| FPA | Rs Cr | 43.97 | 43.97 |
| EC | Rs Cr | 98.04 | 98.04 |



| Particulars | Units | Unit-1 | Unit-2 |
|---|--------------|---------------|---------------|
| | | Petition | Petition |
| Total Revenue Billed to JUVNL/JBVNL | Rs Cr | 200.37 | 201.27 |
| Gap/(Surplus) | Rs Cr | 10.74 | 7.36 |
| Rate of Interest | % | 12.20% | 12.20% |
| From 1st true-up FY 2017-18 to till date | Days | 1096 | 1096 |
| Allowable Interest for the year | Rs Cr | 1.97 | 1.35 |
| Total Amount to be additionally recovered / (paid back to JUVNL) | Rs Cr | 12.71 | 8.71 |

Commission's Analysis

6.104 The JSERC Generation Tariff Regulations, 2015, as mention in the para 5.105.

6.105 Based on the above approved values and revenue, the Commission has approved the impact of True up for FY 2018-19 as shown below:

Table 96: Gap/(Surplus) as approved by the Commission (Rs. Crore).

| Particulars | MoU | Unit-1 | | Unit-2 | |
|--|----------------|---------------|---------------|---------------|---------------|
| | | Petition | Approved | Petition | Approved |
| Net Energy Supplied to JUVNL/JBVNL | MU | 442.20 | 442.20 | 442.20 | 442.20 |
| Rate of Energy Charge | Rs/kWh | 3.361 | 3.361 | 3.290 | 3.290 |
| AFC Entitlement on True Up | Rs. Cr. | 57.90 | 51.00 | 58.56 | 51.00 |
| Incentive | Rs. Cr. | | | | |
| Energy Charge Entitlement upon True-up | Rs. Cr. | 148.62 | 148.62 | 145.48 | 145.48 |
| Water Charges | Rs. Cr. | 0.22 | 0.22 | 0.22 | 0.22 |
| Capital Spares | Rs. Cr. | 0.44 | 0.44 | 0.44 | 0.44 |
| Ash Disposal Expenses | | 3.94 | 3.94 | 3.94 | 3.94 |
| Total Entitlement | Rs. Cr. | 211.11 | 204.21 | 208.63 | 201.07 |
| Revenue Billed | | | | | |
| Annual Fixed Charge | Rs. Cr. | 58.36 | 58.36 | 59.26 | 59.26 |
| Fuel Price Adjustment | Rs. Cr. | 43.97 | 43.97 | 43.97 | 43.97 |
| Energy Charge | Rs. Cr. | 98.04 | 98.04 | 98.04 | 98.04 |
| Total Revenue Billed to JUVNL/JBVNL | Rs. Cr. | 200.37 | 200.37 | 201.27 | 201.27 |
| Gap/(Surplus) | Rs. Cr. | 10.74 | 3.84 | 7.36 | (0.19) |

6.106 The Commission has approved the cumulative surplus for FY 2018-19 along with carrying as shown below:

**Table 97: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore)**

| Particulars | FY 2018-19 | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved | Approved |
| Opening Balance | - | 3.84 | 3.84 | 3.84 | 3.84 |
| Addition during the Yr | 3.84 | - | - | - | 0 |
| Closing Balance | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 |
| Average Balance | 1.92 | 3.84 | 3.84 | 3.84 | 3.84 |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% | 10.50% |
| Carrying Cost for respective Year | 0.12 | 0.23 | 0.24 | 0.22 | 0.20 |

Table 98: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore)

| Particulars | FY 2018-19 | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved | Approved |
| Opening Balance | - | (0.19) | (0.19) | (0.19) | (0.19) |
| Addition during the Yr | (0.19) | - | - | - | - |
| Closing Balance | (0.19) | (0.19) | (0.19) | (0.19) | (0.19) |
| Average Balance | (0.19) | (0.19) | (0.19) | (0.19) | (0.19) |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% | 10.50% |
| Carrying Cost for respective Year | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |

Table 99: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.)

| Particulars | Unit-1 | Unit-2 |
|--|-------------|---------------|
| | Approved | Approved |
| Opening Gap/Surplus for FY 2017-18 | - | - |
| Gap/(Surplus) addition during the FY 2018-19 | 3.84 | (0.19) |
| Closing Gap/ (Surplus) for FY 2018-19 | 3.84 | (0.19) |
| Carrying Cost of FY 2018-19 | 0.12 | (0.01) |
| Carrying Cost of FY 2019-20 | 0.23 | (0.01) |
| Carrying Cost of FY 2020-21 | 0.24 | (0.01) |
| Carrying Cost of FY 2021-22 | 0.22 | (0.01) |
| Carrying Cost of FY 2022-23 | 0.20 | (0.01) |
| Net Gap/(Surplus) | 4.87 | (0.25) |

6.107 The Commission would like to clarify that the above Gap/(Surplus) as computed based on the information submitted before the Commission. In case there is any other adjustment between Petitioner and its Beneficiaries, the same need to be taken into account while final adjustment which shall be carried out mutually.

6.108 The Commission has directed the Petitioner to adjust the Gap/(surplus) as per



Clause 6.17 & Clause 6.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.



A 7: TRUE-UP FOR FY 2019-20

- 7.1 The Petitioner has submitted the True-up petition for FY 2019-20 based on the Audited Accounts taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in the earlier Orders.
- 7.2 The Commission has now carried out the True-up for FY 2019-20 taking into consideration:
- JSERC Generation Tariff Regulations, 2015;
 - Audited (Statutory) accounts for the FY 2019-20;
 - MYT Order for FY 2016-17 to FY 2020-21 vide dated February 19, 2018;
 - Corrigendum Order issued by the Commission dated April 10, 2019;
 - Methodology adopted by the Commission in its earlier Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

- 7.3 The Petitioner has submitted the actual availability for Unit-1 & Unit-2 as 89.56% respectively for FY 2019-20.

Commission's Analysis

- 7.4 The Commission in its MYT Order dated February 19, 2018, had approved the Normative Annual Plant Availability Factor (NAPAF) as 85.00% for the Control Period (FY 2016-17 to FY 2020-21) in line with Clause 8.4 of JSERC Generation Tariff Regulation, 2015.
- 7.5 The Commission has noted the reply submitted by the Petitioner and scrutinized the month wise actual availability and approves the actual availability for FY 2019-20 as 89.56 % for both Units.
- 7.6 The actual Plant Availability as approved by the Commission in the MYT Order dated February 19, 2018, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is summarized below.

Table 100: Plant availability as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |



| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------|-----|-----------|----------|----------|
| Actual Availability | % | - | 89.56 | 89.56 |
| UNIT-2 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 89.56 | 89.56 |

Auxiliary Consumption

Petitioner's Submission

7.7 The Petitioner has submitted the auxiliary consumption for FY 2019-20 on normative basis as 9.00% for both the Units in accordance with approved value in MYT Order dated February 19, 2018.

Commission's Analysis

7.8 The Commission while dealing with the matter of approving the auxiliary consumption in the MYT Order dated February 19, 2018 for the Control period (FY 2016-17 to FY 2020-21) had verified the Purchase Order (PO) submitted by Petitioner and approved the auxiliary consumption at normative level of 8.50% and an additional 0.50% for the induced cooling tower.

7.9 The Commission has therefore adopted the same methodology & also in line with the Clause 8.6(d)(i) of Generation Tariff Regulation 2015 approved the normative auxiliary consumption as 9.00% for both the Units as summarize below.

Table 101: Auxiliary Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |
| UNIT-2 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |

Plant Load Factor and Generation

Petitioner's Submission

7.10 The Petitioner has submitted the actual Plant Load Factor (PLF) for Unit-1 as 65.00% and Unit-2 as 60.00% for FY 2019-20 against the normative value of 85.00% approved by the Commission in the MYT Order dated February 19, 2018.

7.11 Further, the Petitioner has submitted Gross Generation as 1479.74 MU, which is average of 1542.29 MU for Unit-1 and 1417.19 MU for Unit-2 for FY 2019-20.



Commission's Analysis

- 7.12 The Commission is of the view that the Petitioner should look into the reasons for the sub-optimal utilization of its assets which could be due to high cost of generation. The Petitioner should take steps towards reduction of the cost of generation so that more power can be scheduled thus increasing the utilization.
- 7.13 The Commission has scrutinized the detail submitted along with the Petition and approved the actual Plant Load Factor, Gross Generation and Net Generation as submitted by the Petitioner for FY 2019-20 as shown below.

Table 102: Plant Load Factor and Generation as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Gross Generation | MU | 2010.42 | 1479.74 | 1542.29 |
| Net Generation | MU | - | 1346.56 | 1403.48 |
| Plant Load Factor | % | - | 65.00 | 65.00 |
| UNIT-2 | | | | |
| Gross Generation | MU | 2010.42 | 1479.74 | 1417.19 |
| Net Generation | MU | - | 1346.56 | 1289.64 |
| Plant Load Factor | % | - | 60.00 | 60.00 |

Gross Station Heat Rate (GHR)

Petitioner's Submission

- 7.14 The Petitioner has claimed the Gross Station Heat Rate (GHR) for both the Units as 2387.00 kcal/kWh in line with the approved value in the MYT Order dated February 19, 2018.

Commission's Analysis

- 7.15 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and JSERC Generation Tariff Regulations, 2015. Hence, the Commission approves the Gross Station Heat Rate as submitted by the Petitioner for FY 2019-20 as shown below:

Table 103: Gross Station Heat Rate (GHR) as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|----------|-----------|----------|----------|
| UNIT-1 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| UNIT-2 | | | | |



| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|----------|-----------|----------|----------|
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |

Specific Fuel Oil Consumption

Petitioner's Submission

7.16 The Petitioner has submitted the specific fuel oil consumption as 1.00 mL/kWh in line with JSERC Generation Tariff Regulations, 2015 for both the Units for FY 2019-20.

Commission's Analysis

7.17 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and Generation Tariff Regulations, 2015. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner for FY 2019-20 as shown below:

Table 104: Specific Fuel Oil Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------------------|--------|-----------|----------|----------|
| UNIT-1 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |
| UNIT-2 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |

Fuel Cost Parameters

Coal Mix and Gross Calorific Value (GCV) of Primary Fuel

Petitioner's Submission

7.18 The Petitioner has submitted that there is variation in coal mix, GCV and landed price of primary fuel against the approved value in MYT Order dated February 19, 2018. The Petitioner has further added that the reason for variation are not attributable to Petitioner.

7.19 The Petitioner has submitted the source wise break up of coal consumed, GCV of coal for each unit during FY 2019-20 duly certified by auditor in support of his claim.

Commission's Analysis

7.20 The Commission has observed that there has been significant deviation in the blending ratio, GCV of primary fuel-mix and its price as compared to the approved



values by the Commission. It is also observed that there is decrease in GCV of coal, leading to increase in consumption of primary fuel.

- 7.21 The Commission vide letter dated September 21, 2022 directed the Petitioner to provide the detail computation of GCV of the primary fuel. In compliance, the Petitioner has submitted that the weighted average GCV for Unit-1 as 3385.34 kcal/kg and GCV for Unit-2 as 3389.34 kcal/kg respectively and also submitted the detailed excel computation of GCV.
- 7.22 The Commission has taken note of the submission made by the Petitioner and statutory audited detailing month wise quantity consumed and GCV for FY 2019-20 of each Unit.
- 7.23 The following table summarize the fuel mix and weighted average GCV as submitted by the Petitioner and as approved by the Commission for FY 2019-20.

Table 105: Coal Mix and GCV for Unit-1 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| Linkage Coal | - | 32.94% | 32.94% | - | 3203.87 | 3203.87 |
| F-Auction Coal | - | 54.46% | 54.46% | - | 3499.90 | 3499.90 |
| MCL Auction | - | 4.54% | 4.54% | - | 3396.54 | 3396.54 |
| Middling | - | 8.06% | 8.06% | - | 3346.67 | 3346.67 |
| Wt. average | - | - | - | - | 3385.34 | 3385.34 |

Table 106: Coal Mix and GCV for Unit-2 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| Linkage Coal | - | 28.93% | 28.93% | - | 3186.89 | 3186.89 |
| F-Auction Coal | - | 58.13% | 58.13% | - | 3466.05 | 3466.05 |
| MCL Auction | - | 5.41% | 5.41% | - | 3372.07 | 3372.07 |
| Middling | - | 7.53% | 7.53% | - | 3580.25 | 3580.25 |
| Wt. average | - | - | - | - | 3388.78 | 3388.78 |



Transit Loss

Petitioner's Submission

7.24 The Petitioner has claimed the normative transit loss as 0.8% for domestic coal and 0.2% for imported coal in accordance with MYT Order dated February 19, 2018.

