

# **GUJARAT ELECTRICITY REGULATORY COMMISSION**



## **Tariff Order**

Truing up for FY 2022-23

and

Determination of ARR and Tariff for FY 2024-25

For

**Gujarat State Electricity Corporation Limited  
(GSECL)**

**Case No. 2315 of 2024**

**1<sup>st</sup> June, 2024**

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**GUJARAT ELECTRICITY REGULATORY COMMISSION  
(GERC)**

**GANDHINAGAR**

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## CONTENTS

<b>1</b>	<b>Background and Brief History .....</b>	<b>2</b>
1.1	Gujarat State Electricity Corporation Limited (GSECL).....	2
1.2	Commission's Order for approval of True up of FY 2020-21 and Determination of Tariff for FY 2022-23.....	2
1.3	Commission's Order for approval of True up of FY 2021-22 and Determination of Tariff for FY 2023-24.....	3
1.4	Background of the Present Petition .....	3
1.5	Registration of the Current Petition and Public Hearing Process .....	3
1.6	Contents of this Order .....	5
1.7	Approach of this Order .....	5
<b>2</b>	<b>Summary of GSECL Tariff Petition .....</b>	<b>7</b>
2.1	Summary of GSECL's Petition.....	7
2.2	True-Up of FY 2022-23 .....	7
2.3	Request of GSECL.....	14
<b>3</b>	<b>Brief outline of objections raised, response from GSECL and Commission's View.....</b>	<b>15</b>
3.1	Preliminary Observations on Tariff Proposal .....	15
3.2	Directives by the Commission and Status .....	17
3.3	Capacity Tests & Updated/Derated Capacity .....	18
3.4	Objections related to Performance of the Plants.....	18
3.4.1	Plant Load Factor and Calculation of Energy cost (Fixed & Variable) .....	18
3.4.2	Station Heat Rate for FY 2024-25.....	19
3.4.3	Retirement of Old Thermal Power Plants .....	21
3.4.4	Unduly High Fixed Costs of Old Units.....	22
3.4.5	Capital Expenditure for FY 2024-25.....	23
3.4.6	High O&M Expenses for Old Units.....	23
3.5	Objections Related to Other Topics.....	24
3.5.1	Regulatory Provision for Units Completing Normative Life Span.....	24
3.5.2	Testing of Unit for Updated Capacity and Derating .....	24
3.5.3	Capital Expenses towards Renovation & Modernisation and Life Extension	25
<b>4</b>	<b>Truing up of FY 2022-23 .....</b>	<b>27</b>
4.1	Generating Stations of GSECL.....	27
4.2	Operating Performance Parameters.....	29



4.2.1	Plant Availability Factor (PAF).....	30
4.2.2	Plant Load Factor (PLF).....	33
4.2.3	Auxiliary Consumption.....	34
4.2.4	Station Heat Rate (SHR).....	38
4.2.5	Secondary Fuel Oil Consumption (SFOC).....	40
4.2.6	Transit Loss.....	42
4.2.7	Summary of Performance Parameters Approved for FY 2022-23.....	44
4.3	Gross and Net Generation.....	44
4.4	Cost Parameters.....	46
4.4.1	Wt. Avg. Gross Calorific Value (GCV) of fuels.....	46
4.4.2	Wt. Avg. Prices of Fuel.....	47
4.5	Fuel Costs.....	48
4.5.1	Variation between Actual Costs and Approved Costs.....	49
4.5.2	Impact of Solar Generation in Auxiliary Consumption in FY 2022-23.....	50
4.5.3	Gains and Losses in fuel costs due to controllable and uncontrollable factors	51
4.6	Capital Expenditure and Capitalisation.....	52
4.7	Fixed Charges.....	55
4.7.1	Depreciation for FY 2022-23.....	56
4.7.2	Interest and Finance charges for FY 2022-23.....	60
4.7.3	Return on Equity for FY 2022-23.....	64
4.7.4	O&M Expenses for FY 2022-23.....	67
4.7.5	Interest on Working Capital for FY 2022-23.....	76
4.7.6	SLDC Charges for FY 2022-23.....	79
4.7.7	Water Charges for FY 2022-23.....	81
4.7.8	Income Tax for FY 2022-23.....	83
4.7.9	Non-Tariff Income for FY 2022-23.....	86
<b>4.8</b>	<b>Approved Fixed Charges.....</b>	<b>91</b>
<b>5</b>	<b>Determination of Aggregate Revenue Requirement for FY 2024-25.....</b>	<b>99</b>
<b>5.1</b>	<b>Introduction.....</b>	<b>99</b>
<b>5.2</b>	<b>Generating Stations of GSECL.....</b>	<b>99</b>
<b>5.3</b>	<b>Operating Performance of GSECL Stations.....</b>	<b>101</b>
5.3.1	Plant Availability Factor (PAF).....	101
5.3.2	Plant Load Factor (PLF).....	103
5.3.3	Auxiliary Consumption.....	105
5.3.4	Station Heat Rate (SHR).....	106



5.3.5	Secondary Fuel Oil Consumption (SFOC).....	108
5.3.6	Transit Loss .....	109
5.3.7	Summary of Performance Parameters Approved for FY 2024-25 .....	111
<b>5.4</b>	<b>Gross and Net Generation .....</b>	<b>111</b>
<b>5.5</b>	<b>Cost Parameters.....</b>	<b>113</b>
5.5.1	Wt. Avg. Gross Calorific Value (GCV) of fuels.....	113
5.5.2	Mix of Coal.....	114
5.5.3	Wt. Avg. Prices of Fuel.....	116
<b>5.6</b>	<b>Fuel Costs .....</b>	<b>117</b>
<b>5.7</b>	<b>Capital Expenditure and Capitalisation.....</b>	<b>119</b>
<b>5.8</b>	<b>Fixed Charges.....</b>	<b>126</b>
5.8.1	Depreciation for FY 2024-25 .....	126
5.8.2	Interest and Finance charges for FY 2024-25 .....	129
5.8.3	Return on Equity for FY 2024-25 .....	132
5.8.4	O&M Expenses for FY 2024-25 .....	135
5.8.5	Interest on Working Capital for FY 2024-25.....	137
5.8.6	SLDC Charges for FY 2024-25 .....	138
5.8.7	Water Charges for FY 2024-25 .....	140
5.8.8	Income Tax for FY 2024-25.....	142
5.8.9	Non-Tariff Income for FY 2024-25 .....	143
<b>5.9</b>	<b>Approved Fixed Charges .....</b>	<b>145</b>
<b>6</b>	<b>Determination of Tariff for FY 2024-25 .....</b>	<b>146</b>
<b>7</b>	<b>Compliance to Directives .....</b>	<b>148</b>
7.1	Compliance of Directives issued by the Commission.....	148
7.2	Compliance of Earlier Directives.....	148
7.3	Directives Issued vide Order dated 31 <sup>st</sup> March, 2023 .....	150
7.4	Fresh Directives of this Order .....	151
<b>COMMISSION'S ORDER .....</b>	<b>154</b>	
<b>Annexure A.....</b>	<b>155</b>	
<b>Annexure B.....</b>	<b>169</b>	



## LIST OF TABLES

Table 1-1: List of Newspapers in which Public Notice was published by the Petitioner .....	4
Table 1-2: List of Newspapers in which Public Notice was published by the Commission .....	4
Table 1-3: List of Stakeholders .....	4
Table 2-1: Actual Fixed Cost for FY 2022-23 .....	8
Table 2-2: Energy Charges for GSECL's Plants for FY 2022-23 .....	9
Table 2-3: Gain/Loss on account of Controllable factors for FY 2022-23 .....	10
Table 2-4: Gains/(Losses) on account of Uncontrollable Factors for FY 2022-23 .....	11
Table 2-5: Net Entitlement calculated by GSECL for FY 2022-23 .....	12
Table 2-6: Proposed Fixed Cost of GSECL plants for FY 2024-25.....	13
Table 2-7: Proposed Energy Charges of GSECL plants for FY 2024-25.....	14
Table 4-1: Capacity and COD of GSECL generating stations as on 1 <sup>st</sup> April, 2022 .....	27
Table 4-2: Plant Availability Factor for FY 2022-23 .....	30
Table 4-3: Plant Availability Factors approved for truing up for FY 2022-23.....	32
Table 4-4: Plant Load Factor for FY 2022-23 .....	33
Table 4-5: PLF Approved for FY 2022-23 for truing up purpose .....	34
Table 4-6: Auxiliary consumption for FY 2022-23 .....	35
Table 4-7: Auxiliary consumption (%) approved for FY 2022-23 for truing up .....	37
Table 4-8: Station Heat Rate for FY 2022-23 .....	38
Table 4-9: Station Heat Rate approved for FY 2022-23 for truing up .....	40
Table 4-10: Secondary Fuel Oil Consumption for FY 2022-23 .....	40
Table 4-11: Secondary Fuel Oil Consumption approved for FY 2022-23 for Truing up.....	42
Table 4-12: Transit Loss for FY 2022-23.....	42
Table 4-13: Transit Loss approved for FY 2022-23 for truing up (%).....	43
Table 4-14: Performance parameters approved for truing up purpose for FY 2022-23.....	44
Table 4-15: Gross and net generation for FY 2022-23 for truing up purpose .....	45
Table 4-16: Wt. Avg. Gross Calorific Value (GCV) of fuels for different stations for FY 2022-23.....	46
Table 4-17: The Mix of Different Types of Coal for FY 2022-23.....	47
Table 4-18: Wt. Avg. Price / Unit of Fuels for FY 2022-23 (Actual).....	47
Table 4-19: Fuel Cost of different stations for Truing up for FY 2022-23.....	49
Table 4-20: Cost of different fuels as per Audited Annual Accounts and as approved for Truing up for FY 2022-23 .....	50
Table 4-21: Fuel cost saving due to Solar Generation .....	51
Table 4-22: Approved Gains / (losses) from Fuel Expenses for FY 2022-23.....	52
Table 4-23: Actual Capitalisation for FY 2022-23 as submitted by GSECL .....	53





**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

---

Table 4-24: Depreciation for FY 2022-23 .....	56
Table 4-25: Gains / Losses from Depreciation for FY 2022-23 .....	57
Table 4-26: Approved Gross Fixed Assets .....	58
Table 4-27: Approved station-wise depreciation charges and gains/(losses) from Depreciation for FY 2022-23 .....	59
Table 4-28: Interest and Finance Charges claimed in truing up for FY 2022-23 .....	61
Table 4-29: Gains / Losses from Interest & Finance charges claimed for FY 2022-23 .....	61
Table 4-30: Details of Approved Loan for FY 2022-23 .....	62
Table 4-31: Approved Interest and Finance charges and gain/ (loss) for FY 2022-23 .....	64
Table 4-32: Return on Equity for FY 2022-23 (Rs. Crore).....	64
Table 4-33: Gains / Losses from Return on Equity claimed for FY 2022-23 (Rs. Crore).....	65
Table 4-34: Approved Equity for FY 2022-23 .....	66
Table 4-35: Approved Return on Equity and gain/ (loss) for FY 2022-23 .....	67
Table 4-36: O&M expenses for FY 2022-23 .....	68
Table 4-37: Gains / Losses from O&M expenses for FY 2022-23 .....	68
Table 4-38: GSECL Claim of Impact on Wage revision due to 7 <sup>th</sup> Pay Revision .....	71
Table 4-39: Impact on Wage revision due to 7 <sup>th</sup> pay Revision approved by Commission vs. claim of GSECL (Rs. Crore) .....	72
Table 4-40: Employee Expense approved by the Commission for FY 2022-23 .....	73
Table 4-41: Approved O&M expenses gains/losses for FY 2022-23 .....	76
Table 4-42: Interest on Working Capital Claimed by GSECL in Truing up for FY 2022-23 .....	76
Table 4-43: Gains / Losses from Interest on working capital claimed for FY 2022-23.....	77
Table 4-44: Approved Gains/ (Losses) from Interest on Working Capital for FY 2022-23 .....	78
Table 4-45: SLDC charges for FY 2022-23 .....	79
Table 4-46: Gain/ (loss) for SLDC charges claimed for FY 2022-23.....	79
Table 4-47: Approved SLDC charges gains/ (losses) for FY 2022-23 .....	80
Table 4-48: Water Charges for FY 2022-23 .....	81
Table 4-49: Gain/ (loss) for Water charges claimed for FY 2022-23.....	81
Table 4-50: Approved Water charges gain/ (loss) for FY 2022-23.....	82
Table 4-51: Income Tax for FY 2022-23.....	83
Table 4-52: Gain/ (loss) for Income Tax claimed for FY 2022-23 .....	83
Table 4-53: Profit/(Loss) of each of the station of GSECL for FY 2022-23.....	84
Table 4-54: Approved Income Tax and gains/ (losses) for FY 2022-23.....	85
Table 4-55: Non-Tariff Income claimed for FY 2022-23 .....	86
Table 4-56: Gain/ (loss) for Non-Tariff Income claimed for FY 2022-23 .....	87



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

---

Table 4-57: Approved Non-Tariff Income and gain/ (loss) for FY 2022-23 .....	90
Table 4-58: Fixed Charges Approved in the Truing up for FY 2022-23 .....	91
Table 4-59: Approved Station-wise Fixed Charges for FY 2022-23.....	92
Table 4-60: Approved Gains / (Losses) due to controllable factors for FY 2022-23 .....	94
Table 4-61: Approved Gains / (Losses) of fixed cost due to Uncontrollable Factors for FY 2022-23..	95
Table 4-62: Total Consolidated Gains / (Losses) in Approved for FY 2022-23.....	96
Table 4-63: Total Consolidated (Fixed and Fuel Cost) Gains / (Losses) Approved for FY 2022-23 ...	97
Table 5-1: Capacity and COD of GSECL existing Generating Stations .....	99
Table 5-2: Plant Availability Factor for FY 2024-25 .....	102
Table 5-3: Plant Availability Factor approved for FY 2024-25.....	102
Table 5-4: Plant Load Factor for FY 2024-25 .....	103
Table 5-5: PLF Approved for FY 2024-25 .....	104
Table 5-6: Auxiliary Consumption for FY 2024-25.....	105
Table 5-7: Auxiliary Consumption (%) approved for FY 2024-25.....	106
Table 5-8: Station Heat Rate for FY 2024-25 .....	107
Table 5-9: Station Heat Rate approved for FY 2024-25.....	107
Table 5-10: Secondary Fuel Oil Consumption for FY 2024-25 .....	108
Table 5-11: Secondary Fuel Oil Consumption approved for FY 2024-25 .....	109
Table 5-12: Transit Loss for FY 2024-25.....	109
Table 5-13: Transit Loss approved for FY 2024-25.....	110
Table 5-14: Performance parameters approved for FY 2024-25 .....	111
Table 5-15: Gross and Net Generation for FY 2024-25 .....	112
Table 5-16: Wt. Avg. Gross Calorific Value (GCV) of fuels for different stations for FY 2024-25.....	113
Table 5-17: Projected Mix of Different Types of Coal for FY 2024-25 .....	115
Table 5-18: Approved Mix of Different Types of Coal for FY 2024-25 .....	115
Table 5-19: Weighted Average Price / Unit of Fuels for FY 2024-25 .....	116
Table 5-20: Weighted Average Price/Unit of Fuels Approved for FY 2024-25.....	117
Table 5-21: Fuel Cost of different stations for FY 2024-25 .....	118
Table 5-22: Capital Expenditure as submitted by GSECL for FY 2024-25 .....	119
Table 5-23: Item-wise CWIP at the end of FY 2022-23.....	120
Table 5-24: Unit wise CWIP of GSECL vs. Unit wise Capitalisation Proposed in FY 2024-25.....	123
Table 5-25: Proposed Capitalisation for FY 2024-25 as submitted by GSECL .....	124
Table 5-26: Actual Capitalisation for FY 2020-21 to FY 2022-23 (Rs. Crore).....	124
Table 5-27: Capitalisation provisionally approved by the Commission in FY 2024-25 .....	125