Commission's Analysis

7.25 The Commission observes that the actual transit loss of coal depends on various factors like category of coal, foreign particles content, moisture content, distance from mines etc. Considering all the factors, the Commission has computed the weighted average normative transit loss of 0.80% for non-pit head plant and 0.20% for pit head plant as stipulated in the JSERC Generation Tariff Regulations, 2015.

7.26 Thus, in accordance with Regulation 8.21 of JSERC Generation Tariff Regulation, 2015, the Commission approves the normative transit loss as 0.80% for domestic coal and 0.20% for imported coal.

Table 107: Transit Loss as approved by the Commission

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% |
| Imported Coal | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% |

Landed Cost of Coal

Petitioner's Submission

7.27 The Petitioner has submitted that the month wise landed price of primary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

7.28 The Commission for reason stated in this Order approved the normative transit loss for the calculation of landed price of the coal.

7.29 The Commission analysis and considered the submission made by the Petitioner and also arrived at the weighted average landed cost of coal by following methodology: -

- Audited figures of the Base price of coal including base price, applicable tax, transportation charges, handling charges and provisional



adjustment/stock adjustment (if any);

- Normative Transit loss as approved by the Commission;
- Actual consumption of various types of coal.
- Price and quality of the coal is uncontrollable in nature

7.30 The Commission has outlined the provision for approval of landed price of primary fuel for generating station as mentioned in the JSERC Generation Tariff Regulation, 2015, in terms of Clause mention in para 5.31.

7.31 The Commission after scrutinized the details submitted in reply by the Petitioner observed that the weighted average landed price of coal for Unit-1 as Rs. 3770.34/MT and for Unit-2 as Rs 3794.51/MT respectively.

7.32 The weighted average price of coal as approved in the MYT corrigendum order dated April 10, 2019, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is provided in the table below.

Table 108: Landed price of Coal as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|--------------------|--------------|--------------|----------------|----------------|
| UNIT-1 | | | | |
| Linkage Coal | Rs/MT | - | 3010.69 | 3010.69 |
| F-Auction Coal | Rs/MT | - | 4091.22 | 4091.22 |
| MCL Auction | Rs/MT | | 4100.53 | 4100.53 |
| Middling | Rs/MT | | 4521.39 | 4521.39 |
| Wt. Average | Rs/MT | 3298* | 3770.34 | 3770.34 |
| UNIT-2 | | | | |
| Linkage Coal | Rs/MT | - | 2999.43 | 2999.43 |
| F-Auction Coal | Rs/MT | - | 4049.42 | 4049.42 |
| MCL Auction | Rs/MT | | 4121.77 | 4121.77 |
| Middling | Rs/MT | | 4647.05 | 4647.05 |
| Wt. Average | Rs/MT | 3298* | 3794.51 | 3794.51 |

*As per Corrigendum Order dated April 10, 2019

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

7.33 The Petitioner submitted that the month wise landed price and GCV of secondary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

7.34 The Commission has analysed the month wise quantity of secondary fuel consumption, GCV and landed price of secondary fuel duly certified by an auditor.



- 7.35 The Commission on scrutinizing the details submitted in reply by the Petitioner observed that the weighted average landed price of oil for Unit-1 as Rs. 54358/KL and for Unit-2 as Rs 54534/KL respectively. While the weighted average GCV of oil as 9350 kCal/KL for both Unit.
- 7.36 On the Basis of the record available with the Commission, the Commission has approved Calorific value and Landed price of Secondary Fuel for each Unit is shown below:

Table 109: Calorific value and Landed price of Secondary fuel as approved by the Commission

| Particulars | Calorific Value (kcal/L) | | | Landed Price (Rs./kL) | | |
|---------------|--------------------------|----------|----------|-----------------------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| UNIT-1 | 9337* | 9350 | 9350 | 42637* | 54358 | 54358 |
| UNIT-2 | 9334* | 9350 | 9350 | 45134* | 54534 | 54534 |

*As per Corrigendum Order dated April 10, 2019

Energy Charge Rate (ECR)

Petitioner's Submission

- 7.37 The Petitioner has stated the energy charge rate as Rs. 2.970/kWh and Rs. 2.986/kWh for Unit-1 and Unit-2 respectively against the approved value of Rs. 2.567/kWh and Rs. 2.570/kWh for FY 2019-20.
- 7.38 For calculation of ECR, the Petitioner has considered the normative Gross Station Heat Rate of 2387 kCal/kWh, normative Auxiliary Consumption of 9.00% and normative Secondary fuel oil as 1.00 ml/kWh for both the Units.

Commission's Analysis

- 7.39 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy charge (i.e. Variable Charge) shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).
- 7.40 The formula for calculation of energy charge payable to a Generating Company is specified in JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.41.
- 7.41 Accordingly, the Commission has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015. The details of ECR and Fuel Cost for truing up of FY 2019-20



for both the Units as submitted by the Petitioner and approved by the Commission, is tabulated hereunder:

Table 110: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission

| Particulars | UoM | Unit-1 | | |
|---|---------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1479.14 | 1542.29 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419.00 | 3385.34 | 3385.34 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.77 | 3.77 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.567 | 2.970 | 2.970 |

*As per Corrigendum Order dated April 10, 2019

Table 111: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission

| Particulars | UoM | Unit-2 | | |
|---|---------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1479.14 | 1417.19 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419 | 3388.78 | 3388.78 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.79 | 3.79 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.570 | 2.986 | 2.986 |

*As per Corrigendum Order dated April 10, 2019

Determination of Fixed Cost

Additional Capitalization & De-capitalization

Petitioner's Submission

7.42 It is submitted that an additional capitalization and de-capitalisation of Rs. 2.82 Crore and Rs. (5.48) Crore respectively for each Unit of the generating station for FY 2019-20, has been incurred by the Petitioner.

7.43 The details of additional capitalisation and de-capitalisation as claimed by the Petitioner for FY 2019-20 is tabulated hereunder:

**Table 112: Details of additional capitalization as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|----------------------|-----------|--------------|-----------|--------------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Handling System | - | 0.30 | - | 0.30 |
| Crane & Hoist | - | 0.095 | - | 0.095 |
| DM water Plant | - | 0.025 | - | 0.025 |
| Other Ready Assets | - | 0.295 | - | 0.295 |
| Workshop, Laboratory | - | 0.55 | - | 0.55 |
| Total | - | 1.265 | - | 1.265 |

7.44 In support of capitalization, the Petitioner has submitted the statutory Auditor certificate attesting the closing value of GFA of Rs. 3389.25 Crore as on March 31, 2020.

Commission's Analysis

7.45 The Commission has outlined the provisions for the approval of any additional capitalization, for a generating station in Regulation 7.5 and Regulation 7.6 of the JSERC Generation Tariff Regulation, 2015, and the relevant clauses are mentioned in Para 5.46.

7.46 The Commission has observed that there is discrepancy in the representation of additional capitalisation when as compared with Petitioner claim and audited accounts as tabulated hereunder.

Table 113: Discrepancy between Petitioner Claim and audited accounts in Capitalization (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|------------------------|------------------|-------------------------|------------------|-------------------------|
| | Petitioner Claim | As per Audited Accounts | Petitioner Claim | As per Audited Accounts |
| Plant & Machinery | - | 0.97 | - | 0.97 |
| Building & Civil Works | - | | - | |
| Furniture and Fixtures | - | 0.191 | - | 0.191 |
| Vehicles | - | 0.123 | - | 0.123 |
| Office Equipment | - | 0.017 | - | 0.017 |
| Computer | - | 0.132 | - | 0.132 |
| Ash Handling System | 0.30 | - | 0.30 | - |
| Crane & Hoist | 0.095 | - | 0.095 | - |
| DM water Plant | 0.025 | - | 0.025 | - |
| Other Ready Assets | 0.295 | - | 0.295 | - |
| Workshop, Laboratory | 0.55 | | 0.55 | |
| Total | 1.265 | 1.265 | 1.265 | 1.265 |



7.47 It is observed by the Commission that all the assets capitalized during the FY 2019-20 were not part of the original project and the Petitioner has requested the Commission to allow the above mentioned assets under Regulation 7.6 (iv) of JSERC Tariff Regulations 2015 i.e. any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost.

6.109 The Commission examined the audited accounts of FY 2019-20 and as per Note-4 (Property, Plant and Equipment) of audited accounts, substantiates the fact that Rs. 2.53 Crore (cumulative for both the Units) of assets is capitalized. Based on the submission and justification made by the Petitioner and after a prudence check, the Commission approves the additional capitalization of Rs. 2.53 Crore (cumulative for both the Units) for FY 2019-20 under Clause 7.6 (iv) of JSERC Tariff Regulations 2015. Further in FY 2019-20, the net additional capitalization as per the audited accounts of 2019-20 is Rs. 2.53 Crores, leading to closing value of GFA as on 31st March, 2020 at Rs. 3,389.25 Crores.

Table 114: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|----------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Capitalization | - | 1.265 | 1.265 | - | 1.265 | 1.265 |

Depreciation

Petitioner's Submission

7.48 The Petitioner has submitted that depreciation is calculated based on 'Single Line Method' and at the depreciation rates provided in Appendix-I of the JSERC Generation Tariff Regulations 2015.

7.49 The Petitioner has further submitted that the depreciation so allowed shall be up to a maximum of 90% of the capital cost of the project and the balance is to be considered as the salvage value of the asset.

Table 115: Depreciation as submitted by the Petitioner (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|------------------------|-------------------------------------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.38 | 74.77 | 75.20 | 75.59 |
| Building & civil works | 3.34% | 7.25 | 7.09 | 7.21 | 7.05 |



| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| Other Assets | 5.28% | 0.37 | 0.41 | 0.37 | 0.41 |
| Net Depreciation | Rs.cr. | 82.37 | 82.65 | 83.15 | 83.42 |

Commission's Analysis

7.50 The JSERC Generation Tariff Regulation, 2015 has specified the methodology for the calculation of depreciation expense for existing generating station as mention in para 5.53.

7.51 The Commission has computed depreciation for both the Units in accordance to the above mentioned regulations. The following table shows the depreciation approved by the Commission against that submitted by Petitioner.

Table 116:: Depreciation as approved by the Commission (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------------|--------------|--------------|---------------|--------------|
| | | Petition | Approve | Petition n | Approve |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.77 | 74.77 | 75.59 | 75.59 |
| Building & civil works | 3.34% | 7.09 | 7.06 | 7.05 | 7.01 |
| Other Assets | 5.28% | 0.41 | 0.41 | 0.41 | 0.41 |
| Net Depreciation | Rs.cr. | 82.65 | 82.62 | 83.42 | 83.39 |

Operation & Maintenance Expenses

Petitioner's Submission

7.52 The Petitioner has claimed the normative operational & Maintenance (O&M) Expenses as approved in the MYT Order dated February 19, 2018.

7.53 Further, the Petitioner has submitted that as per Clauses 6.14 of the Tariff JSERC Regulations, 2015 provides that any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR

7.54 In view of the reasons mentioned above, the Petitioner has prayed to the Commission to allow the O&M expenses as mentioned below.

Table 117: O&M Expenses as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| O&M Expenses | 83.19 | 83.19 | 83.19 | 83.19 |



Commission's Analysis

- 7.55 As per JSERC Generation Tariff Regulations, 2015 Clause 7.40 and Clause 7.41 lays out the provision for determination of O&M expenses and the same is mentioned in para 5.58.
- 7.56 The Commission has scrutinized the submission made by the Petitioner and approved the operational & maintenance expenses as per MYT Order dated February 19, 2018.

Table 118: O&M Expenses as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|--------|----------|----------|--------|----------|----------|
| | MYT | Petition | Approved | MYT | Petition | Approved |
| O&M Expenses | 83.19 | 83.19 | 83.19 | 83.19 | 83.19 | 83.19 |

Interest on Loan

Petitioner's Submission

- 7.57 The Petitioner has considered the opening balance of loan for FY 2019-20 as 674.53 crores and 706.07 crores for unit-1, unit-2 respectively based on closing values of 2018-19 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.
- 7.58 The Petitioner has considered the repayment during the year equivalent to the normative depreciation for the year being in line with the methodology prescribed in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.
- 7.59 The Petitioner has submitted that the actual loan portfolio is in line with the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015., and also considered 70% of the actual capitalization as Normative Loan for FY 2019-20 with interest rate of 12.31% for Unit-1 and Unit-2.
- 7.60 Further, the Petitioner has submitted the weighted average rate of interest for Unit-1 and Unit-2 duly certified by the auditor.
- 7.61 The Petitioner has considered the weighted average rate of interest based on actual loan portfolio and repayment equal to depreciation proposed by Petitioner for calculation of interest on loan for FY 2019-20.

**Table 119: Interest on Loan as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|-----------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Debt Balance | 720.60 | 674.57 | 706.07 | 705.80 |
| Net Additions | - | 0.89 | - | 0.89 |
| Repayment | 82.37 | 82.65 | 83.15 | 83.42 |
| Closing Debt Balance | 638.23 | 592.81 | 623.48 | 623.27 |
| Rate of Interest (%) | 13.13% | 12.31% | 12.13% | 12.31% |
| Interest on Debt | 89.21 | 78.01 | 81.21 | 81.80 |

Commission's Analysis

- 7.62 The Commission has calculated the gross normative loan for FY 2019-20 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.65.
- 7.63 The Commission has scrutinized the details submitted by the Petitioner and observed the weighted average interest rate as 12.31% for both Unit-1 and Unit-2.
- 7.64 The Commission has calculated the normative opening balance of debt for FY 2019-20 as trued up closing balance for FY 2018-19 approved in table 77.
- 7.65 The Commission has approved the repayment as approved depreciation in line with the methodology specified in JSERC Generation Tariff Regulations, 2015 to arrive at the closing balance of normative debt component as tabulated hereunder: -

Table 120: Interest on Loan as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Loan | 720.60 | 674.57 | 721.45 | 706.07 | 705.80 | 752.53 |
| Deemed Loan Addition | - | 0.89 | 0.89 | - | 0.89 | 0.89 |
| Deemed Loan Repayment | 82.37 | 82.65 | 82.62 | 83.15 | 83.42 | 83.39 |
| Closing Loan | 638.23 | 592.81 | 639.71 | 623.48 | 623.27 | 670.03 |
| Interest Rate | 13.13% | 12.31% | 12.31% | 12.13% | 12.31% | 12.31% |
| Interest on Loan | 89.21 | 78.01 | 83.78 | 81.21 | 81.80 | 87.56 |

Interest on Working Capital (IoWC)**Petitioner's Submission**

- 7.66 The Petitioner has mentioned that the Clause 6.14 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 provides for



Truing-up of Interest on Working Capital on account of variation in actual capital expenditure incurred vis-à-vis approved capital expenditure, and the relevant clause is mentioned in para 5.69.

- 7.67 Further, the Petitioner craves liberty before the Hon'ble Commission to claim Receivables equivalent to 180 days of average billing as outstanding dues of the Petitioner w.r.t JBVNL supply is pending for more than 180 days. Hence, the Petitioner requests before the Hon'ble Commission to relax and allow the receivables of 180 days under Regulation A 33 i.e. Power of relaxation.
- 7.68 The Petitioner has worked out the normative working capital requirement for Unit-1 and Unit-2 for FY 2019-20 and has considered the rate of interest on working capital equal to the Bank Rate specified by State Bank as on April 01, 2019 plus 350 basis points. Accordingly, the Petitioner has considered 12.55% for Unit-1 and Unit-2 as rate of interest on working capital. The detailed computation of interest on working capital for Unit-1 and Unit-2 for FY 2019-20 based on the above rationale as shown below.

Table 121: Interest on Working Capital as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------------|--------------|----------------|--------------|----------------|
| | MYT Order | Petition | MYT Order | Petition |
| Coal Cost for 2 Months | 76.84 | 89.79 | 78.77 | 90.65 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.82 | 1.51 | 1.83 |
| O&M Expenses for 1 month | 6.93 | 6.93 | 6.93 | 6.93 |
| Receivable for 2 month | 137.91 | 463.61* | 138.86 | 467.94* |
| Maintenance Spare | 16.64 | 16.64 | 16.64 | 16.64 |
| Total Working Capital | 239.76 | 578.80 | 240.79 | 583.99 |
| Rate of Interest | 12.80% | 12.55% | 12.80% | 12.55% |
| Interest on Working Capital | 30.69 | 72.64 | 30.82 | 73.29 |

* the Petitioner claim receivable for 180 days

Commission's Analysis

- 7.69 The Commission has computed the interest on working capital (IoWC) for FY 2019-20 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as mentioned in para 5.72.
- 7.70 The Commission scrutinized the submission made by Petitioner and allowed Receivable for 2 months only as per Clause 7.34 (e) of the JSERC generation Tariff Regulation 2015.
- 7.71 The Commission has computed the working capital requirement as per the above mentioned Regulations. The interest on working capital is considered as per



JSERC Generation Tariff Regulations, 2015 i.e., Bank rate as April 01, 2019. The detailed calculation made by the Commission is shown in the tables below.

Table 122: Interest on Working Capital as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------------|---------------|----------------|---------------|---------------|----------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Coal Cost for 2 Months | 76.84 | 89.79 | 68.07 | 78.77 | 90.65 | 62.88 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.82 | 1.40 | 1.51 | 1.83 | 1.29 |
| O&M Expenses for 1 month | 6.93 | 6.93 | 6.93 | 6.93 | 6.93 | 6.93 |
| Receivable for 2 month | 137.91 | 463.61* | 127.76 | 138.86 | 467.94* | 123.14 |
| Maintenance Spare | 16.64 | 16.64 | 16.64 | 16.64 | 16.64 | 16.64 |
| Total Working Capital | 239.76 | 578.80 | 220.80 | 240.79 | 583.99 | 210.88 |
| Rate of Interest | 12.80% | 12.55% | 12.55% | 12.80% | 12.55% | 12.55% |
| Interest on Working Capital | 30.69 | 72.64 | 27.71 | 30.82 | 73.29 | 26.47 |

* the Petitioner claim receivable for 180 days

Return on Equity

Petitioner's Submission

- 7.72 The Petitioner has considered the opening value of equity for FY 2019-20 as Rs 506.73 crores and Rs 510.93 crores for unit-1, unit-2 respectively based on closing values of 2018-19 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.
- 7.73 The Petitioner has mentioned Clause 7.15 to 7.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015, to prescribe the provisions for computing the normative return on equity for determination of tariff.
- 7.74 Further, the Petitioner while calculating return on equity has considered post-tax return as 15.50% in line with Regulations and approach adopted by the Commission in earlier Orders.
- 7.75 Accordingly, the Return on Equity (Pre-Tax) claimed by the Petitioner for Unit-1 and Unit-2 for FY 2019-20 is summarized in the table below:

Table 123: RoE as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|----------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Equity | 455.63 | 506.73 | 450.25 | 510.93 |



| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Net Addition | - | 0.38 | - | 0.38 |
| Closing Equity | 455.63 | 507.11 | 450.25 | 511.31 |
| Average Equity | 455.63 | 506.92 | 450.25 | 511.12 |
| Rate of Return on Equity | 15.50% | 15.50% | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.57 | 69.79 | 79.22 |

Commission's Analysis

- 7.76 The Commission has calculated the gross normative equity for FY 2019-20 as per Clause 7.13 and 7.14 of the JSERC Generation Tariff Regulations, 2015, the relevant abstract is mentioned in para 5.79.
- 7.77 The Commission has calculated the normative opening balance of equity for FY 2019-20 as trued up closing balance for FY 2018-19 as approved in the table no. 81 for each Unit.
- 7.78 The Commission has scrutinized the discrepancies in reply submitted by the Petitioner and observed the revised Debt: Equity ratio from FY 2016-17 onwards as 70:30.
- 7.79 The Commission has noted the reply of the Petitioner and in accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the rate of return on equity at the rate of 15.50% as shown below:

Table 124: RoE as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Equity | 455.63 | 506.73 | 456.19 | 450.25 | 510.93 | 460.82 |
| Net Addition | - | 0.38 | 0.38 | - | 0.38 | 0.38 |
| Closing Equity | 455.63 | 507.11 | 456.57 | 450.25 | 511.31 | 461.20 |
| Average Equity | 455.63 | 506.92 | 456.38 | 450.25 | 511.12 | 461.01 |
| Rate of RoE | 15.50% | 15.50% | 15.50% | 15.50% | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.57 | 70.74 | 69.79 | 79.22 | 71.46 |

Annual Fixed Charge

Petitioner's Submission

- 7.80 The summary of Annual Fixed Charge (AFC) as submitted by the Petitioner is shown below:

**Table 125: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|---|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.65 | 83.15 | 83.42 |
| Interest on Debt | 89.21 | 78.01 | 94.30 | 81.80 |
| O&M Expenses | 83.19 | 83.19 | 83.19 | 83.19 |
| Return on Equity (Pre-Tax) | 70.62 | 78.57 | 69.79 | 79.22 |
| Interest on Working Capital | 30.69 | 72.64 | 30.82 | 73.29 |
| Total AFC (Excluding Water and Ash disposal charges) | 356.08 | 395.06 | 361.25 | 400.92 |

Commission's Analysis

7.81 Regulation 8.2 of the JSERC Generation Tariff Regulations, 2015 states that Annual Fixed Cost (AFC) of a thermal generating station shall consist of the following components:

- Return on Equity;
- Interest and Financing Charges on Loan Capital;
- Depreciation;
- Operation and Maintenance Expenses;
- Interest Charges on Working Capital; and
- Special allowance in lieu of R&M or separate compensation allowance, wherever applicable;

7.82 The Annual Fixed Cost (AFC) as submitted by Petitioner and approved by the Commission has been tabulated below.

Table 126: Annual Fixed Charge as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Depreciation | 82.37 | 82.65 | 82.62 | 83.15 | 83.42 | 83.39 |
| Interest on Debt | 89.21 | 78.01 | 83.78 | 94.30 | 81.80 | 87.56 |
| O&M Expenses | 83.19 | 83.19 | 83.19 | 83.19 | 83.19 | 83.19 |
| RoE (Pre-Tax) | 70.62 | 78.57 | 70.74 | 69.79 | 79.22 | 71.46 |
| IoWC | 30.69 | 72.64 | 27.71 | 30.82 | 73.29 | 26.47 |
| Total AFC (Excluding Water and Ash disposal charges) | 356.08 | 395.06 | 348.04 | 361.25 | 400.92 | 352.06 |



Incentive

Petitioner Submission

7.83 The Petitioner claimed an incentive of Rs. 1.17 Crore for each Unit for FY 2019-20 as shown below:

Table 127: Incentive as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Incentive | - | 1.17 | - | 1.17 |

Commission's Analysis

7.84 The Commission has allowed incentive as per Clause 8.15 of the JSERC Generation Tariff Regulations, incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF).

Table 128: Incentive as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Incentive | - | 1.17 | 1.17 | - | 1.17 | 1.17 |

Water Charges, Capital Spare Expenses

Petitioner's Submission

7.85 The Petitioner has entered into an MoU with Govt. of Jharkhand for drawl of water to an extent of 35.60 MCM (4064 m³ per hour) in a phased manner from Subarnarekha river, flowing at a distance of eight km downstream of water intake point from APNRL Project site, vide agreement dated August 29, 2008. The said agreement stipulates that a pump house has to be installed for drawl of required water from the river Subarnarekha withdrawn directly from the river and not from any reservoir. Subsequently, Water Department of Govt. of Jharkhand vide its Notification No. 2/PMC/Jalapurti-175/2007 dated April 01, 2011 has revised various categories for water off-take and APNRL was asked to pay @ Rs. 26.40 per thousand gallons. The Petitioner aggrieved by the rate, filed a Writ Petition before High Court of Jharkhand on February 07, 2012 with regard to demand raised by Subarnarekha Dam Division towards withdrawal of water at higher than the agreed rates.



- 7.86 The Hon'ble High Court of Jharkhand was pleased to pass a stay Order in the above mentioned Writ Petition, restricting the payment of water charges at pre-revised rate of Rs. 4.50 per thousand gallons.
- 7.87 The Petitioner further mention that clause 18 of the Water agreement, which contains provisions for reduction of the Water quantity, the Petitioner has requested WRD, Government of Jharkhand for lowering of the permitted water quantity from 35.60 MCM to 17.60 MCM i.e. almost 50% of the original allocated quantity, which is yet to be considered by the WRD, State of Jharkhand. As a result, the Petitioner has filed another petition before the Hon'ble High Court at Ranchi for resolution of dispute regarding the billed water quantum in the bill, which is pending.
- 7.88 Therefore, the Petitioner is paying at Rs. 4.50 per thousand gallon of water withdrawn from the river, amounting to Rs. 1.74 Crore for FY 2019-20, as reflected in audited accounts. The same is apportioned in proportion to JBVNL share (25%) i.e., 0.44 Crore (Rs. 0.22 Crore for each Unit).
- 7.89 The Petitioner has claimed capital spare expenses well within the clause 7.46 of the JSERC generation Tariff Regulation 2015.