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

---

Table 5-28: Depreciation claimed for FY 2024-25.....	126
Table 5-29: Approved Gross Fixed Assets for FY 2024-25.....	128
Table 5-30: Depreciation approved for FY 2024-25 .....	128
Table 5-31: Interest & Finance charges claimed for FY 2024-25.....	129
Table 5-32: Details of Approved Loan for FY 2024-25.....	130
Table 5-33: Approved Interest and Finance Charges for FY 2024-25 .....	131
Table 5-34: Return on Equity claimed for FY 2024-25 .....	132
Table 5-35: Approved Equity for FY 2024-25 .....	133
Table 5-36: Approved Return on Equity for FY 2024-25.....	134
Table 5-37: O&M expenses claimed for FY 2024-25 .....	135
Table 5-38: Approved O&M expenses for FY 2024-25 .....	136
Table 5-39: Interest on working capital claimed for FY 2024-25.....	137
Table 5-40: Approved Interest on Working Capital for FY 2024-25 .....	138
Table 5-41: SLDC Charges claimed for FY 2024-25.....	139
Table 5-42: Approved SLDC Charges for FY 2024-25.....	139
Table 5-43: Water Charges claimed for FY 2024-25.....	140
Table 5-44: Approved Water charges for FY 2024-25 .....	141
Table 5-45: Income Tax claimed for FY 2024-25 .....	142
Table 5-46: Approved Income Tax for FY 2024-25 .....	143
Table 5-47: Non-Tariff Income claimed for FY 2024-25 .....	143
Table 5-48: Approved Non-Tariff Income for FY 2024-25 .....	144
Table 5-49: Approved Station-wise Fixed Charges for FY 2024-25.....	145
Table 6-1: Energy Charges Approved for FY 2024-25.....	146
Table 6-2: Approved Station-wise Fixed Charges for FY 2024-25.....	147



**LIST OF ANNEXURES**

A-1: Ukai TPS 3 to 5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	155
A-2: Gandhinagar 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	156
A-3: Gandhinagar 5 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23 .....	157
A-4: Wanakbori 1-6 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23 .....	158
A-5: Wanakbori 7 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23.	159
A-6: Sikka Extension 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23.	160
A-7: KLTPS 3 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	161
A-8: KLTPS 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	162
A-9: BLTPS - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	163
A-10: Dhuvaran CCPP 1 - Approved Fuel Costs (Gas) for FY 2022-23 .....	164
A-11: Dhuvaran CCPP 2 - Approved Fuel Costs (Gas) for FY 2022.23.....	165
A-12: Dhuvaran CCPP 3 - Approved Fuel Costs (Gas) for FY 2022-23 .....	165
A-13: Utran Extension - Approved Fuel Costs (Gas) for FY 2022-23 .....	166
A-14: Ukai Extension 6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	167
A-15: Wanakbori 8 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23 .....	168
B-1: Ukai 3-5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	169
B-2: Gandhinagar 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 20224-25 ....	170
B-3: Gandhinagar 5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25.....	171
B-4: Wanakbori 1-6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25.....	172
B-5: Wanakbori 7 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	173
B-6: Sikka Extension 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .	174
B-7: KLTPS 3 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	175
B-8: KLTPS 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	176
B-9: BLTPS (erstwhile BECL) - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	177
B-10: Dhuvaran CCPP 1 - Approved Fuel Costs (Gas) for FY 2024-25 .....	178



B-11: Dhuvaran CCPP 2 - Approved Fuel Costs (Gas) for FY 2024-25 .....	178
B-12: Dhuvaran CCPP 3 - Approved Fuel Costs (Gas) for FY 2024-25 .....	179
B-13: Utran Extension - Approved Fuel Costs (Gas) for FY 2024-25 .....	179
B-14: Ukai Extension 6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	180
B-15: Wanakbori 8 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25 .....	181



## ABBREVIATIONS

ABT	Availability Based Tariff
AOH	Annual Overhauling
ARR	Aggregate Revenue Requirement
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CoD	Commercial Operation Date
COH	Capital Overhauling
CV	Calorific Value
DISCOMs	Distribution Companies
EA 2003	Electricity Act, 2003
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GCV	Gross Calorific Value
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GFA	Gross Fixed Assets
GoG	Government of Gujarat
Gol	Government of India
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
IPP	Independent Power Producer
kcal	kilo calorie
kV	kilo Volt
kWh	kilo Watt hour
MW	Mega Watt
MYT	Multi-Year Tariff
NCV	Net Calorific Value
O&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
PAF	Plant Availability Factor
PLF	Plant Load Factor
PPA	Power Purchase Agreement
R&M	Repairs & Maintenance
RE	Renewable Energy
ROE	Return on Equity
RSD	Reserve Shut Down
SCM	Standard Cubic Meter
SHR	Station Heat Rate
SLDC	State Load Despatch Centre
Wt. Avg.	Weighted Average



**Before the Gujarat Electricity Regulatory Commission at  
Gandhinagar**

**Case No. 2315 of 2024**

**Date of the Order: 1<sup>st</sup> June 2024**

**CORAM**

Anil Mukim, Chairman  
Mehul M. Gandhi, Member  
S.R. Pandey, Member

**ORDER**



# **1 Background and Brief History**

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## **1.1 Gujarat State Electricity Corporation Limited (GSECL)**

Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1<sup>st</sup> April, 2005. The Generation, Transmission and Distribution businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies as listed below:

- Gujarat State Electricity Corporation Limited (GSECL) – A Generation Company
- Gujarat Energy Transmission Corporation Limited (GETCO) – A Transmission Company
- Four (4) Distribution Companies:
  - Dakshin Gujarat Vij Company Limited (DGVCL)
  - Madhya Gujarat Vij Company Limited (MGVCL)
  - Paschim Gujarat Vij Company Limited (PGVCL)
  - Uttar Gujarat Vij Company Limited (UGVCL); and
- Gujarat Urja Vikas Nigam Limited (GUVNL) – A Holding Company and also responsible for purchase of electricity from various sources and Bulk supply to Distribution Companies.

The Government of Gujarat vide Notification dated 3<sup>rd</sup> October, 2006 notified the final opening balance sheets of the transferee Companies as on 1<sup>st</sup> April, 2005, containing the value of assets and liabilities, which stand transferred from the erstwhile Gujarat Electricity Board to the transferee Companies including Gujarat State Electricity Corporation Limited (GSECL). Assets and liabilities (gross block, loans and equity) as on the date mentioned in the notification have been considered by the Commission in line with the Financial Restructuring Plan (FRP) as approved by the Government of Gujarat.

## **1.2 Commission's Order for approval of True up of FY 2020-21 and Determination of Tariff for FY 2022-23**

The Petitioner filed its Petition for Truing up for FY 2020-21 and determination of tariff for FY 2022-23 on 29<sup>th</sup> November, 2021. The Petition was registered on 3<sup>rd</sup> December, 2021 (Case No. 2025 of 2021). The Commission vide Order dated 30<sup>th</sup> March, 2022 approved the Truing up for FY 2020-21 and determined the Tariff for FY 2022-23.





### **1.3 Commission's Order for approval of True up of FY 2021-22 and Determination of Tariff for FY 2023-24**

The Petitioner filed its Petition for Truing up for FY 2021-22 and determination of tariff for FY 2023-24 on 15<sup>th</sup> December, 2022. The Petition was registered on 28<sup>th</sup> December, 2022 (Case No. 2162 of 2022). The Commission vide Order dated 31<sup>st</sup> March, 2023 approved the Truing up for FY 2021-22 and determined the Tariff for FY 2023-24.

### **1.4 Background of the Present Petition**

Gujarat State Electricity Corporation Limited (hereinafter referred to as "GSECL" or the "Petitioner") has filed the present Petition on 11<sup>th</sup> January, 2024 for the Truing up for FY 2022-23 and determination of Tariff for FY 2024-25 under Section 62 of the Electricity Act, 2003, (hereinafter referred to as "EA 2003") read with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016 (hereinafter referred to as "GERC (MYT) Regulations, 2016").

Gujarat Electricity Regulatory Commission (hereinafter referred to as 'GERC' or the 'Commission') notified the GERC (MYT) Regulations, 2016 on 29<sup>th</sup> March, 2016, which was applicable for determination of tariff in all cases covered under the Regulations from 1<sup>st</sup> April, 2016 until 31<sup>st</sup> March, 2021. The Commission, vide Suo-Motu Order No. 2264 of 2023 dated 5<sup>th</sup> December, 2023, directed all the concerned Utilities to file the tariff application for approval of true-up for FY 2022-23 and approval of Aggregate Revenue Requirement (ARR) and Tariff for FY 2024-25 based on principles and methodology as provided in the GERC (MYT) Regulations, 2016 on or before 12<sup>th</sup> January, 2024.

Regulation 17.2 (b) of the GERC (MYT) Regulations, 2016 provides for submission of Petition comprising Truing up for FY 2022-23, ARR for FY 2024-25, and Tariff for FY 2024-25.

### **1.5 Registration of the Current Petition and Public Hearing Process**

GSECL has submitted the current Petition for Truing up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25 on 11<sup>th</sup> January, 2024. After Technical Validation of the Petition, it was registered on 24<sup>th</sup> January, 2024 (Case No. 2315 of 2024). As provided under Regulation 29.1 of the GERC (MYT) Regulations, 2016, the Commission has proceeded with this Tariff Order.

In accordance with Section 64 of the Electricity Act, 2003, GSECL was directed to publish its application in an abridged form in the newspapers to ensure due public participation.



The Public Notice, inviting objections / suggestions from the stakeholders on the Truing up and Tariff Determination Petition filed by GSECL, was published in the following newspapers:

**Table 1-1: List of Newspapers in which Public Notice was published by the Petitioner**

Sr. No.	Name of the Newspaper	Language	Date of publication
1.	The Indian Express	English	31/01/2024
2.	Gujarat Samachar	Gujarati	31/01/2024

The Petitioner also placed the Public Notice and the Petition on its website ([www.gsecl.in](http://www.gsecl.in)) for inviting objections and suggestions on the Petition. The interested parties/stakeholders were asked to file their objections/suggestions on the Petition on or before 2<sup>nd</sup> March, 2024.

The Commission also placed the Petition on its website ([www.gercin.org](http://www.gercin.org)) for information and study of all the stakeholders.

The Commission also issued a notice for Public Hearing in the following newspapers in order to solicit wider participation by the stakeholders:

**Table 1-2: List of Newspapers in which Public Notice was published by the Commission**

Sr. No.	Name of the Newspaper	Language	Date of publication
1.	Indian Express	English	29/02/2024
2.	Divya Bhaskar	Gujarati	28/02/2024
3.	Gujarat Samachar	Gujarati	28/02/2024

The Commission received objections/suggestions from the consumers/consumer organizations as shown in the Table below. The Commission examined the objections / suggestions received from the stakeholders and fixed the date for Public Hearing for the Petition on 4<sup>th</sup> March, 2024 at 11:30 AM.

The status of stakeholders who submitted their written suggestion / objections, those who participated in the Public Hearings, and those who made oral submissions are given in the Table below:

**Table 1-3: List of Stakeholders**

Sr. No.	Name of Stakeholders	Written Submission	Oral Submission	Present on the day of Public Hearing
1.	Federation of Gujarat Industries	Yes	Yes	Yes



A short note on the main issues raised by the Objector in their submission in respect of the Petition, along with the response of GSECL, and the Commission's views on the response, are briefly given in Chapter 3 of this Order.

## **1.6 Contents of this Order**

This Order is divided into **Seven Chapters** as under:

- (1) The **First Chapter** provides a background of the Petitioner, the Petition and details of the Public Hearing process and the approach adopted for this Order;
- (2) The **Second Chapter** outlines the summary of GSECL's Petition;
- (3) The **Third Chapter** deals with the Objections raised by the Stakeholder/s, GSECL's response and the Commission's views on the response;
- (4) The **Fourth Chapter** deals with the Truing up for FY 2022-23;
- (5) The **Fifth Chapter** deals with the ARR for FY 2024-25;
- (6) The **Sixth Chapter** deals with Tariff Determination for FY 2024-25;
- (7) The **Seventh Chapter** deals with the Compliance of directives.

## **1.7 Approach of this Order**

The GERC (MYT) Regulations, 2016 provides for "Truing up" of the previous year and determination of Tariff for ensuing year. The Commission issued the Tariff Order for FY 2022-23 vide Order dated 30<sup>th</sup> March 2022. The Commission has considered said Tariff Order for Truing-up of FY 2022-23.

The Commission, vide Suo-Motu Order No. 2264 of 2023 dated 5<sup>th</sup> December, 2023, directed all the concerned Utilities to file the tariff application for approval of true-up for FY 2022-23, Approval of Aggregate Revenue Requirement (ARR) and Determination of Tariff for FY 2024-25 based on principles and methodology as provided in the GERC (MYT) Regulations, 2016 on or before 12<sup>th</sup> January, 2024. GSECL has approached the Commission with the present Petition for Truing up of FY 2022-23 and determination of ARR and tariff for FY 2024-25.

The Commission has undertaken Truing up for FY 2022-23, based on the submissions of the Petitioner and based on the values approved in Tariff Order dated 30<sup>th</sup> March, 2022. The Commission has undertaken the computation of Gains and Losses for FY 2022-23, based on the Audited Accounts and prudence check.



While truing up of FY 2022-23, the Commission has been primarily guided by the following principles:

- Controllable parameters have been considered at the level approved under the Tariff Order dated 30<sup>th</sup> March, 2022, unless the Commission considers that there are valid reasons for revision of the same.
- Uncontrollable parameters have been revised based on the actual performance observed.
- The Truing up for FY 2022-23 has been considered based on the GERC (MYT) Regulations, 2016.

The Commission has undertaken determination of ARR and Tariff for FY 2024-25 as per the GERC (MYT) Regulations, 2016 and its amendment thereof as the base. Truing up of FY 2024-25 shall be carried out based on the principles and methodology adopted in GERC (MYT) Regulations, 2016.



## 2 Summary of GSECL Tariff Petition

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### 2.1 Summary of GSECL's Petition

This Chapter highlights the summary of the Petition for True-Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25.