Table 129: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|----------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Water Charges | 1.74 | 0.22 | 1.74 | 0.22 |
| Capital Spares | - | 0.55 | - | 0.55 |

Commission's Analysis

- 7.90 The treatment of water charges and capital spares for thermal generating stations is governed by Clause 7.46 of GTR 2015, the relevant clause is mentioned in para 5.91.
- 7.91 The Commission has scrutinized the detail submitted by the Petitioner and observed that the matter related to water charge is sub-judice before the Hon'ble Jharkhand High Court. Thus, the Commission in the Present petition approved the water charges as per audited accounts for FY 2019-20 in proportion of power allocated to JBVNL.
- 7.92 With regard to Capital spares, the Commission is of the view that in compliance to 2nd proviso of Regulation 7.46 of the JSERC Generation Tariff Regulations, the Petitioner is required to submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the



same and substantiating that the same is not funded through compensatory allowance as per Regulation 7.47 of the JSERC Generation Tariff Regulations or special allowance as per Regulations 7.10 and 7.11 of the JSERC Generation Tariff Regulations or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization. In compliance, the Petitioner has submitted the details of critical spares consumed in FY 2019-20 duly certified by auditor along with the purpose of consumption.

- 7.93 The Commission examined the details of critical spares consumed in FY 2019-20 duly certified by auditor along with the purpose of consumption. The Commission approved Rs. 1.10 Crore (cumulative for both units) based on the ratio of the power allocation to JBVNL. Thus, based on the submission and justification made by the Petitioner and after a prudence check, the Commission approves the critical spares of Rs. 0.55 Crore for each unit for FY 2019-20.
- 7.94 The Commission observed that, the overall capital spare and water charges are well within clause 7.46 of JSERC Generation Tariff Regulation 2015. The Commission has therefore approved the capital spare and water charge as shown below.

Table 130: Water charge and Capital Spare as approved by the Commission (Rs. Cr)

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Water charge | 1.74 | 0.22 | 0.22 | 1.74 | 0.22 | 0.22 |
| Capital Spare | - | 0.55 | 0.55 | - | 0.55 | 0.55 |

Ash Disposal Expenses

Petitioner's Submission

- 7.95 The Petitioner submits that ash disposal and transportation is the statutory requirement of the power plant. The Petitioner has been disposing and transporting the Ash from its power station in accordance with the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) notification dated 25.1.2016.
- 7.96 Further, the Petitioner has submitted that as per the environmental norms and MOEFCC guidelines, the Petitioner has been transporting ash from its power station to various cement and bricks manufacturing units. The details of quantity of ash disposal and its expenditures is being provided as below:

**Table 131: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)**

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Disposal | - | 2.19 | - | 2.19 |

Commission's Analysis

7.97 The Commission has scrutinized the submission made by the Petitioner and approved the Ash Disposal Expenses as per audited accounts.

7.98 Considering the facts and circumstances of the given petition the Commission approved the Ash Disposal Expense for FY 2019-20 as tabulated hereunder.

Table 132: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Ash Disposal | - | 2.19 | 2.19 | - | 2.19 | 2.19 |

Shakti Coal Discount**Petitioner's Submission**

7.99 Based on the allocation of primary fuel under Shakti Scheme and actual coal consumption, the Petitioner has calculated the energy generated from Shakti coal. The Petitioner has calculated the discount rate at Rs. 0.03/kWh for the coal procured under SHAKTI Scheme B(ii) round-(i) against 122.85 MW for JBVNL PPA on 21.12.2017.

Table 133: Shakti Scheme Discount as submitted by Petitioner (Rs. Crore)

| Particulars | UoM | Unit-1 | Unit-2 |
|-----------------|---------|----------|----------|
| | | Petition | Petition |
| Discount Amount | Rs. Cr. | 0.66 | 0.66 |

Commission's Analysis

7.100 The Commission has scrutinized the detail of coal procured and consumed from Shakti Scheme in FY 2019-20. Further, in line to PPA approval from the Commission the Commission approves the discount amount due to Shakti Scheme coal as mentioned below.

Table 134: Shakti Scheme Discount as approved by the Commission (Rs. Crore)

| Particulars | UoM | Unit-1 | Unit-2 |
|-----------------|---------|----------|----------|
| | | Approved | Approved |
| Discount Amount | Rs. Cr. | 0.66 | 0.66 |



Tariff for Unit-1 and Unit-2

Petitioner's Submission

7.101 The Petitioner has submitted that in accordance to provisions of Power Purchase Agreement (PPA) executed with Discom, out of the total Contracted Capacity of 122.85 MW, APNRL will supply 63.882 MW capacity (i.e., 13% of the total net Capacity at total Tariff (both fixed and Variable Charge) and the balance 58.96 MW capacity, i.e., 12% of the Net capacity at variable cost i.e., Energy Charge as approved by the Commission. Accordingly, the tariff for supply of regulated capacity for JUVNL/JBVNL is summarized below:

Table 135: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.567 | 2.970 | 2.570 | 2.986 |

Table 136: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|-----------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| Gross Capacity | MW | 270 | 270 | 270 | 270 |
| Auxiliary Consumption | % | 9.00 | 9% | 9.00 | 9% |
| Net Capacity | MW | 245.70 | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | MW | 29.48 | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | MW | 216.22 | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | Rs Cr. | 357.81 | 395.06 | 362.98 | 400.96 |
| Annual Fixed Charges/MW | Rs Cr./MW | 1.65 | 1.83 | 1.68 | 1.85 |
| 13% of Net Capacity for supply to JUVNL at full tariff | MW | 31.94 | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | MW | 52.86 | 58.36 | 53.62 | 59.23 |



Commission's Analysis

7.102 The tariff for 12% of the total net capacity shall be the variable cost (subject to fuel price adjustment in accordance to Generation Tariff Regulations 2015) approved by the Commission, whereas the tariff for next 13% of total net capacity shall be total tariff i.e., variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) and fixed charges as approved by the Commission as tabulated below.

Table 137: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|----------|----------|----------|----------|
| | | Petition | Approved | Petition | Approved |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.970 | 2.970 | 2.986 | 2.986 |

Table 138: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge)

| Particulars | Derivation | Units | Unit-1 | | |
|---|------------------------------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270 | 270 | 270.00 |
| Auxiliary Consumption | B | % | 9.00 | 9% | 9.00% |
| Net Capacity | $C = A \times (1 - B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D = C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E = C - D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 357.81 | 395.06 | 348.04 |
| Annual Fixed Charges/MW | $G = F / E$ | Rs Cr./MW | 1.65 | 1.83 | 1.61 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H = C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | $I = G \times H$ | MW | 52.86 | 58.36 | 51.42 |

**Table 139: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge).**

| Particulars | Derivation | Units | Unit-2 | | |
|---|----------------------------------|-----------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270 | 270 | 270.00 |
| Auxiliary Consumption | B | % | 9.00 | 9% | 9.00% |
| Net Capacity | $C=A \times (1-B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D=C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E=C-D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 362.98 | 400.96 | 352.06 |
| Annual Fixed Charges/MW | $G=F/E$ | Rs Cr./MW | 1.68 | 1.85 | 1.63 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H=C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | $I=G \times H$ | MW | 53.62 | 59.23 | 52.01 |

Revenue**Petitioner's Submission**

7.103 The Petitioner has submitted that the billed amount to JUVNL/JBVNL comprises of capacity charge, energy charges and fuel cost adjustment bill. The Petitioner has further added that the revenue billed to JUVNL/JBVNL amounts to Rs. 179.02 Crore and Rs. 176.58 Crore for Unit-1 and Unit-2 respectively as shown below:

Table 140: Revenue as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | Unit-2 |
|-----------------------------------|---------------|---------------|
| | Petition | Petition |
| AFC | 52.86 | 53.62 |
| Fuel Cost Adjustment | 15.00 | 14.87 |
| Energy Charge | 123.75 | 123.89 |
| Revenue from Sale of Power | 191.61 | 192.38 |

Commission's Analysis

7.104 The Commission has scrutinized the details submitted by the Petitioner and approves the revenue as tabulated below:

**Table 141: Revenue as approved by the Commission (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|-----------------------------------|---------------|---------------|---------------|---------------|
| | Petition | Approved | Petition | Approved |
| AFC | 52.86 | 52.86 | 53.62 | 53.62 |
| Fuel Cost Adjustment | 15.00 | 15.00 | 14.87 | 14.87 |
| Energy Charge | 123.75 | 123.75 | 123.89 | 123.89 |
| Revenue from Sale of Power | 191.61 | 191.61 | 192.38 | 192.38 |

Impact of True up**Petitioner's Submission**

7.105 The Petitioner has worked out the impact of true up considering the Trued-up annual fixed charges, trued-up per unit variable charges for the year and the actual availability against the contracted capacity to JBVNL for the year, based on the availability.

Table 142: Impact of True up as submitted by the Petitioner

| Particulars | Units | Unit-1 | Unit-2 |
|---|--------------|---------------|---------------|
| | | Petition | Petition |
| Net Energy Supplied to JUVNL/JBVNL | MU | 482.07 | 482.07 |
| Rate of Energy Charge | Rs/kWh | 2.970 | 2.986 |
| AFC Entitlement on True Up | Rs Cr | 58.36 | 59.23 |
| Incentive | Rs Cr | 1.17 | 1.17 |
| Energy Charge Entitlement upon True up | Rs Cr | 143.16 | 143.92 |
| Water Charges | Rs Cr | 0.22 | 0.22 |
| Capital Spares | Rs Cr | 0.55 | 0.55 |
| Additional Ash Disposal Charge | Rs Cr | 2.19 | 2.19 |
| Total Entitlement | Rs Cr | 205.65 | 207.28 |
| Revenue Billed | | | |
| AFC | Rs Cr | 52.86 | 53.62 |
| FPA | Rs Cr | 15.00 | 14.87 |
| EC | Rs Cr | 123.75 | 123.89 |
| Incentive | Rs. Cr | 1.17 | 1.17 |
| Total Revenue Billed to JUVNL/JBVNL | Rs Cr | 192.78 | 193.55 |
| Less: Shakti Coal Discount | Rs Cr | 0.66 | 0.66 |
| Gap/(Surplus) including Discount | Rs Cr | 12.21 | 13.07 |
| Rate of Interest | % | 12.55% | 12.55% |
| From 1st true-up FY 2017-18 to till date | Days | 731 | 731 |
| Allowable Interest for the year | Rs Cr | 1.53 | 1.64 |
| Total Amount to be additionally recovered / (paid back to JUVNL) | Rs Cr | 13.75 | 14.71 |

Commission's Analysis

7.106 The JSERC Generation Tariff Regulations, 2015, as mentioned in the para 5.105.



7.107 Based on the above approved values and revenue, the Commission has approved the impact of True up for FY 2019-20 as shown below:

Table 143: Gap/(Surplus) as approved by the Commission (Rs. Crore).

| Particulars | MoU | Unit-1 | | Unit-2 | |
|--|----------------|---------------|---------------|---------------|---------------|
| | | Petition | Approved | Petition | Approved |
| Net Energy Supplied to JUVNL/JBVNL | MU | 482.07 | 482.07 | 482.07 | 482.07 |
| Rate of Energy Charge | Rs/kWh | 2.970 | 2.970 | 2.986 | 2.986 |
| AFC Entitlement on True Up | Rs. Cr. | 58.36 | 51.42 | 59.23 | 52.01 |
| Incentive | Rs. Cr. | 1.17 | 1.17 | 1.17 | 1.17 |
| Energy Charge Entitlement upon True up | Rs. Cr. | 143.16 | 143.16 | 143.92 | 143.92 |
| Water Charges | Rs. Cr. | 0.22 | 0.22 | 0.22 | 0.22 |
| Capital Spares | Rs. Cr. | 0.55 | 0.55 | 0.55 | 0.55 |
| Ash Disposal Expenses | | 2.19 | 2.19 | 2.19 | 2.19 |
| Total Entitlement | Rs. Cr. | 205.65 | 198.71 | 207.28 | 200.07 |
| Revenue Billed | | | | | |
| Annual Fixed Charge | Rs. Cr. | 52.86 | 52.86 | 53.62 | 53.62 |
| Fuel Price Adjustment | Rs. Cr. | 15.00 | 15.00 | 14.87 | 14.87 |
| Energy Charge | Rs. Cr. | 123.75 | 123.75 | 123.89 | 123.89 |
| Incentive | Rs Cr. | 1.17 | 1.17 | 1.17 | 1.17 |
| Total Revenue Billed to JUVNL/JBVNL | Rs. Cr. | 192.78 | 192.78 | 193.55 | 193.55 |
| Less: Shakti Coal Discount | Rs Cr. | 0.66 | 0.66 | 0.66 | 0.66 |
| Gap/(Surplus) | Rs. Cr. | 12.21 | 5.26 | 13.07 | 5.85 |

7.108 The Commission has approved the cumulative surplus for FY 2019-20 along with carrying over shown below:

Table 144: Gap/(Surplus) including Carrying Cost for Unit-1 as approved by the Commission (Rs. Crore)

| Particulars | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved |
| Opening Balance | - | 5.26 | 5.26 | 5.26 |
| Addition during the Year | 5.26 | - | - | - |
| Closing Balance | 5.26 | 5.26 | 5.26 | 5.26 |
| Average Balance | 5.26 | 5.26 | 5.26 | 5.26 |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% |
| Carrying Cost for respective Year | 0.33 | 0.32 | 0.33 | 0.31 |