### 2.2 True-Up of FY 2022-23

GSECL submitted the Petition on 11<sup>th</sup> January, 2024 seeking approval of Truing up of ARR for FY 2022-23. GSECL has presented the actual cost components based on the Audited Annual Accounts for FY 2022-23.

The Tables below summarize the results of the True-up of FY 2022-23 of GSECL Stations. For the purpose of True-Up, GSECL has compared the actual cost for FY 2022-23 with the cost approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022.

The fixed cost of GSECL as submitted in the Petition is shown in the Table below:



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**Table 2-1: Actual Fixed Cost for FY 2022-23**

(Rs. Crore)												
Sr. No.	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	O&M Expenses	Water Charges	SLDC Charges	Income Tax	Interest on Working Capital	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1	Ukai (3-5)	50.00	-	24.85	47.49	214.11	-	0.25	0.72	<b>337.43</b>	31.32	<b>306.11</b>
2	Gandhinagar (3-4)	39.44	0.00	25.82	32.96	188.61	123.47	0.17	0.50	<b>410.97</b>	35.74	<b>375.23</b>
3	Gandhinagar 5*	2.15	-	28.67	15.86	1.49	-	0.09	0.25	<b>48.51</b>	0.34	<b>48.17</b>
4	Wanakbori 1-6 TPS	107.66	9.86	94.77	97.89	205.32	48.87	0.52	1.49	<b>566.37</b>	21.34	<b>545.03</b>
5	Wanakbori 7*	2.15	-	26.16	14.97	16.88	19.89	0.09	0.25	<b>80.37</b>	0.34	<b>80.03</b>
6	Sikka Extension (3-4)*	171.45	94.54	131.37	75.68	123.00	5.91	0.21	0.59	<b>602.75</b>	5.22	<b>597.53</b>
7	KLTPS 3	29.60	-	54.97	7.86	65.40	0.32	0.04	0.09	<b>158.28</b>	4.08	<b>154.19</b>
8	KLTPS 4	18.19	4.70	30.06	6.49	23.54	-	0.03	0.09	<b>83.10</b>	1.99	<b>81.10</b>
9	BLTPS*	240.81	99.13	152.72	35.59	88.66	26.59	0.21	0.59	<b>644.30</b>	6.61	<b>637.69</b>
10	Dhuvaran CCPP 1*	10.14	-	10.57	0.91	57.14	0.50	0.04	0.13	<b>79.43</b>	4.78	<b>74.64</b>
11	Dhuvaran CCPP 2	13.16	0.95	14.55	0.49	4.72	-	0.05	0.13	<b>34.05</b>	4.07	<b>29.97</b>
12	Dhuvaran CCPP 3*	78.95	45.61	67.18	74.19	7.17	-	0.15	0.45	<b>273.70</b>	3.51	<b>270.20</b>
13	Utran Extension*	38.18	19.64	57.75	58.35	53.37	0.84	0.15	0.44	<b>228.72</b>	1.26	<b>227.46</b>
14	Ukai 6*	156.49	60.15	126.27	38.25	38.71	-	0.21	0.59	<b>420.67</b>	0.82	<b>419.85</b>
15	Wanakbori 8 TPS*	224.92	196.12	183.15	57.42	52.34	28.14	0.33	0.95	<b>743.37</b>	1.58	<b>741.78</b>
16	Ukai Hydro	2.34	1.53	10.65	0.59	14.74	-	0.13	0.36	<b>30.34</b>	0.50	<b>29.84</b>
17	Kadana Hydro	5.53	-	28.90	1.09	18.26	-	0.10	0.29	<b>54.16</b>	0.76	<b>53.40</b>
	<b>Total</b>	<b>1,191.16</b>	<b>532.22</b>	<b>1,068.40</b>	<b>566.06</b>	<b>1,173.46</b>	<b>254.53</b>	<b>2.75</b>	<b>7.92</b>	<b>4,796.51</b>	<b>124.28</b>	<b>4,672.23</b>

\* PPA based stations



Based on actual operating and fuel related parameters during FY 2022-23, the Table below indicates the actual audited energy charges for GSECL's stations for FY 2022-23 along with the approved energy charges:

**Table 2-2: Energy Charges for GSECL's Plants for FY 2022-23**

Sr. No.	Power Station	Approved (Rs./kWh)	Actual (Rs./kWh)
1	Ukai (3-5)	4.37	5.12
2	Gandhinagar (3-4)	4.46	4.71
3	Gandhinagar 5*	4.35	4.90
4	Wanakbori 1-6 TPS	4.51	5.02
5	Wanakbori 7*	4.40	4.55
6	Sikka Extension (3-4)*	8.68	9.70
7	KLTPS 3	4.49	5.92
8	KLTPS 4	4.19	5.95
9	BLTPS*	3.61	4.49
10	Dhuvaran CCPP 1*	-	-
11	Dhuvaran CCPP 2	-	-
12	Dhuvaran CCPP 3*	11.08	22.27
13	Utran Extension*	10.37	13.68
14	Ukai 6*	3.84	4.32
15	Wanakbori 8 TPS*	3.72	3.68

\* PPA based stations

The Table below summarizes the plant-wise gains/(losses) calculated by GSECL on account of controllable/uncontrollable factors, which are proposed to be shared with the consumers as per the mechanism prescribed by the Commission in the GERC (MYT) Regulations, 2016:



**Table 2-3: Gain/Loss on account of Controllable factors for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Gain/(Loss) due to Controllable Factors		Total Gains/ (Losses) due to Controllable factors	Total Gains/ (Losses) to be passed through (1/3 <sup>rd</sup> of gains/ losses)
		O&M Expenses	Fuel Cost		
1	Ukai (3-5)	54.72	(186.42)	(131.70)	(43.90)
2	Gandhinagar (3-4)	(30.40)	(52.87)	(83.28)	(27.76)
3	Gandhinagar 5*	-	-	-	-
4	Wanakbori 1-6 TPS	81.80	(246.75)	(164.95)	(54.98)
5	Wanakbori 7*	-	-	-	-
6	Sikka Extension (3-4)*	-	-	-	-
7	KLTPS 3	(11.87)	(44.24)	(56.11)	(18.70)
8	KLTPS 4	(2.28)	(40.44)	(42.72)	(14.24)
9	BLTPS*	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-
11	Dhuvaran CCPP 2	47.62	-	47.62	15.87
12	Dhuvaran CCPP 3*	-	-	-	-
13	Utran Extension*	-	-	-	-
14	Ukai 6*	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-
16	Ukai Hydro	1.02	-	1.02	0.34
17	Kadana Hydro	13.76	-	13.76	4.59
	<b>Total</b>	<b>154.37</b>	<b>(570.73)</b>	<b>(416.36)</b>	<b>(138.79)</b>

\* PPA based stations

Further, GSECL submitted the Gain/(Loss) on account of uncontrollable factors as shown in the following Table:





**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**Table 2-4: Gains/(Losses) on account of Uncontrollable Factors for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	O&M (Employee Cost 7th Pay)	Depreciation	Interest & Finance Charges	ROE	Interest on Working Capital	Water Charges	SLDC Charges	Income Tax	Non-Tariff Income	Total Gains/(Losses) to be passed through
1	Ukai (3-5)	(6.22)	(3.94)	-	(0.01)	(11.12)	-	0.15	-	25.68	4.54
2	Gandhinagar (3-4)	(6.11)	(0.28)	(0.00)	0.22	(4.50)	(78.45)	0.11	-	25.32	(63.69)
3	Gandhinagar 5*	-	-	-	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	(5.61)	1.13	9.72	6.84	(17.29)	(16.78)	0.31	-	0.95	(20.72)
5	Wanakbori 7*	-	-	-	-	-	-	-	-	-	-
6	Sikka Extension (3-4)*	(0.25)	-	-	-	-	-	-	-	-	(0.25)
7	KLTPS 3	(1.83)	0.74	-	0.15	(2.64)	0.11	0.07	-	1.97	(1.42)
8	KLTPS 4	(0.29)	18.18	(2.82)	(0.41)	(1.28)	-	0.02	-	1.72	15.12
9	BLTPS*	-	-	-	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	-	(0.80)	(0.10)	(0.01)	5.18	2.05	0.02	-	3.55	9.90
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-	-	-	-	-	-	-
16	Ukai Hydro	(0.31)	0.08	0.44	0.33	(0.05)	-	0.07	-	0.50	1.06
17	Kadana Hydro	(0.68)	0.04	-	0.19	0.02	-	0.06	-	0.50	0.14
	<b>Total</b>	<b>(21.29)</b>	<b>15.15</b>	<b>7.24</b>	<b>7.31</b>	<b>(31.67)</b>	<b>(93.07)</b>	<b>0.82</b>	<b>-</b>	<b>60.19</b>	<b>(55.32)</b>

\* PPA based stations



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Based on the above estimated gains/(losses) on account of controllable and uncontrollable factors, GSECL has worked out the gains/(losses) of FY 2022-23 to be passed through in FY 2024-25, as given below:

**Table 2-5: Net Entitlement calculated by GSECL for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Gain/(Losses) due to controllable factor (O&M Cost)	Gain/(Losses) due to uncontrollable factor	Total Gain/(losses) to be passed through	Total gains/(losses) to be passed through at actual PAF (Fixed Charge)	Gains/(losses) due to controllable factors (Fuel Cost)	Total gains/(losses) to be passed through (Fuel Cost)	Total gains/(losses) to be passed through
a	b	c	d	e = c/3 + d	f	g	h=g/3	i=f+h
1	Ukai (3-5)	54.72	4.54	22.79	14.88	(186.42)	(62.14)	(47.27)
2	Gandhinagar (3-4)	(30.40)	(63.69)	(73.83)	(63.00)	(52.87)	(17.62)	(80.62)
3	Gandhinagar 5*	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	81.80	(20.72)	6.55	4.06	(246.75)	(82.25)	(78.19)
5	Wanakbori 7*	-	-	-	-	-	-	-
6	Sikka Extension (3-4)*	-	(0.25)	(0.25)	(0.25)	-	-	(0.25)
7	KLTPS 3	(11.87)	(1.42)	(5.38)	(3.92)	(44.24)	(14.75)	(18.67)
8	KLTPS 4	(2.28)	15.12	14.36	7.71	(40.44)	(13.48)	(5.77)
9	BLTPS*	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	47.62	9.90	25.77	25.77	-	-	25.77
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-
15	Wanakbori 8	-	-	-	-	-	-	-
16	Ukai Hydro	1.02	1.06	1.40	1.40	-	-	1.40
17	Kadana Hydro	13.76	0.14	4.72	4.67	-	-	4.67
	<b>Total</b>	<b>154.37</b>	<b>(55.32)</b>	<b>(3.86)</b>	<b>(8.68)</b>	<b>(570.73)</b>	<b>(190.24)</b>	<b>(198.92)</b>

\* PPA based stations



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

GSECL has proposed Fixed Cost for its Generating Stations for FY 2024-25 as shown in the following Table:

**Table 2-6: Proposed Fixed Cost of GSECL plants for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Water Charges	Tax	SLDC Fees & Charges	Total Fixed Cost	Less: Non Tariff Income	Net Fixed Charges
1	Ukai (3-5)	51.39	0.79	26.46	49.73	293.51	-	0.72	0.25	422.86	31.32	391.54
2	Gandhinagar (3-4)	40.69	1.03	27.52	35.73	170.00	123.47	0.50	0.17	399.10	35.74	363.36
3	Gandhinagar 5*	2.15	-	28.67	16.86	68.92	-	0.25	0.09	116.94	0.34	116.60
4	Wanakbori 1-6 TPS	117.59	4.81	104.49	108.41	314.63	48.87	1.49	0.52	700.81	21.34	679.47
5	Wanakbori 7*	2.15	-	26.16	17.38	23.83	19.89	0.25	0.09	89.75	0.34	89.40
6	Sikka Extension (3-4)*	167.87	70.05	133.53	64.21	163.99	5.91	0.59	0.21	606.36	5.22	601.14
7	KLTPS 1-3	30.11	0.35	55.66	7.42	57.79	0.32	0.09	0.04	151.77	4.08	147.69
8	KLTPS 4	18.44	2.25	30.47	6.00	23.44	-	0.09	0.03	80.72	1.99	78.72
9	BLTPS*	197.16	70.94	156.83	35.52	210.62	26.59	0.59	0.21	698.46	6.61	691.85
10	Dhuvaran CAPP 1*	10.16	0.00	10.61	16.13	57.68	0.50	0.13	0.04	95.25	4.78	90.47
11	Dhuvaran CAPP 2	13.19	0.02	14.59	16.95	58.49	-	0.13	0.05	103.41	4.07	99.34
12	Dhuvaran CAPP 3*	79.28	33.05	67.46	51.14	5.81	-	0.45	0.15	237.34	3.51	233.84
13	Utran Extension*	38.41	13.84	58.09	51.03	61.36	0.84	0.44	0.15	224.16	1.26	222.89
14	Ukai 6*	157.98	36.06	127.47	40.67	64.31	-	0.59	0.21	427.29	0.82	426.47
15	Wanakbori 8*	228.66	163.20	186.20	67.01	191.80	28.14	0.95	0.33	866.28	1.58	864.70
16	Ukai Hydro	2.35	1.19	10.68	0.61	17.26	-	0.36	0.13	32.59	0.50	32.08
17	Kadana Hydro	5.54	0.00	28.92	1.25	35.04	-	0.29	0.10	71.13	0.76	70.37
	<b>Total</b>	<b>1,163.09</b>	<b>397.58</b>	<b>1,093.80</b>	<b>586.06</b>	<b>1,818.48</b>	<b>254.53</b>	<b>7.92</b>	<b>2.75</b>	<b>5,324.21</b>	<b>124.28</b>	<b>5,199.93</b>

\* PPA based stations



GSECL has proposed Energy Charges for FY 2024-25 as shown in the following Table:

**Table 2-7: Proposed Energy Charges of GSECL plants for FY 2024-25**

Sr. No.	Power Station	Energy Charges (Rs/kWh)
1	Ukai (3-5)	5.11
2	Gandhinagar (3-4)	4.96
3	Gandhinagar 5*	4.80
4	Wanakbori 1-6 TPS	5.32
5	Wanakbori 7*	5.19
6	Sikka Extension (3-4)*	7.52
7	KLTPS 3	4.98
8	KLTPS 4	4.43
9	BLTPS*	3.83
10	Dhuvaran CCPP 1*	11.11
11	Dhuvaran CCPP 2	10.94
12	Dhuvaran CCPP 3*	10.24
13	Utran Extension*	10.23
14	Ukai 6*	4.46
15	Wanakbori 8 TPS*	4.44

\* PPA based stations

### 2.3 Request of GSECL

Petitioner's Prayer:

1. "To admit this Petition for True Up of FY 2022-23, Aggregate Revenue Requirement for FY 2024-25 & Tariff Proposal for FY 2024-25.;
2. To approve the gains/ losses for the True Up of FY 2022-23 and allow sharing of gains/ losses with the Consumers as per sharing mechanism prescribed in the GERC MYT Regulations, 2016;
3. To allow recovery of Revenue (Gap)/Surplus of FY 2022-23 from four DISCOMs through GUVNL in twelve (12) equal monthly instalments during FY 2024-25.
4. To approve Aggregate Revenue Requirement for FY 2024-25 as submitted by the petitioner;
5. Pass suitable orders for implementation of Tariff Proposal for FY 2024-25 for making it applicable from 1st April, 2024 onwards.
6. To grant any other relief as the Hon'ble Commission may consider appropriate;"



### 3 Brief outline of objections raised, response from GSECL and Commission's View

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In response to the public notice inviting objections / suggestions on the Petition filed by GSECL for Truing up of FY 2022-23 and determination of Tariff for FY 2024-25 under the GERC (MYT) Regulations, 2016 from the stakeholders, some consumers/consumer organizations filed their objections/suggestions in writing and participated in the Public Hearing also. The Commission has considered objections connected with this Petition in this Chapter. The objections/suggestions by the consumers/consumer organizations, the response from the Petitioner, and the views of the Commission are given below:

#### 3.1 Preliminary Observations on Tariff Proposal

The Federation of Gujarat Industries (FGI) submitted that a number of Generation Units have continued to operate beyond 25 years of useful life and few of these have continued even beyond 45 years, overlooking the following facts:

- The PLF of such old Units is very low and thus, the operations are unsustainable as well as financially unviable; placing undue burden on consumers.
- End cost of generation from such plants is much higher than other legitimate alternate sources of power.
- Depreciation and Return on Equity recovery for virtually dead Units gets unduly passed on to consumers for the undue enrichment benefit of the Petitioner.
- All aged, inefficient, derated Units with total generation end cost being higher than power cost of other alternative sources as prevailing in the market need be decommissioned and no Units with completed life beyond 25 years should continue to run unless the Generators agree to provide power at prevailing market price/rate of Units that are less than 25 years old.
- No Renovation & Modernisation activities should be undertaken for Units that have completed their Useful Life and deserving decommissioning as per the norms of 25 years' service life or if Renovation & Modernisation done, the cost may not be permitted to be passed on the consumers.