**Table 145: Gap/(Surplus) including Carrying Cost for Unit-2 as approved by the Commission (Rs. Crore)**

| Particulars | FY 2019-20 | FY 2020-21 | FY 2021-22 | FY 2022-23 |
|-----------------------------------|------------|------------|------------|------------|
| | Approved | Approved | Approved | Approved |
| Opening Balance | - | 5.85 | 5.85 | 5.85 |
| Addition during the Year | 5.85 | - | - | 0 |
| Closing Balance | 5.85 | 5.85 | 5.85 | 5.85 |
| Average Balance | 5.85 | 5.85 | 5.85 | 5.85 |
| Carrying Cost Rate | 12.60% | 12.20% | 12.55% | 11.65% |
| Carrying Cost for respective Year | 0.37 | 0.36 | 0.37 | 0.34 |

Table 146: Carrying Cost on Revenue Gap/(Surplus) for Unit-1 & Unit-2 as approved by the Commission (Rs. Cr.)

| Particulars | Unit-1 | Unit-2 |
|--|-------------|-------------|
| | Approved | Approved |
| Opening Gap/Surplus for FY 2019-20 | - | - |
| Gap/(Surplus) addition during the FY 2019-20 | 5.26 | 5.85 |
| Closing Gap/ (Surplus) for FY 2019-20 | 5.26 | 5.85 |
| Carrying Cost of FY 2019-20 | 0.33 | 0.37 |
| Carrying Cost of FY 2020-21 | 0.32 | 0.36 |
| Carrying Cost of FY 2021-22 | 0.33 | 0.37 |
| Carrying Cost of FY 2022-23 | 0.31 | 0.34 |
| Net Gap/(Surplus) | 6.55 | 7.28 |

- 7.109 The Commission would like to clarify that the above Gap/(Surplus) is computed based on the information submitted before the Commission. In case there is any other adjustment between the Petitioner and its Beneficiaries, the same need to be taken into account while final adjustment which shall be carried out mutually.
- 7.110 The Commission directed the Petitioner to adjust the Gap as per Clause 6.17 & Clause 6.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.



A 8: ANNUAL PERFORMANCE REVIEW FOR FY 2020-21

- 8.1 The Commission vide MYT Order dated February 19, 2018 approved the Business Plan and determined the Annual Revenue Requirement for the MYT Control Period from FY 2016-17 to FY 2020-21.
- 8.2 Later, on, the Petitioner filed a True-up Petition based on the actual value for FY 2016-17 & FY 2017-18 to 2019-20 and APR for FY 2020-21. The Commission has carried out the True-up based on the realistic facts presented before the Commission and after a prudent check issued the True-up Order for FY 2016-17 dated May 22, 2023.
- 8.3 The Petitioner, in the current Petition, has sought the Annual Performance Review (APR) for FY 2020-21 based on the actual operational performance till Oct' 2020 projected for the remaining months of FY 2020-21. The Petitioner had already submitted the actual financial performance for FY 2019-20 before the Commission for approval.
- 8.4 The Commission has carried out the Annual Performance Review for FY 2020-21 taking into consideration the following:
- JSERC Generation Tariff Regulations, 2015;
 - Methodology adopted by the Commission in its earlier Tariff Orders.
- 8.5 The same shall be trued-up based on the audited accounts for the FY 2020-21 and taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in its earlier Tariff Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

- 8.6 The Petitioner has projected that the actual availability for Unit-1 & Unit-2 as 84.14% respectively for FY 2020-21.

Commission's Analysis

- 8.7 The Commission in its MYT Order dated February 19, 2018, had approved the Normative Annual Plant Availability Factor (NAPAF) as 85.00% for the Control Period (FY 2016-17 to FY 2020-21) in line with Clause 8.4 of JSERC Generation Tariff Regulation, 2015.
- 8.8 The Commission noted the reply submitted by the Petitioner and scrutinized the



month wise actual availability and approved the actual availability for FY 2020-21 as 84.14% for both Units.

8.9 Based on the information provided by the Petitioner, the Commission observes that the actual availability supplied during the FY 2020-21 is less than the normative value of 85.00%.

8.10 The actual Plant Availability as approved by the Commission in the MYT Order dated February 19, 2018 as submitted by the Petitioner and approved now by the Commission for FY 2020-21 is summarized below.

Table 147: Plant availability as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------|-----|-----------|----------|----------|
| Unit-1 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 84.14 | 84.14 |
| Unit-2 | | | | |
| NAPAF | % | 85.00 | 85.00 | 85.00 |
| Actual Availability | % | - | 84.14 | 84.14 |

Auxiliary Consumption

Petitioner's Submission

8.11 The Petitioner has projected the auxiliary consumption for FY 2020-21 on normative basis as 9.00% for both the Units in accordance with approved value in MYT Order dated February 19, 2018.

Commission's Analysis

8.12 The Commission while dealing with the matter of approving the auxiliary consumption in the MYT Order dated February 19, 2018 for the Control period (FY 2016-17 to FY 2020-21) had verified the Purchase Order (PO) submitted by the Petitioner and approved the auxiliary consumption at normative level of 8.50% and an additional 0.50% for the induced cooling tower.

8.13 The Commission has therefore adopted the same methodology & also in line with the Clause 8.6(d)(i) of Generation Tariff Regulation 2015 approved the normative auxiliary consumption as 9.00% for both the Units as summarized below.

Table 148: Auxiliary Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |



| Particulars | UoM | MYT Order | Petition | Approved |
|---------------------------------|-----|-----------|----------|----------|
| UNIT-2 | | | | |
| Normative Auxiliary Consumption | % | 9.00 | 9.00 | 9.00 |

Plant Load Factor and Generation

Petitioner's Submission

- 8.14 The Petitioner has projected the actual Plant Load Factor (PLF) for Unit-1 as 58.00% and Unit-2 as 71.00% for FY 2020-21 against the normative value of 85.00% approved by the Commission in the MYT Order dated February 19, 2018.
- 8.15 Further, the Petitioner has estimated the Gross Generation as 1522.00 MU, which is average of 1374.31 MU for Unit-1 and 1669.69 MU for Unit-2 for FY 2020-21.

Commission's Analysis

- 8.16 The Commission has scrutinized the detail submitted along with the Petition and approved the actual Plant Load Factor, Gross Generation and Net Generation as submitted by the Petitioner for FY 2020-21 as shown below.

Table 149: Plant Load Factor and Generation as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|-----|-----------|----------|----------|
| UNIT-1 | | | | |
| Gross Generation | MU | 2010.42 | 1522.00 | 1374.31 |
| Net Generation | MU | - | 1385.02 | 1250.63 |
| Plant Load Factor | % | - | 58.00 | 58.00 |
| UNIT-2 | | | | |
| Gross Generation | MU | 2010.42 | 1522.00 | 1669.89 |
| Net Generation | MU | - | 1385.02 | 1519.42 |
| Plant Load Factor | % | - | 71.00 | 71.00 |

Gross Station Heat Rate (GHR)

Petitioner's Submission

- 8.17 The Petitioner has estimated the Gross Station Heat Rate (GHR) for both the Units as 2387.00 kcal/kWh in line with the approved value in the MYT Order dated February 19, 2018.

Commission's Analysis

- 8.18 The Commission has examined and found that the submission made by the



Petitioner is in line with MYT Order dated February 19, 2018 and JSERC Generation Tariff Regulations, 2015. Hence, the Commission approves the Gross Station Heat Rate as submitted by the Petitioner for FY 2020-21 as shown below:

Table 150: Gross Station Heat Rate (GHR) as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------|----------|-----------|----------|----------|
| UNIT-1 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| UNIT-2 | | | | |
| Station Heat Rate | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |

Specific Fuel Oil Consumption

Petitioner's Submission

8.19 The Petitioner has projected the specific fuel oil consumption as 1.00 mL/kWh in line with JSERC Generation Tariff Regulations, 2015 for both the Units for FY 2020-21.

Commission's Analysis

8.20 The Commission has examined and found that the submission made by the Petitioner is in line with MYT Order dated February 19, 2018 and Generation Tariff Regulations, 2015. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner for FY 2020-21 as shown below:

Table 151: Specific Fuel Oil Consumption as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|-------------------------------|--------|-----------|----------|----------|
| UNIT-1 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |
| UNIT-2 | | | | |
| Specific Fuel Oil Consumption | ml/kWh | 1.00 | 1.00 | 1.00 |

Fuel Cost Parameters

Coal Mix and Gross Calorific Value (GCV) of Primary Fuel

Petitioner's Submission

8.21 The Petitioner projected that there is variation in coal mix, GCV and landed price of primary fuel against the approved value in MYT Order dated February 19, 2018. The Petitioner further added that the reason for variation are not attributable to Petitioner.



8.22 The Petitioner has projected the source wise break up of coal consumed, GCV of coal for each unit during FY 2020-21 duly certified by auditor in support of his claim.

Commission's Analysis

8.23 The Commission observed that there has been significant deviation in the blending ratio, GCV of primary fuel-mix and its price as compared to the approved values by the Commission. It is also observed that there is decrease in GCV of coal, leading to increase in consumption of primary fuel.

8.24 The Commission, after scrutinizing the excel computation found that the weighted average GCV for Unit-1 as 3389.14 kcal/kg and GCV for Unit-2 as 3449.25 kcal/kg respectively.

8.25 For the purpose of Annual Performance Review, the Commission has considered the submission made by the Petitioner. The Commission computed the GCV from each source of primary fuel by considering the actual GCV for FY 2020-21 after scrutinizing the actual monthly GCV submitted by the Petitioner duly certified by an auditor.

8.26 The following table summarize the fuel mix and weighted average GCV as submitted by the Petitioner and approved by the Commission for FY 2020-21.

Table 152: Coal Mix and GCV for Unit-1 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |
| Linkage Coal | - | 59.34% | 59.34% | - | 3345.21 | 3345.21 |
| F-Auction Coal | - | 25.70% | 25.70% | - | 3509.03 | 3509.03 |
| MCL Auction | - | 6.22% | 6.22% | - | 2959.31 | 2959.31 |
| Others | - | 8.74% | 8.74% | - | 3640.70 | 3640.70 |
| Wt. average | - | - | - | - | 3389.14 | 3389.14 |

Table 153: Coal Mix and GCV for Unit-2 as approved by the Commission

| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|---------------|--------------|----------|----------|---------------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | - | - | - | 3233 | - | - |
| Imported Coal | - | - | - | 3827 | - | - |



| Particulars | Fuel Mix (%) | | | GCV (kCal/kg) | | |
|--------------------|--------------|----------|----------|---------------|----------------|----------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Linkage Coal | - | 50.95% | 50.95% | - | 3344.38 | 3344.38 |
| F-Auction Coal | - | 33.78% | 33.78% | - | 3628.88 | 3628.88 |
| MCL Auction | - | 5.63% | 5.63% | - | 2947.43 | 2947.43 |
| Middling | - | 9.63% | 9.63% | - | 3667.66 | 3667.66 |
| Wt. average | - | - | - | - | 3449.25 | 3449.25 |

Transit Loss

Petitioner's Submission

8.27 The Petitioner has projected the normative transit loss as 0.8% for domestic coal and 0.2% for imported coal in accordance with MYT Order dated February 19, 2018.

Commission's Analysis

8.28 The Commission observes that the actual transit loss of coal depends on various factors like category of coal, foreign particles content, moisture content, distance from mines etc. Considering all the factors, the Commission stipulated the weighted average normative transit loss of 0.80% for non-pit head plant and 0.20% for pit head plant in the JSERC Generation Tariff Regulations, 2015.

8.29 Thus, in accordance with Clause 8.21 of JSERC Generation Tariff Regulation, 2015, the Commission approves the normative transit loss as 0.80% for domestic coal and 0.20% for imported coal.

Table 154: Transit Loss as approved by the Commission

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Domestic Coal | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% | 0.80% |

Landed Cost of Coal

Petitioner's Submission

8.30 The Petitioner has projected that the month wise landed price of primary fuel truly certified by the auditor includes base price, transportation cost, etc.

Commission's Analysis

8.31 The Commission, for reasons already stated in this Order approved the normative transit loss for the calculation of landed price of the coal.



8.32 The Commission scrutinized the submission made by the Petitioner and also arrived at the weighted average landed cost of coal by following methodology: -

- Audited figures of the Base price of coal including base price, applicable tax, transportation charges, handling charges and provisional adjustment/stock adjustment (if any);
- Normative Transit loss as approved by the Commission;
- Actual consumption of various types of coal.
- Price and quality of the coal is uncontrollable in nature

8.33 The Commission has outlined the provision for approval of landed price of primary fuel for generating station as mention in the JSERC Generation Tariff Regulation, 2015, and the relevant Clause mentioned in para 5.31.