#### Response of GSECL

GSECL submitted that:



- The Plant Load Factor (PLF) depends on the schedule received by GSECL stations from SLDC as per the Merit Order Dispatch System. However, most of the power stations of GSECL were available during FY 2022-23.
- The cost of generation depends on various efficiency parameters as well as fuel cost. GSECL claims the cost as per approved performance parameters by the Commission. The GSECL power stations are non-pithead plants, so the landed cost of fuel remains on higher side.
- The O&M expenses are claimed as per the norms approved in the GERC (MYT) Regulations, 2016 notified by the Commission. Moreover, Renovation & Modernisation expenses are incurred by GSECL for improvement in the efficiency of older Units as well as to meet the emission norms notified by MoEF. After turbine retrofitting at WTPS#3 & UTPS #4, substantial improvement in efficiency of these Units is achieved. GSECL has also planned to implement Renovation & Modernisation works for efficiency improvement in other plants of GSECL.
- The depreciation and Return on Equity (RoE) are claimed as a part of the fixed cost as per GERC (MYT) Regulations, 2016 notified by the Commission.
- The CEA vide notification dated 20.01.2023 advised not to retire any thermal Units till 2030 and urged for carrying out Renovation & Modernisation for life extension and improve the flexibility and reliability of thermal Units considering the expected demand scenario and availability of capacity in future. The role of thermal Units including old thermal Units becomes crucial in order to support renewable integration.

However, GSECL has already retired the capacity of 1215 MW in phased manner during last 10 years.

### **Commission's View**

The Commission has taken note of the detailed reasons provided by the Petitioner for lower PLF of GSECL stations. The Merit Order Dispatch (MOD) principle is being followed in the State for scheduling of power.

The Commission would also like to point out that it has been allowing performance parameters on normative basis and it has been undertaking sharing of gain/(losses) on account of any deviation with the norms and therefore passing on the benefit to the consumer. However, the Commission has been closely monitoring the performance of power plants of GSECL and issuing appropriate directives in this regard.

Further, there cannot be a blanket directive to retire older thermal Units. GSECL has been directed in the past to review the operational performance and take appropriate actions for improving the performance including Renovation & Modernisation, as specified in the GERC (MYT) Regulations, 2016. Further, the CEA directions in this regard have to be followed by GSECL.

### **3.2 Directives by the Commission and Status**

The Objector submitted that irrespective of CEA norms, almost all aged Units are being continued in the system to continue Fixed Costs recovery till it benefits GSECL. The objector submitted that against the Commission's directive, GSECL has not provided the reports as part of the Petition, hence, no information is there for the Stakeholders to understand the cost benefit aspects of continued operation of Units that have completed Useful Life and to submit reasoned submissions in that regard.

Therefore, it is necessary to assert on compliance of CEA norms and protect interests of the consumers by disallowing fixed costs payments towards such Units.

#### **Response of GSECL**

The Petitioner submitted that CEA vide letter no. CEA-TH-14-24/5/2022-TRM Division/235-335 dated 20/01/2023 has advised all power utilities not to retire any thermal Units till 2030 and ensure the availability of Units after carrying out Renovation & Modernisation activities, if required.

In view of above guidelines, GSECL is not planning retirement of older coal based thermal generating Units at present in view of the existing demand supply scenario prevailing in the State of Gujarat. Moreover, GSECL also intends to carry out Energy Efficiency Renovation & Modernisation to reduce Station Heat Rate (SHR) as well as making these Units flexible.

#### **Commission's View**

The Commission directs GSECL to ensure that the compliance of directives should be made part of the Petition in future filings, so that all stakeholders can make submission on the same. The Commission has discussed the directives in detail in Chapter 7.



As stated earlier, the CEA directions in this regard have to be followed by GSECL.

### **3.3 Capacity Tests & Updated/Derated Capacity**

The Objector submitted that there is no information in the Petition on when last testing of capacity was done and the Derated/updated capacity of Units in operation even beyond their Useful Life. It is to be noted that even for Solar and Wind power generator units, annual deration rates are taken into consideration, whereas full capacity seems to be considered for thermal Units, irrespective of aging and present condition.

FGI requested the Commission to direct the Petitioner to inform the current capacity considered for full Fixed Cost recovery as on date, viz., 01.04.2024.

#### **Response of GSECL**

The Petitioner submitted that GSECL stations have been available as per the requirement laid down under the respective provision of PPA with GUVNL. Accordingly, the fixed costs are claimed as per availability. Rated capacity is declared by GSECL. It is pertinent to mention that all units of GSECL are capable of running at rated load as and when scheduled.

#### **Commission's View**

Regulation 61 of GERC (MYT) Regulations, 2016 clearly specifies that the Generating Company may be required to demonstrate the declared capacity of its generating station as and when asked by the Gujarat State Load Despatch Centre and hence, in case of any doubt on the performance of the plant with respect to the installed capacity, the availability of the plant and the actual generation, SLDC has inherent power to test the same. Hence, the Commission does not accept the suggestion of the Objector for conducting such test year wise.

### **3.4 Objections related to Performance of the Plants**

#### **3.4.1 Plant Load Factor and Calculation of Energy cost (Fixed & Variable)**

The Objector submitted that actual PLF for Ukai 3-5 and Wanakbori 1-6 TPS are about 50% only and for Sikka, BLPTS and KLPTS Units, the PLF is very poor. The Plants such as Gandhinagar (Unit 3 & 4) and Wanakbori TPS (Units 1 to 6) deserve to be decommissioned as it does not serve any purpose and incur huge fixed costs. Ukai (Units 3, 4 & 5) and Wanakbori (Units 1 to 6) being about more than 40 years old, and need to be decommissioned as their Station Heat Rates (SHR) and energy charges are very high compared to new Units





working at the same places. The actual rate of power from these Units for FY 2024-25 is in the range of Rs. 5.85/unit to Rs. 11.83/unit. It has been observed that fixed cost per unit has increased to Rs. 2.46/unit, which is higher, and power from alternative sources like Solar power, Wind power or Hybrid power could have been easily procured averting undue over payment to GSECL for older Units. The main reason for lower PLF is not only backing down but inordinate delay in decommissioning of the Units / plants, which have completed their Useful Life.

### **Response of GSECL**

The fixed cost is charged at the rate approved by the Commission at actual PAF and variable cost is charged at the approved rate for actual energy scheduled only. Net generation proposed for FY 2024-25 is 29342.42 MUs. However, the Objector in their submission has shown net generation of GSECL for FY 2024-25 as 21164.04 MUs, which is incorrect. Accordingly, per unit cost calculation shown in their submission is also erroneous. Therefore, the submission of the Objector regarding decommissioning of GSECL's older Units may not be taken into consideration.

### **Commission's View**

The Commission notes the submission of both FGI and GSECL. The Commission has been allowing performance parameters on normative basis and it has been undertaking sharing of gain/(losses) on account of any deviation with the norms and therefore passing on the benefit to the consumer. The Commission also notes that in the past, GSECL has decommissioned some plants, which were not financially viable.

As regards the suggestion of utilising other RE and Hydro sources by GSECL, the Commission is of the opinion that the Thermal Power is required to mitigate the variability in RE power Generation for safe Grid Operation. The Commission notes that in recent years, the Distribution Licensees are increasing RE share in their overall portfolio to achieve the RPO target specified by the Commission and optimise overall power purchase cost.

### **3.4.2 Station Heat Rate for FY 2024-25**

The Objector submitted that from the comparison of Station Heat Rate for old Units and new Units, it is observed that GSECL is using 15% of higher quantum of coal by continuing old Units resulting in higher fuel cost and environment degradation. Financial implication of the same is also around Rs. 1,082 Crore loss i.e.,  $[13160 \text{ (MUs)} \times 5.48 \text{ (Energy Charge Rate)} \times 0.15 \text{ (\% difference)}]$ . Even the cost of generation in Rs./unit work out to more than annual average power cost of power available through IEX/PX or even tenders/Bids. For reference,



average Market Clearing Price (MCP) for the year 2023 as shown on IEX website is only Rs. 5533.04 per MWh i.e., Rs. 5.533/Unit. FGI requested the Commission to direct GSECL to provide details of the number of years their Gas Based units have not been in operation or operating at what capacity and these may be decommissioned if not viable. Also, such capacity shall not be considered as stranded capacity for determination of Additional Surcharge. The Commission is requested to direct the Petitioner to furnish detailed cost-benefit analysis for each Unit beyond 25 years of operation to exercise due diligence.

### **Response of GSECL**

The Petitioner has submitted that the Objector has compared the SHR of GSECL's 200/210 MW Units of Ukai (3-5), Gandhinagar (3-4), Wanakbori (1-6) with SHR of 500 MW Unit-6 of Ukai TPS and 800 MW Unit-8 of Wanakbori TPS. In this regard, the age, rating, design and performance parameters of 200/210 MW Units and 500/800 MW units are different and depending upon technological developments at relevant point of time.

The Ukai TPS Unit 6 and Wanakbori TPS Unit 8 are relatively newer high-capacity Units as compared to 200/210 MW fleet. Moreover, except Wanakbori TPS Unit 8, all the Units are sub-critical units. The supercritical technology Units are relatively more efficient as compared to sub-critical Units. Hence, the comparison of SHR submitted is not much relevant.

However, the SHR of 200/210 MW LMZ Units achieved after major Renovation & Modernisation in 2 Units (Ukai TPS Unit 4 & Wanakbori TPS Unit 3) is in the range of 2250 – 2260 kcal/kWh, which is comparable with Ukai TPS Unit 6 and Wanakbori TPS Unit 8. GSECL is also planning similar Renovation & Modernisation in its remaining Units each at Ukai TPS Unit 2 and Wanakbori TPS Unit -1 & 2 as per the guidelines of CEA, which will help in substantial reduction of SHR of these Units.

As regards the contention of the Objector to submit the cost benefit analysis of cost of power of GSECL's power stations with the cost of power from other sources, since the procurement of power is not in purview of GSECL, the cost benefit analysis for GSECL's units with respect to the cost of procurement of power from other sources is not available.

### **Commission's View**

The Commission has taken note of the submission of GSECL. GSECL should closely monitor and improve SHR and O&M practices so as to maintain / achieve performance parameters as approved by the Commission.



### **3.4.3 Retirement of Old Thermal Power Plants**

The Objector submitted that there are many old Units whose Useful Life is over long back but are not being de-commissioned. These Units are causing huge burden of Fixed Cost recovery on consumers without commensurate advantage. The Objector requested the Commission to direct the Petitioner to furnish schedule of activities for de-commissioning and disposal of all such Units which deserve decommissioning right from disposal proposals, tendering process, ordering for disposal and removal and receiving payments in to GSECL accounts so that the same can be monitored by the Commission as it is generally neglected work for the Generating Companies.

Renovation & Modernisation schemes for Units whose Useful life is over and are uneconomical, should only be approved after objective cost-benefit studies by reputed third-party experts. which will definitively demonstrate positive outcomes. This will avoid capitalizing wasteful expenses. If GSECL wants to continue running such machines, its generation including Fixed Cost part should have a ceiling for payment obligations of the DISCOMs or a Third-Party Sale with competitive bids from open market, to protect the interest of consumers.

The Objector requested the Commission to decide norms for admitting the fixed costs keeping in view provisions that may be decided by the CERC for the Units having completed more than 25 years after COD.

#### **Response of GSECL**

The Petitioner submitted that to reduce burden of high SHR of old inefficient Units, GSECL has decommissioned Dhuvaran Units-5 & 6, Gandhinagar Units-1 & 2, Sikka Units-1 & 2, KLTPS Units-1 & 2, Ukai Units-1 & 2, and Utran Gas based Plant during last 10 years in a phased manner. Despite being old plants, Ukai-Units 3 to 5, Gandhinagar Units-3 to 5 and Wanakbori Units 1 to 6 run at rated load whenever scheduled by SLDC as per system demand. It is also submitted that in Ukai Unit-4 and Wanakbori Unit-3, major Renovation & Modernisation work for efficiency improvement has been implemented in recent past. The gains achieved on account of efficiency improvement have also been passed to the consumers of the State.

Moreover, lower scheduling of GSECL's units may be due to aggressive RE capacity addition in the State and must-run status given to RE units. In view of this and looking to the demand and load - generation balance of the State and also as per the directives of CEA not to retire such older coal based thermal generating Units, Ukai Units- 3 to 5, GTPS Units- 3 to 5 and WTPS Units- 1 to 6 are required to be kept in service.



GSECL has also planned for major Renovation & Modernisation and life extension program for old Units of WTPS and Ukai TPS. The retirement of such Units may create imbalance in load and Generation as the coal based power stations are used to provide balancing power during low RE scenario in the State. Hence, the contention of the Objector to scrap these old units of GSECL may not be accepted.

### **Commission's View**

The Commission has noted the submission of the stakeholder and GSECL. In the past GSECL has submitted its Action Plan for Capacity Retirement/Addition/Utilisation. The Commission notes that GSECL intends to undertake major Renovation & Modernisation works in its plants to improve their performance. Further, the CEA directives in this regard need to be followed by GSECL. However, the Commission agrees that there must be checks and balances in allowing additional Capitalisation and directs GSECL to undertake additional capitalisation only after prior approval from the Commission.

### **3.4.4 Unduly High Fixed Costs of Old Units**

The Objector submitted that for a total GSECL Thermal Capacity of 6130 MW, wherein most of the Units have completed their useful life of 25 years and full cost is recovered through depreciation, the recovery of Rs. 5,220 Crore is very high. It clearly shows that the recovery percentage in case of such aged Units towards depreciation, O&M cost, and RoE are very high when compared with normative percentages for new Units in terms of Rs./MW. The Objector observed that the total Fixed Costs for all old, outlived Units are much more than 50% of the relatively newer Unit and needs serious attention for appropriate actions.

### **Response of GSECL**

The Petitioner submitted that the amount shown by the Objector is erroneous and does not discount Non-Tariff Income. GSECL actually bills Fixed Charges as per availability only.

### **Commission's View**

The Commission has allowed the tariff to GSECL for FY 2024-25 as per normative parameters in line with the GERC (MYT) Regulations, 2016 subject to True up and pass through of gains/(losses) as per MYT Regulations, 2016.



### **3.4.5 Capital Expenditure for FY 2024-25**

The Objector has submitted that the Petitioner has proposed to incurred Capital Expenditure on Units with 45 years of age, which may not be recovered, as there is not enough life leftover and hence, it may turn out to be a wasteful expenditure just to capitalize the same being a pass through in tariff. Wanakbori Units 1 to 6 are about 40 years old and spending additional Rs. 207.94 Crore on these Units is not justified.

Replacing these Units with a new 850 MW would be a better option as its very low SHR will result in reduction in generation cost considering ever increasing coal cost.

The Objector requested the Commission to disallow the same for capitalization as this will result in substantial increase in Fixed Cost Charge without commensurate gain in any way.

#### **Response of GSECL**

The Petitioner submitted that out of total proposed CAPEX of Rs. 207.94 Crore in Wanakbori TPS Unit-1 to 6, major expense is of ESP Retrofitting work in Unit-4, 5 & 6 of WTPS, i.e., Rs. 112.5 crores. Other CAPEX involves some civil constructions, equipment, Capital works related to Plant & Machinery and Capital spares as per the requirement for operation of the plant.

#### **Commission's View**

The Commission notes the response of the Petitioner. The detailed analysis and ruling of the Commission regarding Capital Expenditure is elaborated in respective Chapter of this Order.

### **3.4.6 High O&M Expenses for Old Units**

The Objector observed that huge amount of expenditure is proposed for very old 40+ age Units, which is not relevant as it will further add to the generation cost and hence, must be avoided by closing down such Units as per CEA norms.

#### **Response of GSECL**

The Petitioner submitted that O&M expenses claimed by GSECL are as per the provisions of the GERC (MYT) Regulations, 2016 notified by the Commission. Hence, same may be allowed by the Commission.

#### **Commission's View**

The Commission has allowed the O&M expenses as per GERC (MYT) Tariff Regulations, 2016 as discussed in the respective chapter of this Order.



### **3.5 Objections Related to Other Topics**

#### **3.5.1 Regulatory Provision for Units Completing Normative Life Span**

The Objector has submitted that CERC Tariff Regulations specify that extension of life of the projects beyond the completion of their Useful Life shall be decided by the Commission on case-to-case basis. It also states that any Renovation and Modernisation expenses shall not be allowed as part of additional capitalisation beyond original scope. Further, it states that the Special Allowance admissible to a generating station shall be @ Rs. 9.5 lakh per MW per year for the Tariff Period 2019-24. The Commission is requested to ensure that GSECL complies with these provisions of the Regulations. The Objector also requested the Commission to ensure that the Generating Company is allowed tariff maximum up to the prevailing market price of power for alternative sources or they may be allowed to be closed down and de-commissioned.

#### **Response of GSECL**

The Petitioner has submitted that the Objector has quoted certain CERC Regulations, which are applicable to the Generating Companies whose tariff is determined by CERC under Section 62 read with Section 79 of the Electricity Act, 2003. As regards the submission of the Objector regarding allowing market price of power to GSECL's power stations, GSECL claims fixed cost and variable cost as per terms & conditions of the applicable GERC (MYT) Regulations. Therefore, the submission of the Objector may not be considered.

#### **Commission's View**

The Commission is of view that the CERC Tariff Regulations are not applicable to GSECL, which is governed by the provisions of GERC (MYT) Regulations, 2016. Further, the Commission has undertaken prudence check on capitalisation by GSECL. The detailed analysis and ruling of the Commission in this regard is elaborated in the respective Chapter of this Order. Further, the suggestion that the tariff allowed to GSECL's Units should be capped at the prevailing market price of power for alternative sources is not appropriate, as GSECL's Units are governed under Section 62 of the EA 2003, and the tariff is determined in accordance with the provisions of the GERC (MYT) Regulations, 2016.

#### **3.5.2 Testing of Unit for Updated Capacity and Derating**

The Objector submitted that Power Purchase Agreements (PPA) provide for testing or demonstration of capacity every year and adjustment of fixed cost accordingly. The



Commission is requested to direct the Petitioner to furnish year-wise, Unit-wise details of such tests conducted and consequent adjustment of Fixed Cost at least for past five years.

### **Response of GSECL**

In the PPA of the transferred stations, i.e., older Units of erstwhile GEB transferred to GSECL w.e.f. 01/04/2005, no such provision for Capacity demonstration exist. Moreover, as per the provision in PPA of new Units of GSECL, such capacity demonstration tests are required to be carried out only if the available capacity has not been 95% of the installed capacity for one continuous period of at least three hours during three continuous months (Excluding planned outage period). GSECL stations have been available as per the requirement laid down under respective provision of PPA and generate the power as per the schedule given by SLDC.

The Petitioner requested the Commission not to accept the contention of the Objector to de-rate the Units of GSECL and adjust the fixed cost accordingly.

### **Commission's View**

Regulation 61 of the GERC (MYT) Regulations, 2016 clearly provides that the Generating Company may be required to demonstrate the declared capacity of its generating station as and when asked by the Gujarat State Load Despatch Centre and hence, in case of any doubt on the performance of the plant with respect to the installed capacity, the availability of the plant and the actual generation, SLDC has inherent power to test the same. Hence, there is no requirement to give any such direction as sought for by the objector.

### **3.5.3 Capital Expenses towards Renovation & Modernisation and Life Extension**

The Objector submitted that Ministry of Power stipulates the Guidelines for Renovation and Modernisation / life extension works of coal/lignite based thermal power station, which covers all aspects of Renovation & Modernisation and life extension works. Further, no capital works are proposed and got approved in case of any doubts of financial viability. Cost benefit analysis should be undertaken through third party to validate the claim of the works. Accordingly, the Commission is requested to ensure that no wasteful Capital expenses towards Renovation & Modernisation and Life extension on outlived Units is approved / admitted without guaranteed cost recoveries and cost benefit analysis.



### **Response of GSECL**

The Petitioner submitted that the Renovation & Modernisation projects implemented / being implemented in GSECL's old coal based plants are recognized as cost effective options to achieve additional generation from existing Units at lower cost. Moreover, as per the environment norms notified by the MoEF & CC in December, 2015, the Renovation & Modernisation projects for achievement of the same by retrofitting work of ESP of old Units and installation of FGD system has become mandatory.

GSECL has implemented such efficiency improvement Renovation & Modernisation projects and ESP retrofitting works projects in some of the Units. Also, same is being implemented in other older Units. GSECL has already completed the energy efficiency improvement Renovation & Modernisation projects in 210 MW Ukai Unit 4 and 210 MW Wanakbori Unit 3. As a result of these projects, there has been substantial improvement in overall efficiency. A saving of about Rs. 0.45-0.50 /kWh in the energy charges along with life extension of about 10-15 years has been achieved. It is also submitted that the payback period of these expenses is about 2.5 to 3.0 years. New emission norms have also been achieved out of the Renovation & Modernisation projects of ESP retrofitting implemented in older Units of GSECL such as Wanakbori TPS-Unit-1 to 3 and Ukai Units 3 to 5. Accordingly, GSECL has planned to undertake similar Renovation & Modernisation projects with required flexibility (for RE Integration and to minimize damage to Units due to cyclic operation) in other older Units also.

### **Commission's View**

The Commission notes the response of the Petitioner. The detailed analysis and ruling of the Commission regarding approval of capital expenditure works is elaborated in respective Chapter of this Order. The capital expenditure on ESP retrofitting and FGD of GSECL Units is allowed in order to meet the new environmental norms and should be adhered to.





## 4 Truing up of FY 2022-23

### 4.1 Generating Stations of GSECL

This Chapter deals with the truing up of FY 2022-23.

GSECL owned and operated the following generating stations as on 1<sup>st</sup> April, 2022:

- Coal based thermal generating stations at Ukai, Gandhinagar, Wanakbori and Sikka;
- Lignite fired thermal station at Panandhro, Kutch and Ghogha, Bhavnagar;
- Gas fired stations at Utran and Dhuvaran;
- Major hydel stations at Ukai and Kadana and mini hydel stations at Panam, solar power plants at Gandhinagar, Sanand canal, Charanka, KLTPS, Dhuvaran and Sikka TPS and windmills at Layza.

The details of the existing stations in FY 2022-23 along with their capacities and date of commissioning are given in the Table below:

**Table 4-1: Capacity and COD of GSECL generating stations as on 1<sup>st</sup> April, 2022**

Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
Ukai	3	200	21/01/1979
	4	200	11/09/1979
	5	210	30/01/1985
	<b>Sub Total</b>	<b>610</b>	
Gandhinagar	3	210	20/03/1990
	4	210	20/07/1991
	5	210	17/03/1998
	<b>Sub Total</b>	<b>630</b>	
Wanakbori	1	210	23/03/1982
	2	210	15/01/1983
	3	210	15/03/1984
	4	210	09/03/1986
	5	210	23/09/1986
	6	210	18/11/1987
	7	210	31/12/1998
	<b>Sub Total</b>	<b>1,470</b>	
KLTPS	3	75	31/03/1997



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
	4	75	20/12/2009
	<b>Sub Total</b>	<b>150</b>	
Dhuvaran	7 – Gas	106.617	28/01/2004
	8 – Gas	112.45	01/11/2007
	<b>Sub Total</b>	<b>219.067</b>	
Utran Extension	GT -1	374.571	08-11-2009
Sikka TPS 3&4	3	250	14/09/2015
	4	250	28/12/2015
	<b>Sub Total</b>	<b>500</b>	
Ukai TPS	6	500	08/06/2013
Dhuvaran (Gas)	3	376.10	01/02/2016
BLTPS	1	250	16/05/2016
	2	250	27/03/2017
	Sub Total	500	
Wanakbori 8 TPS	1	800	13/10/2019
<b>SUB TOTAL GSECL (Coal + Lignite)</b>		<b>5,160</b>	
<b>SUB TOTAL GSECL (Gas)</b>		<b>970</b>	
<b>TOTAL GSECL (Thermal)</b>		<b>6,130</b>	
Ukai Hydro	1	75	08/07/1974
	2	75	13/12/1974
	3	75	22/4/1975
	4	75	04/03/1976
	<b>Sub Total</b>	<b>300</b>	
Ukai LBC	1	2.5	08/12/1987
	2	2.5	19/02/1988
	<b>Sub Total</b>	<b>5</b>	
Kadana Hydro	1	60	31/03/1990
	2	60	02/09/1990
	3	60	03/01/1998
	4	60	27/05/1998
	<b>Sub Total</b>	<b>240</b>	
Panam	1	1	24/03/1994
	2	1	31/03/1994
	Sub Total	2	
<b>SUB TOTAL GSECL (Hydro)</b>		<b>547</b>	
<b>Wind Mills</b>	Layza	10	04/01/2009



Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
<b>Solar</b>	Chandrasan (canal top)	1	29/03/2012
	Gandhinagar (Ash dyke)	1	27/03/2012
	Charanka	10	23/03/2015
	KLTPS	1	02/05/2016
	STPS	1	02/05/2016
	Dhuvaran Ph-1	75	05/02/2019
	Dhuvaran ph -2	75	15/04/2021
	Chandarva	30	28/08/2021
	Khandia	35	10/08/2022
	Palitana	25	13/06/2022
	Raghnesda	100	18/10/2022
	Haripar	40	12/07/2022
	Pachham	25	10/12/2022
	<b>Sub Total (Wind + Solar)</b>	<b>429</b>	
<b>TOTAL GSECL as a Whole</b>		<b>7,106</b>	

## 4.2 Operating Performance Parameters

The fuel cost of a generation station depends on:

(i) the performance parameters such as Plant Load Factor (PLF), Station Heat Rate (SHR), Auxiliary Consumption, Specific Fuel Oil Consumption, and Transit Loss of Coal (in case of Coal stations), which are controllable and;

(ii) cost parameters such as Gross Calorific Value of fuel, type of fuel and price of fuel, which are uncontrollable.

The fixed cost recovery is linked to the Plant Availability Factor (PAF), which is controllable.

GSECL has submitted the actual operating performance on these parameters for FY 2022-23 for individual stations. GSECL submitted that operating parameters are dependent on various technical factors like design, level of operation (low/partial load operation), ageing, water chemistry, number of starts or stops, etc.

The Commission has taken up the truing up of the annual performance parameters for FY 2022-23, as discussed in the following sections.



## 4.2.1 Plant Availability Factor (PAF)

### Petitioner's Submission

GSECL has submitted the actual plant availability of different stations for FY 2022-23. The comparison of PAF as approved in the Tariff Order dated 30<sup>th</sup> March, 2022; and the actuals as furnished by GSECL in the Petition are given in the Table below:

**Table 4-2: Plant Availability Factor for FY 2022-23**

Sr. No.	Power Station	Approved in Tariff Order	Actual
1.	Ukai (3-5)	80%	52.25%
2.	Gandhinagar (3-4)	84%	71.68%
3.	Gandhinagar 5*	85%	69.78%
4.	Wanakbori 1-6 TPS	85%	52.69%
5.	Wanakbori 7*	85%	77.62%
6.	Sikka Extension (3-4)*	85%	83.75%
7.	KLTPS 3	75%	54.67%
8.	KLTPS 4	80%	42.94%
9.	BLTPS*	80%	27.31%
10.	Dhuvaran CCPP 1*	85%	89.01%
11.	Dhuvaran CCPP 2	85%	88.91%
12.	Dhuvaran CCPP 3*	85%	96.06%
13.	Utran Extension*	85%	94.36%
14.	Ukai 6*	85%	60.52%
15.	Wanakbori 8 TPS*	85%	64.29%
16.	Ukai Hydro	80%	97.23%
17.	Kadana Hydro	80%	79.06%

\* PPA based stations

It is observed from the above Table that all coal and Lignite based Thermal Power stations and Kadana Hydro have achieved lower PAF than that approved by the Commission for FY 2022-23 in the Tariff Order.