8.34 The Commission had scrutinized the details submitted by the Petitioner in its reply and observed the weighted average landed price of coal for Unit-1 as Rs. 3247.24/MT and for Unit-2 as Rs 3418.71/MT respectively.

8.35 The weighted average price of coal as approved in its MYT Corrigendum order dated April 10, 2019, and as submitted by the Petitioner and now approved now by the Commission for FY 2020-21 is provided in the table below.

Table 155: Landed price of Coal as approved by the Commission

| Particulars | UoM | MYT Order | Petition | Approved |
|--------------------|--------------|--------------|----------------|----------------|
| UNIT-1 | | | | |
| Linkage Coal | Rs/MT | - | 3102.62 | 3102.62 |
| F-Auction Coal | Rs/MT | - | 3579.55 | 3579.55 |
| MCL Auction | Rs/MT | | 3028.39 | 3028.39 |
| Others | Rs/MT | | 3407.67 | 3407.67 |
| Wt. Average | Rs/MT | 3298* | 3247.24 | 3247.24 |
| UNIT-2 | | | | |
| Linkage Coal | Rs/MT | - | 3133.67 | 3133.67 |
| F-Auction Coal | Rs/MT | - | 3903.68 | 3903.68 |
| MCL Auction | Rs/MT | | 2977.66 | 2977.66 |
| Others | Rs/MT | | 3483.72 | 3483.72 |
| Wt. Average | Rs/MT | 3298* | 3418.71 | 3418.71 |

*As per Corrigendum Order dated April 10, 2019

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

8.36 The Petitioner has projected that the month wise landed price and GCV of secondary fuel truly certified by the auditor includes base price, transportation cost, etc.



Commission's Analysis

- 8.37 The Commission has scrutinized the month wise quantity of secondary fuel consumption, GCV and landed price of secondary fuel duly certified by an auditor.
- 8.38 The Commission has scrutinized the details submitted by the Petitioner in its reply and observed that the weighted average landed price of oil for Unit-1 as Rs. 46806/KL and for Unit-2 as Rs 46643/KL respectively. While the weighted average GCV of oil as 9350 kCal/KL for both Unit.
- 8.39 Based on the record available with the Commission, the Commission has approved Calorific value and Landed price of Secondary Fuel for each Unit as shown below:

Table 156: Calorific value and Landed price of Secondary fuel as approved by the Commission

| Particulars | Calorific Value (kcal/L) | | | Landed Price (Rs./kL) | | |
|---------------|--------------------------|----------|----------|-----------------------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| UNIT-1 | 9337* | 9350 | 9350 | 42637* | 46806 | 46806 |
| UNIT-2 | 9334* | 9350 | 9350 | 45134* | 46643 | 46643 |

*As per Corrigendum Order dated April 10, 2019

Energy Charge Rate (ECR)

Petitioner's Submission

- 8.40 The Petitioner has estimated the energy charge rate as Rs. 2.555/kWh and Rs. 2.641/kWh for Unit-1 and Unit-2 respectively against the approved value of Rs. 2.567/kWh and Rs. 2.570/kWh for FY 2020-21.
- 8.41 For calculation of ECR, the Petitioner has projected the normative Gross Station Heat Rate of 2387 kCal/kWh, normative Auxiliary Consumption of 9.00% and normative Secondary fuel oil as 1.00 ml/kWh for both the Units has been considered.

Commission's Analysis

- 8.42 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy charge (i.e. Variable Charge) shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).



- 8.43 The formula for calculation of energy charge payable to a Generating Company is specified in JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.41.
- 8.44 Accordingly, the Commission has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015. The detail of ECR and Fuel Cost for APR for FY 2020-21 for both the Units as submitted by the Petitioner and approved by the Commission is given below:

Table 157: Energy Charge Rate (ECR) for Unit-1 as approved by the Commission

| Particulars | UoM | Unit-1 | | |
|---|---------------|---------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1522.00 | 1374.31 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387.00 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419.00 | 3389.14 | 3389.14 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.25 | 3.25 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.567 | 2.555 | 2.555 |

*As per Corrigendum Order dated April 10, 2019

Table 158: Energy Charge Rate (ECR) for Unit-2 as approved by the Commission

| Particulars | UoM | Unit-2 | | |
|---|---------------|---------------|--------------|--------------|
| | | MYT* Order | Petition | Approved |
| Gross Generation | MU | 2010.42 | 1522.00 | 1669.69 |
| Normative Auxiliary Consumption (AUX) | % | 9.00 | 9.00 | 9.00 |
| Normative Gross Station Heat Rate (SHR) | kCal/kWh | 2387 | 2387.00 | 2387.00 |
| Specific fuel Oil Consumption (SFC) | mL/kWh | 1.00 | 1.00 | 1.00 |
| Calorific Value of Oil (CVSF) | kCal/ml | 9.34 | 9.35 | 9.35 |
| GCV of Primary Fuel (CVPF) | kCal/kg | 3419 | 3449.25 | 3449.25 |
| Landed Price of Primary Fuel (LPPF) | Rs./kg | 3.30 | 3.42 | 3.42 |
| Landed Price of Secondary Fuel (LPSFi) | Rs./ml | 0.04 | 0.05 | 0.05 |
| Energy Charge Rate (ECR) | Rs/kWh | 2.570 | 2.641 | 2.641 |

*As per Corrigendum Order dated April 10, 2019



Determination of Fixed Cost

Additional Capitalization & De-capitalization

Petitioner's Submission

8.45 The Petitioner has projected an additional capitalization and de-capitalisation of Rs. 10.24 Crore and Rs. (0.81) Crore respectively for each Unit of the generating station for FY 2020-21.

8.46 The details of additional capitalisation and de-capitalisation as projected by the Petitioner for FY 2020-21 is shown below:

Table 159: Details of additional capitalization as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------------------|-----------|--------------|-----------|--------------|
| | MYT Order | Petition | MYT Order | Petition |
| Plant and machinery | - | 9.85 | - | 9.85 |
| Building and Civil Works | - | 0.39 | - | 0.39 |
| Total | - | 10.24 | - | 10.24 |

Table 160: Details of decapitalization as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------------------|-----------|-------------|-----------|-------------|
| | MYT Order | Petition | MYT Order | Petition |
| Plant and machinery | - | 0.80 | - | 0.80 |
| Building and Civil Works | - | 0.01 | - | 0.01 |
| Total | - | 0.81 | - | 0.81 |

Commission's Analysis

8.47 The Commission has outlined the provisions for the approval of any additional capitalization, for a generating station in Regulation 7.5 and Regulation 7.6 of the JSERC Generation Tariff Regulation, 2015, and the relevant clauses are mentioned in Para 5.46.

8.48 In respect to additional capitalization, the Commission observed that the Petitioner has failed to bring out clearly, in his submission, the need for additional capitalization and expected increase in useful life of the plant. For each scheme proposed by the Petitioner, detailed phasing of capital expenditure has not been clearly elucidated.

8.49 The Commission observed that the Petitioner has failed to submit the Cost Benefit Analysis and also any analysis of quantitative benefit to its beneficiaries on account of the proposed scheme.



- 8.50 Further, the Petitioner in the last Tariff Order, was directed to employ methods of conducting cost benefit analysis (such as NPV, IRR and Payback Period) and quantitatively evaluate the need for proposed investment as compared to other alternative. The Petitioner has failed to do so.
- 8.51 In View of the above facts, the Commission does not find it prudent to approve any additional Capitalization & Decapitalization at the moment. The Petitioner is directed to submit, along with the next tariff petition or prior to taking up any Capital Expenditure and Decapitalization, the detailed rationale for incurring such expenditure and taking into consideration the above mentioned observation of the Commission.
- 8.52 Further, the Commission also directs the Petitioner to ensure that proper planning should be carried out before finalization and submission of Capex planning before the Commission for approval. In case there is need to review/revise any scheme or change in the Scope of Work, the same need to be submitted before the Commission with proper justification for approval.

Table 161: Details of the Additional Capitalization & Decapitalization as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|------------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Capitalization | - | 10.24 | - | - | 10.24 | - |
| Decapitalization | - | 0.81 | - | - | 0.81 | - |

Depreciation

Petitioner's Submission

- 8.53 The Petitioner has submitted that depreciation is calculated based on 'Single Line Method' and at the depreciation rates provided in Appendix-I of the JSERC Generation Tariff Regulations 2015.
- 8.54 The Petitioner has further submitted that the depreciation so allowed shall be up to maximum of 90% of the capital cost of the project and the balance is to be considered as the salvage value of the asset.

**Table 162: Depreciation as submitted by the Petitioner (Rs. Crore)**

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------|--------------|--------------|--------------|--------------|
| | | MYT* Order | Petition | MYT* Order | Petition |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 74.38 | 75.04 | 75.20 | 75.85 |
| Building & civil works | 3.34% | 7.25 | 7.10 | 7.21 | 7.05 |
| Other Assets | 5.28% | 0.37 | 0.42 | 0.37 | 0.42 |
| Net Depreciation | Rs.cr. | 82.37 | 82.93 | 83.15 | 83.70 |

* As per order dated 08.03.2019

Commission's Analysis

8.55 The JSERC Generation Tariff Regulation, 2015 has specified the methodology for the calculation of depreciation expense for existing generating station as mentioned in para 5.53.

8.56 The Commission has computed depreciation for both the Units in accordance with the above mention regulations. The following table shows the depreciation approved by the Commission against that submitted by the Petitioner.

Table 163:: Depreciation as approved by the Commission (Rs. Crore)

| Particulars | Asset class Depreciation Rate | Unit-1 | | Unit-2 | |
|-------------------------|-------------------------------|--------------|--------------|--------------|--------------|
| | | Petition | Approve | Petition | Approve |
| Land held under lease | 3.34% | 0.37 | 0.37 | 0.37 | 0.37 |
| Plant and machinery | 5.28% | 75.04 | 74.80 | 75.85 | 75.61 |
| Building & civil works | 3.34% | 7.10 | 7.06 | 7.05 | 7.01 |
| Other Assets | 5.28% | 0.42 | 0.42 | 0.42 | 0.42 |
| Net Depreciation | Rs.cr. | 82.93 | 82.65 | 83.70 | 83.42 |

Operation & Maintenance Expenses

Petitioner's Submission

8.57 The Petitioner has claimed the normative operational & Maintenance (O&M) Expenses as approved in the MYT Order dated February 19, 2018.

8.58 Further, the Petitioner has submitted that Clauses 6.14 of the Tariff JSERC Regulations, 2015 provides that any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR



8.59 In view of the reasons mentioned above, the Petitioner has prayed to the Commission to allow the O&M expenses as mentioned below.

Table 164: O&M Expenses as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| O&M Expenses | 87.28 | 87.28 | 87.28 | 87.28 |

Commission's Analysis

8.60 As per JSERC Generation Tariff Regulations, 2015 Clause 7.40 and Clause 7.41 lays out the provision for determination of O&M expenses and the same is mentioned in para 5.58.

8.61 The Commission has scrutinized the submission made by the Petitioner and approved the operational & maintenance expenses as per MYT Order dated February 19, 2018.

Table 165: O&M Expenses as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|--------|----------|----------|--------|----------|----------|
| | MYT | Petition | Approved | MYT | Petition | Approved |
| O&M Expenses | 87.28 | 87.28 | 87.28 | 87.28 | 87.28 | 87.28 |

Interest on Loan

Petitioner's Submission

8.62 The Petitioner has considered the opening balance of loan for FY 2020-21 as Rs 592.81 crores and Rs 623.27 crores for unit-1, unit-2 respectively based on closing values of 2020-21 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.

8.63 The Petitioner has considered the repayment during the year equivalent to the normative depreciation for the year being in line with the methodology prescribed in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015.

8.64 The Petitioner has estimated that the actual loan portfolio is in line with the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015., and also considered 70% of the actual capitalization as Normative Loan for FY 2020-21 with interest rate of 12.31% for Unit-1 and Unit-2.

8.65 The Petitioner has considered the weighted average rate of interest based on



actual loan portfolio and repayment equal to depreciation proposed by Petitioner for calculation of interest on loan for FY 2020-21.