GSECL has submitted the reasons for deviation in respect of the stations where the actual PAF was lower as compared to approved PAF for FY 2022-23, as given below:

- **Ukai (3-5):** Loss of availability for Unit # 3 due to high T/G bearing vibration and kept under AOH for 62 days resulting in loss of availability by 16.16%. Also, Coal feeding system problem to Unit # 3-5 resulting in partial operation of Units and loss of availability of 12.93%.



- **Ukai 6:** Partial operation (DC revision) due to coal quality issue resulting in loss of availability of 27.37%
- **Gandhinagar 3-4:** Coal Mill and Coal quality issue resulting in reduction in availability by 11.62%.
- **Gandhinagar 5:** Partial operation due to Coal quality and Coal Mills issue resulting in loss of availability by 10.08%.
- **Wanakbori 1-6:** Stage -1 (Unit # 1-3) Coal Mill issue resulting in major reduction in availability by 25.10% thus impacting generation loss of 12.74% for Wanakbori 1-6. Moreover, Unit # 4 was under planned shut down due to ESP retrofitting work and APH-4B baskets replacement work resulting in reduction of availability by 63.01%. Partial loss due to Coal quality issue of 2.26%.
- **Wanakbori 7:** Partial operation due to coal quality issue resulting in reduction in availability by 2.65% and coal mill issue and BTL resulting in loss of availability of 2.26% and 3.57%, respectively.
- **Wanakbori 8:** Delay in completion of AOH by 10 days due to unpredictable job arose after opening of TG set as per OEM, resulting in additional availability reduction of 2.74%. Partial operation because of coal quality issue resulting in further loss of 4.69%. GT-B phase become failure and was replaced resulting in loss of 3.41%.
- **Sikka 3-4:** Coal supply issues resulting in loss of availability of 7.09% due to very high prices of imported coal in the international market. Unit # 4 planned shutdown taken for 12 days due to replacement of APH Baskets.
- **KLTPS 3:** AOH got extended by 12 days due to replacement of the old deteriorated burners. Also, partial operation due to low lignite quality resulting in loss of availability of 4.21%.
- **KLTPS 4:** Partial Operation due to problems of FBHE Evaporator and Superheater and Forced Outages (24.73%);
- **BLTPS 1-2:** Partial operation because of lignite sizing constraint and non-commissioning of the screen house resulting in loss of availability of 34.19% and loss of availability of 21.71% due to BTL.
- **Kadana Hydro:** Unit #1 was under Forced Shut down due to TG guide bearing replacement work.

GSECL has requested the Commission to approve PAF as submitted in the Petition.



### Commission's Analysis

The Commission has verified the PAF as submitted in the Petition with the SLDC certificate for Station-wise actual availability submitted by GSECL in reply to data gaps. The Commission has considered the actual PAF as per SLDC certificate for True-up of FY 2022-23.

The Commission observed that all coal and Lignite based Thermal Power stations of GSECL and Kadana Hydro have achieved lower PAF than that approved by the Commission for FY 2022-23 in the Tariff Order.

The Commission has noted the submissions made by the Petitioner for the actual PAF being lower than the approved PAF in case of Ukai (3-5), Ukai 6, Gandhinagar (3-4), Gandhinagar 5, Wanakbori (1-6), Wanakbori 7, Wanakbori 8, Sikka (3 & 4), KLTPS 3, KLTPS 4, BLTPS and Kadana Hydro Power Station. However, as the PAF is controllable, for truing up purpose, the PAF approved for FY 2022-23 in the Tariff Order dated 30<sup>th</sup> March, 2022 has been considered.

The station-wise PAF approved for truing up purpose for FY 2022-23 is given in the Table below:

**Table 4-3: Plant Availability Factors approved for truing up for FY 2022-23**

Sr. No.	Particulars	Approved in Tariff Order	Actual	Approved in truing up
1.	Ukai (3-5)	80%	52.25%	80%
2.	Gandhinagar (3-4)	84%	71.68%	84%
3.	Gandhinagar 5*	85%	69.78%	85%
4.	Wanakbori 1-6 TPS	85%	52.69%	85%
5.	Wanakbori 7*	85%	77.62%	85%
6.	Sikka Extension (3-4)*	85%	83.75%	85%
7.	KLTPS 3	75%	54.67%	75%
8.	KLTPS 4	80%	42.94%	80%
9.	BLTPS*	80%	27.31%	80%
10.	Dhuvaran CCPP 1*	85%	89.01%	85%
11.	Dhuvaran CCPP 2	85%	88.91%	85%
12.	Dhuvaran CCPP 3*	85%	96.06%	85%
13.	Utran Extension*	85%	94.36%	85%
14.	Ukai 6*	85%	60.52%	85%
15.	Wanakbori 8 TPS*	85%	64.29%	85%
16.	Ukai Hydro	80%	97.23%	80%
17.	Kadana Hydro	80%	79.06%	80%

\* PPA based stations



## 4.2.2 Plant Load Factor (PLF)

### Petitioner's Submission

GSECL has submitted the actual Plant Load Factor (PLF) of different stations for FY 2022-23. The comparison of PLF approved in the Tariff Order dated 30<sup>th</sup> March, 2022 and the actuals as furnished by GSECL in the Petition are given in the Table below:

**Table 4-4: Plant Load Factor for FY 2022-23**

Sr. No.	Power Station	Approved in Tariff Order	Actual
1.	Ukai (3-5)	60%	51.90%
2.	Gandhinagar (3-4)	55%	66.19%
3.	Gandhinagar 5*	75%	68.46%
4.	Wanakbori 1-6 TPS	55%	49.19%
5.	Wanakbori 7*	70%	68.99%
6.	Sikka Extension (3-4)*	70%	35.70%
7.	KLTPS 3	75%	54.79%
8.	KLTPS 4	75%	45.61%
9.	BLTPS*	60%	30.60%
10.	Dhuvaran CCPP 1*	25%	0.00%
11.	Dhuvaran CCPP 2	25%	0.00%
12.	Dhuvaran CCPP 3*	25%	0.05%
13.	Utran Extension*	25%	0.14%
14.	Ukai 6*	75%	60.69%
15.	Wanakbori 8 TPS*	80%	59.20%
16.	Ukai Hydro	13%	37.96%
17.	Kadana Hydro	6%	17.16%

\* PPA based stations

### Commission's Analysis

The Commission has analysed the submissions made by the Petitioner in the Table above. It is observed that all the stations except Gandhinagar 3-4, Ukai Hydro and Kadana Hydro stations, have achieved lower PLF for FY 2022-23 than that approved in the Tariff Order.

Further, the Commission observed that the PAF (54.67%, 42.94%, 27.31% and 60.52%) of KLTPS-3 & 4, BLTPS and Ukai 6 were lower than PLF of 54.79%, 45.61%, 30.60% and 60.69%, respectively. In this regard, GSECL in its replies to data gaps has clarified that PAF is calculated on ex-bus availability whereas the Plant Load Factor is calculated on actual



generation. Therefore, whenever, the Units are fully scheduled as per the declared capacity and auxiliary consumption is high, this phenomenon is observed.

The Commission has taken note of the submissions made by the Petitioner and approved the PLF for FY 2022-23 for various stations at actuals for truing up purpose, being uncontrollable factor, as given in the Table below:

**Table 4-5: PLF Approved for FY 2022-23 for truing up purpose**

Sr. No.	Power Station	Approved in Tariff Order	Actual	Approved in truing up
1.	Ukai (3-5)	60%	51.90%	51.90%
2.	Gandhinagar (3-4)	55%	66.19%	66.19%
3.	Gandhinagar 5*	75%	68.46%	68.46%
4.	Wanakbori 1-6 TPS	55%	49.19%	49.19%
5.	Wanakbori 7*	70%	68.99%	68.99%
6.	Sikka Extension (3-4)*	70%	35.70%	35.70%
7.	KLTPS 3	75%	54.79%	54.79%
8.	KLTPS 4	75%	45.61%	45.61%
9.	BLTPS*	60%	30.60%	30.60%
10.	Dhuvaran CCPP 1*	25%	0.00%	0.00%
11.	Dhuvaran CCPP 2	25%	0.00%	0.00%
12.	Dhuvaran CCPP 3*	25%	0.05%	0.05%
13.	Utran Extension*	25%	0.14%	0.14%
14.	Ukai 6*	75%	60.69%	60.69%
15.	Wanakbori 8 TPS*	80%	59.20%	59.20%
16.	Ukai Hydro	13%	37.96%	37.96%
17.	Kadana Hydro	6%	17.16%	17.16%

\* PPA based stations

### 4.2.3 Auxiliary Consumption

#### Petitioner's Submission

GSECL has submitted the actual auxiliary consumption of different stations for FY 2022-23. The auxiliary consumption as approved in the Tariff Order dated 30<sup>th</sup> March, 2022 and the actuals as furnished by GSECL in the Petition are given in the Table below:





**Table 4-6: Auxiliary consumption for FY 2022-23**

Sr. No.	Power Station	Approved in Tariff Order	Actual
1.	Ukai (3-5)	9.00%	10.41%
2.	Gandhinagar (3-4)	9.00%	10.92%
3.	Gandhinagar 5*	9.50%	11.54%
4.	Wanakbori 1-6 TPS	9.00%	10.47%
5.	Wanakbori 7*	9.50%	10.51%
6.	Sikka Extension (3-4)*	9.00%	10.79%
7.	KLTPS 3	12.00%	14.07%
8.	KLTPS 4	12.00%	23.52%
9.	BLTPS*	11.00%	20.48%
10.	Dhuvaran CCPP 1*	4.00%	0.00%
11.	Dhuvaran CCPP 2	3.00%	0.00%
12.	Dhuvaran CCPP 3*	3.00%	10.20%
13.	Utran Extension*	3.00%	5.86%
14.	Ukai 6*	6.00%	7.26%
15.	Wanakbori 8 TPS*	5.25%	5.16%
16.	Ukai Hydro	0.60%	0.70%
17.	Kadana Hydro	1.00%	0.73%

\* PPA based stations

GSECL stated that the old stations, when operated at part load capacities under the constraints as explained below, consume more auxiliary power, resulting in higher auxiliary consumption:

- **Ukai 3-5:** Partial Operation due to coal quality issue (DC Revision);
- **Ukai 6:** Partial operation due to coal quality issue and lower declared capacity due to deteriorated performance of cooling tower;
- **Gandhinagar 3-4:** Partial operation due to coal mill and coal quality issue;
- **Gandhinagar 5:** Partial operation due to coal mill and coal quality issue;
- **Wanakbori 1-6:** Partial operation due to coal mill and coal quality issue;
- **Wanakbori 7:** Partial operation due to coal quality issue;
- **Sikka 3 & 4:** Partial operation due to backing down-8.25% and Auxiliary Consumption during RSD - 41.53%;
- **KLTPS 3:** Partial Operation due to Unit constraints (Partial Operation);



- **KLTPS 4:** Partial Operation due to Unit constraints (Partial Operation);
- **BLTPS 1-2:** Partial Operation due to Unit constraints (Partial Operation);
- **Dhuvaran 3:** Due to less Schedule and Auxiliary Consumption during RSD;
- **Utran Extension:** Due to less Schedule and Auxiliary Consumption during RSD;
- **Ukai Hydro:** Hydro units run as per the schedule given by Irrigation Department. Hence, auxiliary consumption may vary.

The Petitioner also submitted that due to backing down, some of the Units have frequently gone under reserve shut down (RSD) mode. During such situation, minimum auxiliaries are required to be run to keep the Units available so that the same can be taken back as and when required by SLDC/system.

### **Commission's Analysis**

The Commission has taken note of the submissions made by the Petitioner regarding the actual auxiliary consumption. The Commission observed that in respect of PPA governed stations, the auxiliary consumption is based on the respective PPAs and accordingly, the auxiliary consumption is considered in the Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23. The actual auxiliary consumption in all plants is higher than that approved in the Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23 except Wanakbori 8 and Kadana hydro station, where the actual auxiliary consumption is less than that approved in the Tariff Order.

GSECL has submitted the reason for higher Auxiliary consumption for almost all plants as partial operation due to Coal quality issue, backing down and reserve shutdown of plants. Though GSECL has indicated the reasons for higher auxiliary consumption, the Commission is of the view that the reasons are not acceptable as the Commission had taken all the factors into consideration while approving the auxiliary consumption in the Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23, and the auxiliary consumption is also a controllable parameter as specified in the GERC (MYT) Regulations, 2016.

Further, it is observed that GSECL has set up a 700 kW solar plant at Wanakbori (1-6) and claimed capital expenditure for the same. In response to the Commission's query, GSECL clarified that the 700 kW solar plant was set up specifically to meet the auxiliary consumption requirement of Wanakbori 1-6. GSECL submitted that the 700 kW Solar Plant was commissioned in August 2022 and the monthly generation from Solar Generation in FY 2022-23 is given in the Table below:



Month	Generation (kWh)
Aug-2022	1819
Sep-2022	51068
Oct-2022	59731
Nov-2022	58170
Dec-2022	51013
Jan-2023	49088
Feb-2023	55432
Mar-2023	61629
<b>Total for FY 2022-23</b>	<b>1545077</b>

From the above details, it is observed that the Generation from the 700 kW Solar Plant at Wanakbori (1-6) has commenced in the month of August 2022 and the total generation in FY 2022-23 is 1545077 units, i.e., 1.545 MUs. The solar generation has helped to reduce the auxiliary consumption, as the auxiliary consumption would have been higher to that extent, had the Solar Plant not been installed. As the Solar plant is capitalised fully and the cost will be recovered through the fixed cost, its impact of reducing the Auxiliary Consumption, must be negated to fully pass on the benefit to the consumers. Hence, actual net Generation of Wanakbori (1-6) is considered as 4859.38 MUs (4860.92 Mus - 1.55 MUs), i.e., Net Generation, had the 700 kW Solar Plant not been installed, for the purpose of pass through of gain / loss due to Auxiliary Consumption and the Gain on account of consumption of solar generation is treated separately. There is a corresponding net saving in fuel cost, which is shared with the beneficiaries, as discussed in the later part of this Chapter.

**The Commission approves the auxiliary consumption for various stations as approved in the Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23, for truing up purposes, as it is a controllable parameter.**

The auxiliary consumption approved for different stations for the purpose of truing up for FY 2022-23 is given in the Table below:

**Table 4-7: Auxiliary consumption (%) approved for FY 2022-23 for truing up**

Sr. No.	Power Station	Approved in Tariff Order	Actual	Approved in truing up
1.	Ukai (3-5)	9.00%	10.41%	9.00%
2.	Gandhinagar (3-4)	9.00%	10.92%	9.00%



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Approved in Tariff Order	Actual	Approved in truing up
3.	Gandhinagar 5*	9.50%	11.54%	9.50%
4.	Wanakbori 1-6 TPS	9.00%	10.47%	9.00%
5.	Wanakbori 7*	9.50%	10.51%	9.50%
6.	Sikka Extension (3-4)*	9.00%	10.79%	9.00%
7.	KLTPS 3	12.00%	14.07%	12.00%
8.	KLTPS 4	12.00%	23.52%	12.00%
9.	BLTPS*	11.00%	20.48%	11.00%
10.	Dhuvaran CCPP 1*	4.00%	0.00%	4.00%
11.	Dhuvaran CCPP 2	3.00%	0.00%	3.00%
12.	Dhuvaran CCPP 3*	3.00%	10.20%	3.00%
13.	Utran Extension*	3.00%	5.86%	3.00%
14.	Ukai 6*	6.00%	7.26%	6.00%
15.	Wanakbori 8 TPS*	5.25%	5.16%	5.25%
16.	Ukai Hydro	0.60%	0.70%	0.60%
17.	Kadana Hydro	1.00%	0.73%	1.00%

\* PPA based stations

#### 4.2.4 Station Heat Rate (SHR)

##### Petitioner's Submission

GSECL has furnished the actual SHR achieved by different stations during FY 2022-23. The SHR as approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and the actuals as furnished by GSECL in the Petition are given in the Table below:

**Table 4-8: Station Heat Rate for FY 2022-23**

Sr. No.	Power Station	Approved in Tariff Order	Actual
1.	Ukai (3-5)	2,625	2,652
2.	Gandhinagar (3-4)	2,625	2,599
3.	Gandhinagar 5*	2,460	2,601
4.	Wanakbori 1-6 TPS	2,575	2,657
5.	Wanakbori 7*	2,460	2,519
6.	Sikka Extension (3-4)*	2,398	2,614
7.	KLTPS 1-3	3,231	3,598
8.	KLTPS 4	3,000	3,626
9.	BLTPS*	2,623	2,989

(kcal/kWh)



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Approved in Tariff Order	Actual
10.	Dhuvaran CCPP 1*	1,950	-
11.	Dhuvaran CCPP 2	1,950	-
12.	Dhuvaran CCPP 3*	1,850	3,719
13.	Utran Extension*	1,850	2,439
14.	Ukai 6*	2,385	2,456
15.	Wanakbori 8 TPS*	2,248	2,207

*\* PPA based stations*

GSECL has stated that for any generation plant, the SHR always deteriorates with time. Hence, the old stations were not able to achieve the SHR norms approved by the Commission. Further, as and when any Unit operates on partial load, SHR increases drastically. GSECL has taken measures to improve SHR due to which some stations have shown considerable improvement.

GSECL has stated the following reasons for higher SHR during FY 2022-23:

- **Ukai (3-5):** Partial Operation as mentioned above;
- **Ukai 6:** Partial Operation as mentioned above;
- **Gandhinagar 5:** Due to Partial operation;
- **Wanakbori 1-6:** Partial Operation as mentioned above;
- **Wanakbori 7:** Partial Operation as mentioned above;
- **Sikka 3 & 4:** Partial Operation due to backing down and start stop due to RSD;
- **KLTPS 3:** Partial Operation as mentioned above;
- **KLPTS 4:** Partial Operation as mentioned above;
- **BLTPS 1-2:** Partial Operation as mentioned above;
- **Dhuvaran Gas 3:** Due to frequent start stop;
- **Utran Extension:** Due to frequent start stop.

### Commission's Analysis

For PPA governed stations, the SHR is approved as per the respective PPA terms. However, the Generation Stations of Ukai (3-5), Gandhinagar 5, Wanakbori 1-6, Wanakbori 7, Sikka Extn 3-4, KLTPS 3, KLTPS 4, BLTPS 1-2, Dhuvaran Gas 1, Dhuvaran Gas 2, and Dhuvaran Gas 3 have SHR higher than normative SHR for FY 2022-23. The Commission has analysed



the reasons submitted by the Petitioner for these stations and is of the view that the reasons put forward are not acceptable because SHR is considered as a controllable parameter for Truing up as prescribed in the GERC (MYT) Regulations, 2016.

For the purpose of truing up for FY 2022-23, the Commission approves the SHR as considered in the Tariff Order for FY 2022-23, as given in the Table below:

**Table 4-9: Station Heat Rate approved for FY 2022-23 for truing up**

(kcal/kWh)

Sr. No.	Power Station	Approved as per Tariff Order	Actual	Approved in truing up
1.	Ukai (3-5)	2,625	2,652	2,625
2.	Gandhinagar (3-4)	2,625	2,599	2,625
3.	Gandhinagar 5*	2,460	2,601	2,460
4.	Wanakbori 1-6 TPS	2,575	2,657	2,575
5.	Wanakbori 7*	2,460	2,519	2,460
6.	Sikka Extension (3-4)*	2,398	2,614	2,398
7.	KLTPS 3	3,231	3,598	3,231
8.	KLTPS 4	3,000	3,626	3,000
9.	BLTPS*	2,623	2,989	2,623
10.	Dhuvaran CCPP 1*	1,950	-	1,950
11.	Dhuvaran CCPP 2	1,950	-	1,950
12.	Dhuvaran CCPP 3*	1,850	3,719	1,850
13.	Utran Extension*	1,850	2,439	1,850
14.	Ukai 6*	2,385	2,456	2,385
15.	Wanakbori 8 TPS*	2,248	2,207	2,248

\* PPA based stations

#### 4.2.5 Secondary Fuel Oil Consumption (SFOC)

##### Petitioner's Submission

GSECL has furnished the actual Secondary Fuel Oil Consumption (SFOC) for different stations during FY 2022-23. The SFOC as approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and the actuals as furnished by GSECL in the Petition are given in the Table below:

**Table 4-10: Secondary Fuel Oil Consumption for FY 2022-23**

(ml/kWh)

Sr. No.	Power Station	Approved as per Tariff Order	Actual
1.	Ukai (3-5)	1.00	14.38



Sr. No.	Power Station	Approved as per Tariff Order	Actual
2.	Gandhinagar (3-4)	1.00	5.85
3.	Gandhinagar 5*	3.50	8.49
4.	Wanakbori 1-6 TPS	1.00	7.74
5.	Wanakbori 7*	3.50	3.92
6.	Sikka Extension (3-4)*	1.00	2.72
7.	KLTPS 3	3.00	14.37
8.	KLTPS 4	3.00	5.83
9.	BLTPS*	1.00	3.69
10.	Ukai 6*	1.00	7.66
11.	Wanakbori 8 TPS*	0.50	1.61

*\* PPA based stations*

GSECL has submitted that the SFOC is calculated in terms of percentage of total calorific value requirement of the power generating Unit and has relation with the size of the generating Unit. For the lower size Units, the SFOC remains higher in comparison to the larger size Units, because certain amount of SFOC remains fixed irrespective of the size of the generating Unit. As most of the Units of GSECL power stations are smaller in size, SFOC of these plants is generally high.

GSECL has submitted following reasons for higher SFOC in respective stations for FY 2022-23:

- **Ukai 3-5:** Due to partial operation and unit stability;
- **Ukai 6:** Due to partial operation and unit stability;
- **Gandhinagar 3-4:** Due to partial operation and unit stability;
- **Gandhinagar 5:** Due to partial operation and unit stability;
- **Wanakbori 1-6:** Due to partial operation and unit stability;
- **Wanakbori 7:** Due to partial operation and unit stability;
- **Wanakbori 8:** Due to partial operation and unit stability;
- **Sikka 3-4:** Due to frequent Start stop due to RSD;
- **KLTPS 3:** Due to partial operation and unit stability;
- **KLTPS 4:** Start up due to forced shut down;



- **BLTPS 1-2:** Start up due to forced shut down.

### Commission's Analysis

For PPA governed stations, the SFOC is approved as per the terms of the respective PPAs.

The Commission has analysed and noted the reasons submitted by GSECL for higher SFOC for such stations. However, as SFOC is a controllable parameter, for the purpose of truing up for FY 2022-23 for all non-PPA stations, the Commission approves SFOC as considered in the Tariff Order for FY 2022-23.

**Accordingly, the SFOC approved for FY 2022-23 for various stations is given in the Table below:**

**Table 4-11: Secondary Fuel Oil Consumption approved for FY 2022-23 for Truing up**

Sr. No.	Power Station	Approved as per Tariff Order	Actual	Approved in truing up (ml/kWh)
1.	Ukai (3-5)	1.00	14.38	1.00
2.	Gandhinagar (3-4)	1.00	5.85	1.00
3.	Gandhinagar 5*	3.50	8.49	3.50
4.	Wanakbori 1-6 TPS	1.00	7.74	1.00
5.	Wanakbori 7*	3.50	3.92	3.50
6.	Sikka Extension (3-4)*	1.00	2.72	1.00
7.	KLTPS 3	3.00	14.37	3.00
8.	KLTPS 4	3.00	5.83	3.00
9.	BLTPS*	1.00	3.69	1.00
10.	Ukai 6*	1.00	7.66	1.00
11.	Wanakbori 8 TPS*	0.50	1.61	0.50

\* PPA based stations

### 4.2.6 Transit Loss

#### Petitioner's Submission

GSECL has furnished the actual transit loss of coal for different stations for FY 2022-23. The transit loss as approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and the actuals as furnished by GSECL in the Petition are given in the Table below:

**Table 4-12: Transit Loss for FY 2022-23**

Sr. No.	Power Station	Approved as per Tariff Order	Actual
1.	Ukai (3-5)	0.80%	0.06%





Sr. No.	Power Station	Approved as per Tariff Order	Actual
2.	Gandhinagar (3-4)	0.80%	0.00%
3.	Gandhinagar 5*	0.80%	0.00%
4.	Wanakbori 1-6 TPS	0.80%	0.33%
5.	Wanakbori 7*	0.80%	0.33%
6.	Sikka Extension (3-4)*	0.00%	0.00%
7.	KLTPS 3	0.20%	0.00%
8.	KLTPS 4	0.20%	0.00%
9.	BLTPS*	0.20%	0.00%
10.	Ukai 6*	0.80%	0.17%
11.	Wanakbori 8 TPS*	0.80%	0.00%

\* PPA based stations

### Commission's Analysis

The actual transit loss is lower than that approved in the Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23. For the PPA governed stations, the transit loss is approved as per PPA terms.

**The Commission approves the transit loss for all stations for truing up purpose for FY 2022-23 as given in the Table below:**

**Table 4-13: Transit Loss approved for FY 2022-23 for truing up (%)**

Sr. No.	Power Stations	Approved as per Tariff Order	Actual	Approved in truing up
1.	Ukai (3-5)	0.80%	0.06%	0.80%
2.	Gandhinagar (3-4)	0.80%	0.00%	0.80%
3.	Gandhinagar 5*	0.80%	0.00%	0.80%
4.	Wanakbori 1-6 TPS	0.80%	0.33%	0.80%
5.	Wanakbori 7*	0.80%	0.33%	0.80%
6.	Sikka Extension (3-4)*	0.00%	0.00%	0.00%
7.	KLTPS 1-3	0.20%	0.00%	0.20%
8.	KLTPS 4	0.20%	0.00%	0.20%
9.	BLTPS*	0.20%	0.00%	0.20%
10.	Ukai 6*	0.80%	0.17%	0.80%
11.	Wanakbori 8 TPS*	0.80%	0.00%	0.80%

\* PPA based stations

**The transit loss is considered only for indigenous coal, washed coal and lignite, but not for imported coal as specified in the GERC (MYT) Regulations, 2016.**



#### 4.2.7 Summary of Performance Parameters Approved for FY 2022-23

The performance parameters, approved for different stations for FY 2022-23 after the analysis in the preceding paras for the purpose of truing up of FY 2022-23, are listed in the Table below:

**Table 4-14: Performance parameters approved for truing up purpose for FY 2022-23**

Sr. No.	Power Stations	PAF (%)	PLF (%)	Auxiliary consumption (%)	SHR (kcal / kWh)	SFO consumption (ml / kWh)	Transit Loss (%)
1.	Ukai (3-5)	80.00%	51.90%	9.00%	2,625	1.00	0.80%
2.	Gandhinagar (3-4)	84.00%	66.19%	9.00%	2,625	1.00	0.80%
3.	Gandhinagar 5*	85.00%	68.46%	9.50%	2,460	3.50	0.80%
4.	Wanakbori 1-6 TPS	85.00%	49.19%	9.00%	2,575	1.00	0.80%
5.	Wanakbori 7*	85.00%	68.99%	9.50%	2,460	3.50	0.80%
6.	Sikka Extension (3-4)*	85.00%	35.70%	9.00%	2,398	1.00	0.00%
7.	KLTPS 3	75.00%	54.79%	12.00%	3,231	3.00	0.20%
8.	KLTPS 4	80.00%	45.61%	12.00%	3,000	3.00	0.20%
9.	BLTPS*	80.00%	30.60%	11.00%	2,623	1.00	0.20%
10.	Dhuvaran CCPP 1*	85.00%	0.00%	4.00%	1,950	-	-
11.	Dhuvaran CCPP 2	85.00%	0.00%	3.00%	1,950	-	-
12.	Dhuvaran CCPP 3*	85.00%	0.05%	3.00%	1,850	-	-
13.	Utran Extension*	85.00%	0.14%	3.00%	1,850	-	-
14.	Ukai 6*	85.00%	60.69%	6.00%	2,385	1.00	0.80%
15.	Wanakbori 8 TPS*	85.00%	59.20%	5.25%	2,248	0.50	0.80%
16.	Ukai Hydro	80.00%	37.96%	0.60%	-	-	-
17.	Kadana Hydro	80.00%	17.16%	1.00%	-	-	-

\* PPA based stations

#### 4.3 Gross and Net Generation

The gross and net generation of different stations, as per actuals furnished by GSECL, and as approved for truing up purpose for FY 2022-23, are given in the Table below:



**Table 4-15: Gross and net generation for FY 2022-23 for truing up purpose**

Sr. No.	Power Stations	As per actuals submitted by GSECL				As approved by the Commission			
		Gross Generation (MU)	Aux. Cons. (%)	Aux. Cons. (MU)	Net Generation (MU)	Gross Generation (MU)	Aux. Cons. (%)	Aux. Cons. (MU)	Net Generation (MU)
1.	Ukai (3-5)	2773.38	10.41%	288.71	2484.66	2,773.38	10.41%	288.71	2,484.66
2.	Gandhinagar (3-4)	2435.17	10.92%	265.82	2169.35	2,435.17	10.92%	265.82	2,169.35
3.	Gandhinagar 5*	1259.35	11.54%	145.31	1114.04	1,259.35	11.54%	145.31	1,114.04
4.	Wanakbori 1-6 TPS	5429.16	10.47%	568.24	4860.92	5,429.16	10.49%^	569.78^	4,859.38^
5.	Wanakbori 7*	1269.18	10.51%	133.41	1135.76	1,269.18	10.51%	133.41	1,135.76
6.	Sikka Extension (3-4)*	1563.80	10.79%	168.76	1395.05	1,563.80	10.79%	168.76	1,395.05
7.	KLTPS 3	360.00	14.07%	50.66	309.34	360.00	14.07%	50.66	309.34
8.	KLTPS 4	299.66	23.52%	70.48	229.18	299.66	23.52%	70.48	229.18
9.	BLTPS*	1340.42	20.48%	274.54	1065.87	1,340.42	20.48%	274.54	1,065.87
10.	Dhuvaran CCPP 1*	0.00	0.00%	0.00	0.00	0.00	0.00%	-	-
11.	Dhuvaran CCPP 2	0.00	0.00%	0.00	0.00	0.00	0.00%	-	-
12.	Dhuvaran CCPP 3*	1.63	10.20%	0.17	1.47	1.63	10.20%	0.17	1.47
13.	Utran Extension*	4.64	5.86%	0.27	4.37	4.64	5.86%	0.27	4.37
14.	Ukai 6*	2658.11	7.26%	192.91	2465.20	2,658.11	7.26%	192.91	2,465.20
15.	Wanakbori 8 TPS*	4148.65	5.16%	213.98	3934.67	4,148.65	5.16%	213.98	3,934.67
16.	Ukai Hydro	1014.17	0.70%	7.06	1007.12	1,014.17	0.70%	7.06	1,007.12
17.	Kadana Hydro	363.87	0.73%	2.67	361.20	363.87	0.73%	2.67	361.20
	<b>Total</b>	<b>24921.19</b>		<b>2382.99</b>	<b>22538.19</b>	<b>24,921.19</b>		<b>2,384.54</b>	<b>22,536.65</b>

\* PPA based stations

^After adjusting with Solar Generation.