Table 166: Interest on Loan as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Debt Balance | 638.23 | 592.81 | 668.48 | 623.27 |
| Net Additions | - | 7.16 | - | 7.16 |
| Repayment | 82.37 | 82.93 | 83.15 | 83.70 |
| Closing Debt Balance | 555.86 | 517.04 | 585.33 | 546.73 |
| Rate of Interest (%) | 13.13% | 12.31% | 13.28% | 12.31% |
| Interest on Debt | 78.39 | 68.31 | 83.25 | 72.01 |

Commission's Analysis

- 8.66 The Commission has calculated the gross normative loan for FY 2020-21 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as mentioned in para 5.65.
- 8.67 The Commission has scrutinized the details submitted by the Petitioner and observed that weighted average interest rate as 12.31% for both Unit-1 and Unit-2.
- 8.68 The Commission has calculated the normative opening balance of debt for FY 2020-21 as trued up closing balance for FY 2019-20 approved in in table 120.
- 8.69 The Commission has approved the repayment as approved depreciation in line with the methodology specified in JSERC Generation Tariff Regulations, 2015 to arrive at the closing balance of normative debt component as shown below

Table 167: Interest on Loan as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Loan | 638.23 | 592.81 | 639.71 | 668.48 | 623.27 | 670.03 |
| Deemed Loan Addition | - | 7.16 | - | - | 7.16 | - |
| Deemed Loan Repayment | 82.37 | 82.93 | 82.65 | 83.15 | 83.70 | 83.42 |
| Closing Loan | 555.86 | 517.04 | 557.06 | 585.33 | 546.73 | 586.61 |
| Interest Rate | 13.13% | 12.31% | 12.31% | 13.28% | 12.31% | 12.31% |
| Interest on Loan | 78.39 | 68.31 | 73.66 | 83.25 | 72.01 | 77.35 |



Interest on Working Capital (IoWC)

Petitioner's Submission

- 8.70 The Petitioner has mentioned that Clause 6.14 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 provides for Truing-up of Interest on Working Capital on account of variation in actual capital expenditure incurred vis-à-vis approved capital expenditure. The relevant clause is mentioned in para 5.69.
- 8.71 Further, the Petitioner craves for liberty before the Hon'ble Commission to claim Receivables equivalent to 180 days of average billing as outstanding dues of the Petitioner w.r.t JBVNL supply is pending for more than 180 days. Hence, the Petitioner requests before the Hon'ble Commission to relaxed and allow the receivables of 180 days under Regulation A 33 i.e. Power of relaxation.
- 8.72 The Petitioner has worked out the normative working capital requirement for Unit-1 and Unit-2 for FY 2020-21 and has considered the rate of interest on working capital equal to the Bank Rate specified by State Bank as on April 01, 2020 plus 350 basis points. Accordingly, the Petitioner has considered 12.55% for Unit-1 and Unit-2 as rate of interest on working capital. The detailed computation of interest on working capital for Unit-1 and Unit-2 for FY 2020-21 based on the above rationale as shown below.

Table 168: Interest on Working Capital as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------------|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Coal Cost for 2 Months | 76.84 | 73.56 | 76.84 | 76.51 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.57 | 1.51 | 1.56 |
| O&M Expenses for 1 month | 6.93 | 7.27 | 7.27 | 7.27 |
| Receivable for 2 month | 137.91 | 441.68* | 137.70 | 452.78* |
| Maintenance Spare | 16.64 | 17.46 | 17.46 | 17.46 |
| Total Working Capital | 239.76 | 541.54 | 240.79 | 555.58 |
| Rate of Interest | 12.80% | 11.65% | 12.80% | 11.65% |
| Interest on Working Capital | 30.69 | 63.09 | 30.82 | 64.73 |

* the Petitioner claim receivable for 180 days

Commission's Analysis

- 8.73 The Commission has computed the interest on working capital (IoWC) for FY 2020-21 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as mentioned in para 5.72.
- 8.74 The Commission scrutinized the submission made by Petitioner and allow



Receivable for 2 months only as per Clause 7.34 (e) of the JSERC generation Tariff Regulation 2015.

- 8.75 The Commission has computed the working capital requirement as per the above mentioned Regulations. The interest on working capital is considered as per JSERC Generation Tariff Regulations, 2015 i.e., Bank rate as April 01, 2020. The detailed calculation made by the Commission is shown in the tables below.

Table 169: Interest on Working Capital as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------------|--------------|----------------|---------------|---------------|----------------|---------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Coal Cost for 2 Months | 76.84 | 73.56 | 52.18 | 76.84 | 76.51 | 65.58 |
| Cost of Secondary Fuel for 2 Months | 1.43 | 1.57 | 1.07 | 1.51 | 1.56 | 1.30 |
| O&M Expenses for 1 month | 6.93 | 7.27 | 7.27 | 7.27 | 7.27 | 7.27 |
| Receivable for 2 month | 137.91 | 441.68* | 115.76 | 137.70 | 452.78* | 130.60 |
| Maintenance Spare | 16.64 | 17.46 | 17.46 | 17.46 | 17.46 | 17.46 |
| Total Working Capital | 239.76 | 541.54 | 193.75 | 240.79 | 555.58 | 222.20 |
| Rate of Interest | 12.80% | 11.65% | 11.65% | 12.80% | 11.65% | 11.65% |
| Interest on Working Capital | 30.69 | 63.09 | 22.57 | 30.82 | 64.73 | 25.89 |

* the Petitioner claim receivable for 180 days

Return on Equity

Petitioner's Submission

- 8.76 The Petitioner has considered the opening value of equity for FY 2020-21 as 507.11 crores and 511.31 crores for unit-1, unit-2 respectively based on closing values of 2019-20 truing up petition. Further, the gross additional capitalisation (with deletion) have been funded in the ratio of 70:30.
- 8.77 The Petitioner has mentioned that Clause 7.15 to 7.18 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 prescribe the provisions for computing the normative return on equity for determination of tariff.
- 8.78 Further, the Petitioner while calculating return on equity has considered post-tax return as 15.50% in line with Regulations and approach adopted by the Commission in earlier Orders.
- 8.79 Accordingly, the Return on Equity (Pre-Tax) claimed by the Petitioner for Unit-1 and Unit-2 for FY 2020-21 is summarized in the table below:

**Table 170: RoE as submitted by the Petitioner (Rs. Crore)**

| Particulars | Unit-1 | | Unit-2 | |
|-------------------------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | MYT Order | Petition |
| Opening Equity | 455.63 | 507.11 | 450.25 | 511.31 |
| Net Addition | - | 3.07 | - | 3.07 |
| Closing Equity | 455.63 | 510.18 | 450.25 | 514.38 |
| Average Equity | 455.63 | 508.64 | 450.25 | 512.84 |
| Rate of Return on Equity | 15.50% | 15.50% | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.84 | 69.79 | 79.49 |

Commission's Analysis

- 8.80 The Commission has calculated the gross normative equity for FY 2020-21 as per Clause 7.13 and 7.14 of the JSERC Generation Tariff Regulations, 2015. The relevant abstract mentioned in para 5.79.
- 8.81 The Commission has calculated the normative opening balance of equity for FY 2020-21 as trued up closing balance for FY 2019-20 as approved in the table no. 124 for each Unit.
- 8.82 The Commission has scrutinized the discrepancies in reply submitted by the Petitioner and observed that the revised Debt: Equity ratio from FY 2016-17 onwards as 70:30.
- 8.83 The Commission has noted the reply of the Petitioner and in accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the rate of return on equity at the rate of 15.50% as shown below:

Table 171: RoE as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Opening Equity | 455.63 | 507.11 | 456.57 | 450.25 | 511.31 | 461.20 |
| Net Addition | - | 3.07 | 0.00 | - | 3.07 | 0.00 |
| Closing Equity | 455.63 | 510.18 | 456.57 | 450.25 | 514.38 | 461.20 |
| Average Equity | 455.63 | 508.64 | 456.57 | 450.25 | 512.84 | 461.20 |
| Rate of RoE | 15.50 % | 15.50% | 15.50% | 15.50 % | 15.50% | 15.50% |
| Return on Equity (ROE) | 70.62 | 78.84 | 70.77 | 69.79 | 79.49 | 71.49 |



Annual Fixed Charge

Petitioner's Submission

8.84 The summary of Annual Fixed Charge (AFC) as submitted by the Petitioner is shown below:

Table 172: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|---|---------------|---------------|---------------|---------------|
| | MYT Order | Petition | MYT Order | Petition |
| Depreciation | 82.37 | 82.93 | 83.15 | 83.70 |
| Interest on Debt | 78.39 | 68.31 | 83.25 | 72.01 |
| O&M Expenses | 87.28 | 87.28 | 87.28 | 87.28 |
| Return on Equity (Pre-Tax) | 70.62 | 78.84 | 69.79 | 79.49 |
| Interest on Working Capital | 30.69 | 63.09 | 30.82 | 64.73 |
| Total AFC (Excluding Water and Ash disposal charges) | 349.35 | 380.45 | 354.29 | 387.20 |

Commission's Analysis

8.85 Regulation 8.2 of the JSERC Generation Tariff Regulations, 2015 states that Annual Fixed Cost (AFC) of a thermal generating station shall consist of the following components:

- Return on Equity;
- Interest and Financing Charges on Loan Capital;
- Depreciation;
- Operation and Maintenance Expenses;
- Interest Charges on Working Capital; and
- Special allowance in lieu of R&M or separate compensation allowance, wherever applicable;

8.86 The Annual Fixed Cost (AFC) as submitted by the Petitioner and approved by the Commission has been tabulated below.

Table 173: Annual Fixed Charge as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|------------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Depreciation | 82.37 | 82.93 | 82.65 | 83.15 | 83.70 | 83.42 |
| Interest on Debt | 89.21 | 68.31 | 73.66 | 94.30 | 72.01 | 77.35 |
| O&M Expenses | 83.19 | 87.28 | 87.28 | 83.19 | 87.28 | 87.28 |
| RoE (Pre-Tax) | 70.62 | 78.84 | 70.77 | 69.79 | 79.49 | 71.49 |
| IoWC | 30.69 | 63.09 | 22.57 | 30.82 | 64.73 | 25.89 |



| Particulars | Unit-1 | | | Unit-2 | | |
|--|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Total AFC (Excluding Water and Ash disposal charges) | 356.08 | 380.45 | 336.93 | 361.25 | 387.20 | 345.42 |

Incentive

Petitioner Submission

8.87 The Petitioner has estimated an incentive of Rs. 1.17 Crore for each Unit for FY 2020-21 as shown below:

Table 174: Incentive as submitted by the Petitioner (Rs. Crore)

| Particulars | Unit-1 | | Unit-2 | |
|-------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Incentive | - | 1.17 | - | 1.17 |

Commission's Analysis

8.88 The Commission has allowed incentive as per Clause 8.15 of the JSERC Generation Tariff Regulations, incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF).

Table 175: Incentive as approved by the Commission (Rs. Crore)

| Particulars | Unit-1 | | | Unit-2 | | |
|-------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Incentive | - | 1.17 | 1.17 | - | 1.17 | 1.17 |

Water Charges, Capital Spare Expenses

Petitioner's Submission

8.89 The Petitioner has entered into an MoU with Govt. of Jharkhand for drawl of water to an extent of 35.60 MCM (4064 m³ per hour) in a phased manner from Subarnarekha river, flowing at a distance of eight km downstream of water intake point from APNRL Project site, vide agreement dated August 29, 2008. The said agreement stipulates that a pump house has to be installed for drawl of required water from the river Subarnarekha withdrawn directly from the river and not from any reservoir. Subsequently, Water Department of Govt. of Jharkhand vide its Notification No. 2/PMC/Jalapurti-175/2007 dated April 01, 2011 has revised



various categories for water off-take and APNRL was asked to pay @ Rs. 26.40 per thousand gallons. The Petitioner aggrieved by the rate, filed a Writ Petition before the High Court of Jharkhand on February 07, 2012 with regard to demand raised by Subarnarekha Dam Division towards withdrawal of water at higher than the agreed rates.

- 8.90 The Hon'ble High Court of Jharkhand was pleased to pass a stay Order in the above mention Writ Petition, restricting the payment of water charges at pre-revised rate of Rs. 4.50 per thousand gallons.
- 8.91 The Petitioner further mention that clause 18 of the Water agreement, which contains provisions for reduction of the Water quantity, the Petitioner has requested WRD, Government of Jharkhand for lowering the permitted water quantity from 35.60 MCM to 17.60 MCM i.e. almost 50% of the original allocated quantity, which is yet to be considered by the WRD, State of Jharkhand. As a result, the Petitioner has filed another petition before the Hon'ble High Court at Ranchi for resolution of dispute regarding the billed water quantum in the bill, which is pending.
- 8.92 The Petitioner has estimated capital spare expenses well within the clause 7.46 of the JSERC generation Tariff Regulation 2015.

Table 176: Water chare and Capital spare as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|----------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Water Charges | 1.74 | 5.97 | 1.74 | 5.97 |
| Capital Spares | - | 0.55 | - | 0.55 |

Commission's Analysis

- 8.93 The treatment of water charges and capital spares for thermal generating stations is governed by Clause 7.46 GTR 2015, and the relevant extract of the Regulations is mentioned in para 5.91.
- 8.94 The Commission has scrutinized the detail submitted by the Petitioner and observed that the matter related to water charge is sub-judice before the Hon'ble Jharkhand High Court. Thus, the Commission in the Present petition approved the water charges as per previous true-up Order for FY 2020-21, in proportion to power allocated to JBVNL.
- 8.95 Therefore, the Commission has approved Rs. 4.50 per thousand gallon of water withdrawn from river, amounting to Rs. 1.74 Crore (as approved in MYT) for FY



2020-21. The same is apportioned in proportion to JBVNL share (25%) i.e., 0.44 Crore (Rs. 0.22 Crore for each Unit).

- 8.96 The Commission has observed that the Petitioner has not submit proper justification and projection for spending on capital spare. And hence, the Commission in the instant petition disallow the capital spare.

Table 177: Water charge and Capital Spare as approved by the Commission (Rs. Cr)

| Particulars | Unit-1 | | | Unit-2 | | |
|---------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Water charge | 1.74 | 5.97 | 0.22 | 1.74 | 5.97 | 0.22 |
| Capital Spare | - | 0.55 | - | - | 0.55 | - |

Ash Disposal Expenses

Petitioner's Submission

- 8.97 The Petitioner has projected that ash disposal and transportation is the statutory requirement of the power plant. The Petitioner has been disposing and transporting Ash from its power station in accordance with the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) notification dated 25.1.2016.
- 8.98 Further, the Petitioner has submitted that as per the environmental norms and MOEFCC guidelines, the Petitioner has been transporting ash from its power station to various cement and brick manufacturing units. The details of quantity of ash disposal and its expenditure is being provided as below:

Table 178: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)

| Particulars | Unit-1 | | Unit-2 | |
|--------------|-----------|----------|-----------|----------|
| | MYT Order | Petition | MYT Order | Petition |
| Ash Disposal | - | 0.23 | - | 0.23 |

Commission's Analysis

- 8.99 The Commission has scrutinized the submission made by the Petitioner and approves the Ash Disposal Expenses as per Petitioner submission.
- 8.100 Considering the facts and circumstances of the given petition the Commission approved the Ash Disposal Expense for FY 2020-21 as shown below.

**Table 179: Ash Disposal Expenses as submitted by the Petitioner (Rs. Cr.)**

| Particulars | Unit-1 | | | Unit-2 | | |
|--------------|-----------|----------|----------|-----------|----------|----------|
| | MYT Order | Petition | Approved | MYT Order | Petition | Approved |
| Ash Disposal | - | 0.23 | 0.23 | - | 0.23 | 0.23 |

Tariff for Unit-1 and Unit-2**Petitioner's Submission**

8.101 The Petitioner has submitted that in accordance with the provisions of Power Purchase Agreement (PPA) executed with Discom, out of the total Contracted Capacity of 122.85 MW, APNRL will supply 63.882 MW capacity (i.e., 13% of the total net Capacity at total Tariff (both fixed and Variable Charge) and the balance 58.96 MW capacity, i.e., 12% of the Net capacity at variable cost i.e., Energy Charge as approved by the Commission. Accordingly, the tariff for supply of regulated capacity for JUVNL/JBVNL is summarized below:

Table 180: Tariff for 12% of Total Net Capacity as submitted by the Petitioner (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.567 | 2.555 | 2.570 | 2.641 |

Table 181: Tariff for 13% of Total Net Capacity as submitted by the Petitioner (Fixed Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|-----------|-----------|----------|-----------|----------|
| | | MYT Order | Petition | MYT Order | Petition |
| Gross Capacity | MW | 270.00 | 270.00 | 270.00 | 270.00 |
| Auxiliary Consumption | % | 9.00% | 9.00% | 9.00% | 9.00% |
| Net Capacity | MW | 245.70 | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | MW | 29.48 | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | MW | 216.22 | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | Rs Cr. | 351.10 | 380.45 | 356.04 | 387.20 |
| Annual Fixed Charges/MW | Rs Cr./MW | 1.62 | 1.76 | 1.65 | 1.79 |



| Particulars | Units | Unit-1 | | Unit-2 | |
|--|---------|--------------|--------------|--------------|--------------|
| | | MYT Order | Petition | MYT Order | Petition |
| 13% of Net Capacity for supply to JUVNL at full tariff | MW | 31.94 | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | Rs. Cr. | 51.87 | 56.20 | 52.60 | 57.20 |

Commission's Analysis

8.102 The tariff for 12% of the total net capacity shall be the variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) approved by the Commission, whereas the tariff for next 13% of total net capacity shall be the total tariff i.e., variable cost (subject to fuel price adjustment in accordance with Generation Tariff Regulations 2015) and fixed charges as approved by the Commission as tabulated below.

Table 182: Tariff for 12% of Total Net Capacity as approved by the Commission (Variable Charge)

| Particulars | Units | Unit-1 | | Unit-2 | |
|---|--------|----------|----------|----------|----------|
| | | Petition | Approved | Petition | Approved |
| Variable Cost/ Base Energy Charge Rate | Rs/kWh | 2.555 | 2.555 | 2.641 | 2.641 |

Table 183: Tariff for 13% of Total Net Capacity for Unit-1 as approved by the Commission (Fixed Charge)

| Particulars | Derivation | Units | Unit-1 | | |
|---|------------------------|-----------|-----------|----------|----------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270.00 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00% | 9.00% | 9.00% |
| Net Capacity | $C = A \times (1 - B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D = C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E = C - D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 351.10 | 380.45 | 336.93 |
| Annual Fixed Charges/MW | $G = F/E$ | Rs Cr./MW | 1.62 | 1.76 | 1.56 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H = C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |



| Particulars | Derivation | Units | Unit-1 | | |
|------------------------------------|----------------|----------------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| AFC for 13% of Net Capacity | I=G x H | Rs. Cr. | 51.87 | 56.20 | 49.77 |

Table 184: Tariff for 13% of Total Net Capacity for Unit-2 as approved by the Commission (Fixed Charge).

| Particulars | Derivation | Units | Unit-2 | | |
|---|--------------------|----------------|--------------|--------------|--------------|
| | | | MYT Order | Petition | Approved |
| Gross Capacity | A | MW | 270 | 270.00 | 270.00 |
| Auxiliary Consumption | B | % | 9.00% | 9.00% | 9.00% |
| Net Capacity | $C=A \times (1-B)$ | MW | 245.70 | 245.70 | 245.70 |
| 12% of Net Capacity for Supply to JUVNL/JBVNL at Energy Charge | $D=C \times 12\%$ | MW | 29.48 | 29.48 | 29.48 |
| Remaining Capacity from which Fixed Charges are to be recovered | $E=C-D$ | MW | 216.22 | 216.22 | 216.22 |
| Annual Fixed Charge | F | Rs Cr. | 356.04 | 387.20 | 345.42 |
| Annual Fixed Charges/MW | $G=F/E$ | Rs Cr./MW | 1.65 | 1.79 | 1.60 |
| 13% of Net Capacity for supply to JUVNL at full tariff | $H=C \times 13\%$ | MW | 31.94 | 31.94 | 31.94 |
| AFC for 13% of Net Capacity | I=G x H | Rs. Cr. | 52.60 | 57.20 | 51.03 |

Table 185: Total Tariff for JBVNL as submitted by the Petitioner

| Particulars | Units | Unit-1 | Unit-2 |
|--|--------------|---------------|---------------|
| | | Petition | Petition |
| Net Energy Supplied to JUVNL/JBVNL | MU | 482.07 | 482.07 |
| Rate of Energy Charge | Rs/kWh | 2.555 | 2.641 |
| AFC Entitlement on True Up | Rs Cr | 56.20 | 57.20 |
| Incentive | Rs Cr | 1.17 | 1.17 |
| Energy Charge Entitlement upon True up | Rs Cr | 123.16 | 127.31 |
| Water Charges | Rs Cr | 5.97 | 5.97 |
| Capital Spares | Rs Cr | 0.55 | 0.55 |
| Additional Ash Disposal Charge | Rs Cr | 0.23 | 0.23 |
| Aggregate Revenue Requirement | Rs Cr | 187.29 | 192.44 |



Table 186: Total Tariff for JBVNL as Approved by the Commission

| Particulars | Units | Unit-1 | Unit-2 |
|--|--------------|---------------|---------------|
| | | Approved | Approved |
| Net Energy Supplied to JUVNL/JBVNL | MU | 482.07 | 482.07 |
| Rate of Energy Charge | Rs/kWh | 2.555 | 2.641 |
| AFC Entitlement on True Up | Rs Cr | 49.77 | 51.03 |
| Incentive | Rs Cr | 1.17 | 1.17 |
| Energy Charge Entitlement upon True up | Rs Cr | 123.16 | 127.31 |
| Water Charges | Rs Cr | 0.22 | 0.22 |
| Capital Spares | Rs Cr | - | - |
| Additional Ash Disposal Charge | Rs Cr | 0.23 | 0.23 |
| Aggregate Revenue Requirement | Rs Cr | 174.56 | 179.96 |



A 9: STATUS OF EARLIER DIRECTIVES AND NEW DIRECTIVES

- 9.1 The Commission has time and again issued various directives in order to improve the functioning of the Petitioner. However, the Commission observes that the Petitioner has not complied to the earlier directives. The Commission directs the Petitioner to comply with the earlier directives along with new directives as mentioned below with utmost sincerity failing which, penal action may be taken.

Timely and Data Adequacy in the Next Tariff Petition

- 9.2 The Commission directs the Petitioner to file the next Tariff Petition, after removing the deficiencies highlighted in this Tariff Order. The Petitioner should ensure that the data submitted to the Commission is accurate and justified with adequate certificate. The Commission also direct the licensee to ensure submission of the next Tariff Petition within the time frame as stipulated in the JSERC Generation Tariff Regulations 2015 and JSERC Generation Tariff Regulations 2020.

Submission of Unit-wise Operational Parameters Separately

- 9.3 The Commission directs the Petitioner to submit Unit-Wise Operational Parameters of the Plant effectively immediately from this Order.

Development of a Fuel Procurement Plan

- 9.4 The Petitioner is directed to develop a Fuel Procurement Plan and explore options with its suppliers in order to reduce the cost of coal. The Petitioner should prioritize the procurement of primary fuel from the least cost source.

Transit Loss

- 9.5 The Commission directs the Petitioner to devise ways to control the expense and maintain transit loss at the levels specified as per Generation Tariff Regulations 2015.

Notice to the Commission

- 9.6 The Petitioner is hereby directed that during the execution of work pertaining to any pre-approved schemes, any increase in the scope of work, procurement, service, price/cost etc. should be brought to the notice of Commission immediately.



Fly Ash Brick Plant

- 9.7 The Commission directs the Petitioner to develop a plan for setting up of fly ash bricks plant in order to generate Non-Tariff Income (NTI) for reduction of the burden on the Consumers as well as to controlled the air pollution or to reduce the air pollution in that area. The Petitioner may develop other sources of Non-Tariff Income generation in the process as well.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on June 22, 2023.

Date: 22.06.2023

Place: Ranchi

Sd/-
(Atul Kumar)
Member (Technical)

Sd/-
(Mahendra Prasad)
Member (Legal)

Sd/-
(Hon'ble Justice Amitav K. Gupta)
Chairperson

**ANNEXURE****Annexure-1: List of participating members of the public in the public hearing**

| Sr. No. | Name | Address/Organization |
|--|------------------------|--|
| Venue: Hotel B N R Chanakya, Ranchi, Date & Time: 20.03.2023 & 12:30 PM | | |
| 1 | Amit Griwan | 468, 1st floor, Udyog Bihar, DLF Ph-III, Gurgram |
| 2 | Ravi Shankar Singh | 2IC Road Shanti Hari tower, Bistupur, Jamshedpur |
| 3 | Sarangdev Sarkar | 1st floor, Udyog Bihar, DLF Ph-III, Gurgram |
| 4 | Rajesh Kumar Sharma | Petrol Pump Road, No. 6, Sonari west, Jamshedpur |
| 5 | Ravi Verma | Flat NEI/2 ,Manav Shree Appt., Rd. IA, Basant Vihar, Harmu, Ranchi |
| 6 | Himanshu Kumar | A/3 Nishaant Vihar, adityapur |
| 7 | Rishi Nandan | GM, Commercial, JBVNL |
| 8 | Ravishankar Kumar | EEE, Revenue, JBVNL |
| 9 | Bhavesh Saw | APNRL |
| 10 | Arvind Kumar | ED (C&R), JBVNL |
| 11 | Radha Krishna Tripathy | JBVNL Representative |
| 12 | Jiwan Kumar Jalan | 101, Harmu Road, Ranchi |
| 13 | Anita Prasad | JBVNL |
| 14 | Birendra Kisku | JBVNL |
| 15 | R. K. Pandey | Ranchi |
| 16 | Eshan Singh | Ranchi |
| 17 | Sharat Kumar | JBVNL |
| 18 | Vijay Kumar | Ranchi |