#### 4.4 Cost Parameters

The cost parameters include GCV of fuel, mix of fuel, and price of fuel. GSECL's generating stations operate on coal, lignite, oil, and gas as base fuel. For some coal-based stations, a mix of indigenous, washed and imported coal is used.

GSECL has submitted the details of actual weighted average GCV, mix of coal, and weighted average price of fuel for different stations as discussed below:

##### 4.4.1 Wt. Avg. Gross Calorific Value (GCV) of fuels

GSECL has furnished the actual Wt. Avg. Gross Calorific Value of different fuels (as fed into the boiler in the case of usage of mix of coal) for FY 2022-23 as given in the Table below:

**Table 4-16: Wt. Avg. Gross Calorific Value (GCV) of fuels for different stations for FY 2022-23**

Sr. No.	Power Stations	Wt. Avg. GCV of Coal (kcal/kg)	Wt. Avg. GCV of Lignite (kcal/kg)	Wt. Avg. GCV of Gas (kcal/SCM)	Wt. Avg. GCV of Oil (kcal/kl)
1.	Ukai (3-5)	3,509			10,326
2.	Gandhinagar (3-4)	3,659			10,426
3.	Gandhinagar 5*	3,626			10,440
4.	Wanakbori 1-6 TPS	3,493			10,381
5.	Wanakbori 7 TPS*	3,513			10,382
6.	Sikka Extension (3-4)*	5,000			10,366
7.	KLTPS 3		2,247		10,426
8.	KLTPS 4		2,293		10,676
9.	BLTPS*		2,767		10,216
10.	Dhuvaran CCPP 1*			9,233	
11.	Dhuvaran CCPP 2			9,286	
12.	Dhuvaran CCPP 3*			9,250	
13.	Utran Extension*			9,331	
14.	Ukai 6*	3,552			10,277
15.	Wanakbori 8 TPS*	3,463			10,403

\* PPA based stations

#### Mix of Coal

GSECL has furnished the actual percentage mix of different types of coal used for the stations during FY 2022-23 as given in the Table below:



**Table 4-17: The Mix of Different Types of Coal for FY 2022-23**

Sr. No.	Power Station	Mix of coal (%)		
		Indigenous	Washed	Imported
1.	Ukai (3-5)	71.09%	27.61%	1.29%
2.	Gandhinagar (3-4)	66.44%	32.01%	1.55%
3.	Gandhinagar 5*	69.70%	28.76%	1.54%
4.	Wanakbori 1-6 TPS	55.55%	43.26%	1.19%
5.	Wanakbori 7*	56.20%	42.41%	1.39%
6.	Sikka Extension (3-4)*	0.00%	0.00%	100.00%
7.	Ukai 6*	52.90%	45.59%	1.51%
8.	Wanakbori 8 TPS*	50.50%	49.13%	0.38%

\* PPA based stations

#### 4.4.2 Wt. Avg. Prices of Fuel

GSECL has furnished the actual Wt. Avg. price per unit of different fuels for different stations for FY 2022-23, as given in the Table below:

**Table 4-18: Wt. Avg. Price / Unit of Fuels for FY 2022-23 (Actual)**

Sr. No.	Station	Cost of Indigenous Coal (Rs./MT)	Cost of Washed Coal (Rs./MT)	Cost of Imported Coal (Rs./MT)	Wt. Avg. Cost of Coal (Rs./MT)	Cost of Lignite (Rs./MT)	Cost of Gas (Rs./SCM)	Cost of Oil (Rs./KI)
1.	Ukai (3-5)	5,001	5,179	17,739	5,215			60,026
2.	Gandhinagar (3-4)	5,207	5,679	18,434	5,563			57,474
3.	Gandhinagar 5*	5,202	5,672	18,433	5,541			58,500
4.	Wanakbori 1-6 TPS	5,218	5,451	17,761	5,468			57,624
5.	Wanakbori 7*	5,151	5,423	17,544	5,438			56,502
6.	Sikka Extension (3-4)*	-	-	16,397	16,397			65,369
7.	KLTPS 3					2,613		75,119
8.	KLTPS 4					2,585		91,277
9.	BLTPS*					2,988		1,03,146
10.	Dhuvaran CCPP 1*						49.73	
11.	Dhuvaran CCPP 2						49.73	
12.	Dhuvaran CCPP 3*						49.73	
13.	Utran Extension*						49.26	
14.	Ukai 6*	4,977	5,199	17,577	5,269			62,198
15.	Wanakbori 8 TPS*	5,176	5,475	17,642	5,370			60,618

\* PPA based stations



### **Commission's Analysis**

The Commission sought the details of month-wise fuel stock position along with landed price and GCV of fuel. In reply, GSECL submitted the requisite month-wise details for Coal, Lignite, Gas and Oil. Further, GSECL clarified that fuel cost and fuel prices submitted in the Petition are based on Audited Accounts.

The Commission has verified the reconciliation of Fuel cost submitted in the Petition vis-à-vis Audited Accounts. The Commission finds the submission of GSECL as appropriate.

**The Commission, after due verification, approves the Wt. Avg. GCVs of fuels, percentage of mix of coal and prices of fuel (actuals), as furnished by GSECL for truing up purpose for FY 2022-23, as they are uncontrollable items.**

### **4.5 Fuel Costs**

Based on the performance and cost parameters, the approved fuel costs for each of the stations for FY 2022-23 for truing up purpose, along with the actuals furnished by GSECL, are given in the Table below:

**Table 4-19: Fuel Cost of different stations for Truing up for FY 2022-23**

Sr. No.	Power Stations	As per actuals submitted by GSECL				As approved by the Commission			
		Gross Generation (MU)	Net Generation (MU)	Fuel Cost (Rs. Crore)	Fuel Cost per unit (Rs./kWh)	Gross Generation (MU)	Net Generation (MU)	Fuel Cost (Rs. Crore)	Fuel Cost per unit (Rs./kWh)
1	2	3	4	5	6=5/4	7	8	9	10=9/8
1.	Ukai (3-5)	2,773.38	2,484.66	1,271.85	5.12	2,773.38	2,523.77	1,085.42	4.37
2.	Gandhinagar (3-4)	2,435.17	2,169.35	1,021.45	4.71	2,435.17	2,216.00	968.58	4.46
3.	Gandhinagar 5*	1,259.35	1,114.04	545.88	4.90	1,259.35	1,139.71	484.49	4.35
4.	Wanakbori 1-6 TPS	5,429.16	4,860.92	2,438.87	5.02	5,429.16	4,940.54	2,191.42	4.51
5.	Wanakbori 7*	1,269.18	1,135.76	516.49	4.55	1,269.18	1,148.60	499.26	4.40
6.	Sikka Extension (3-4)*	1,563.80	1,395.05	1,353.59	9.70	1,563.80	1,423.06	1,210.25	8.68
7.	KLTPS 3	360.00	309.34	183.22	5.92	360.00	316.80	138.98	4.49
8.	KLTPS 4	299.66	229.18	136.36	5.95	299.66	263.70	95.92	4.19
9.	BLTPS*	1,340.42	1,065.87	478.32	4.49	1,340.42	1,192.97	385.15	3.61
10.	Dhuvaran CCPP 1*	-	-	-	-	-	-	-	-
11.	Dhuvaran CCPP 2	-	-	-	-	-	-	-	-
12.	Dhuvaran CCPP 3*	1.63	1.47	3.27	22.27	1.63	1.58	1.50	10.25
13.	Utran Extension*	4.64	4.37	5.98	13.68	4.64	4.50	4.40	10.07
14.	Ukai 6*	2,658.11	2,465.20	1,065.52	4.32	2,658.11	2,498.62	947.11	3.84
15.	Wanakbori 8 TPS*	4,148.65	3,934.67	1,449.58	3.68	4,148.65	3,930.85	1,468.36	3.73
16.	<b>Grand Total</b>	<b>23,543.18</b>	<b>21,169.88</b>	<b>10,470.37</b>		<b>23,543.18</b>	<b>21,600.71</b>	<b>9,480.84</b>	

\* PPA based stations

The detailed calculations for each station for arriving at the above costs are given in **Annexure A-1 to A-15**.

#### 4.5.1 Variation between Actual Costs and Approved Costs

The comparison between the fuel costs of all stations put together as per Audited Annual Accounts for FY 2022-23 and the cost approved for truing up purpose is given in the Table below:



**Table 4-20: Cost of different fuels as per Audited Annual Accounts and as approved for Truing up for FY 2022-23**

(Rs. Crore)

<b>Sr. No.</b>	<b>Particulars</b>	<b>Cost as per Annual Accounts</b>	<b>Cost as approved</b>
1.	Fuel Cost	10,470.37	9,480.84
2.	Water Charges	254.53	
3.	Total Fuel Cost as per Accounts	10,724.90	

Total fuel cost as per annual accounts is Rs. 10,724.90 Crore. While the Commission has dealt with the Water Charges separately.

For truing up purpose, the Commission has considered the fuel cost as computed, based on the approved performance parameters and actual Fuel Parameters, viz, blending ratio, GCV and Price of fuel.

#### **4.5.2 Impact of Solar Generation in Auxiliary Consumption in FY 2022-23**

As discussed in para 4.2.3, the impact of Solar Generation consumed in the Auxiliary must be negated from the fuel cost of Wanakbori (1-6) to treat saving on account of Solar Generation as uncontrollable gain. Hence, the saving in fuel cost is to be reduced from Gains/(Losses) on its entirety.

Hence, fuel cost savings due to Solar Generation and its pass through is provided as follows:





**Table 4-21: Fuel cost saving due to Solar Generation**

Sr. No.	Power Station	Solar Generation (in MU)	Approved Energy charge in FY 2022-23 (Rs./kWh)	Fuel cost saving on account of Solar Generation (Rs. Crore)
1.	Ukai (3-5)		4.37	
2.	Gandhinagar (3-4)		4.46	
3.	Wanakbori 1-6 TPS	1.55	4.51	0.70
4.	KLTPS 3		4.49	
5.	KLTPS 4		4.19	
6.	Dhuvaran CCPP 2		-	
	<b>Sub Total A</b>	<b>1.55</b>		<b>0.70</b>
7.	Gandhinagar 5*		4.35	
8.	Wanakbori 7* TPS		4.40	
9.	Sikka Extn. (3-4)*		8.68	
10.	BLTPS*		3.61	
11.	Dhuvaran CCPP 1*		-	
12.	Dhuvaran CCPP 3*		10.25	
13.	Utran Extension*		10.07	
14.	Ukai 6*		3.84	
15.	Wanakbori 8 TPS*		3.73	
16.	<b>Sub Total B</b>	<b>-</b>		<b>-</b>
	<b>Total (A+B)</b>	<b>1.55</b>		<b>0.70</b>

#### **4.5.3 Gains and Losses in fuel costs due to controllable and uncontrollable factors**

##### **Petitioner's Submission**

GSECL has submitted that it has derived the fuel expenses for truing up of FY 2022-23 considering the performance parameters such as auxiliary consumption, SHR, SFOC and transit loss, as approved in the Tariff Order dated 30<sup>th</sup> March, 2022 and considering the actual fuel-related parameters, such as GCV of fuel and price of fuels, etc., recorded by GSECL.

The fuel expenses so derived have been compared with the fuel expenses actually incurred with actual performance parameters of GSECL for identification of the gains/(losses) on account of efficiency of these performance parameters.

GSECL submitted a net loss of Rs. 570.73 Crores due to controllable factors on account of operational efficiencies during FY 2022-23. The same is to be treated appropriately in line with the provisions of the GERC (MYT) Regulations, 2016.



### Commission's Analysis

The Commission has compared the actual fuel expenses and the normative fuel expenses considering the normative performance parameters such as auxiliary consumption, SHR, SFOC and transit loss and considering the actual GCV of fuel, blending ratio and price of fuels, for identification of gains/(losses) on account of variation in these parameters. The Commission accordingly approves the station-wise gains/losses for non-PPA stations as given in the Table below:

**Table 4-22: Approved Gains / (losses) from Fuel Expenses for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Fuel cost arrived with approved parameters for Actual Net generation for FY 2022-23	Actual Fuel cost incurred by GSECL	Gain /(Loss) due to Controllable Factors	Gain /(Loss) due to uncontrollable Factors
1.	Ukai (3-5)	1085.42	1271.85	(186.42)	
2.	Gandhinagar (3-4)	968.58	1021.45	(52.87)	
3.	Wanakbori 1-6 TPS^	2191.42	2438.87	(247.45)	0.70
4.	KLTPS 3	138.98	183.22	(44.24)	
5.	KLTPS 4	95.92	136.36	(40.44)	
6.	Dhuvaran CCPP 2	-	-	-	
	<b>Sub Total A</b>	<b>4,480.32</b>	<b>5,051.75</b>	<b>(571.43)</b>	<b>0.70</b>
7.	Gandhinagar 5*	484.49	545.88		
8.	Wanakbori 7* TPS	499.26	516.49		
9.	Sikka Extn. (3-4)*	1210.25	1353.59		
10.	BLTPS*	385.15	478.32		
11.	Dhuvaran CCPP 1*	-	-		
12.	Dhuvaran CCPP 3*	1.50	3.27		
13.	Utran Extension*	4.40	5.98		
14.	Ukai 6*	947.11	1065.52		
15.	Wanakbori 8 TPS*	1468.36	1449.58		
16.	<b>Sub Total B</b>	<b>5,000.52</b>	<b>5,418.61</b>	-	-
	<b>Total (A+B)</b>	<b>9,480.84</b>	<b>10,470.37</b>	<b>(571.43)</b>	<b>0.70</b>

\* PPA based stations

## 4.6 Capital Expenditure and Capitalisation

### Petitioner's Submission

GSECL submitted the actual Capitalisation of Rs. 267.25 Crore for FY 2022-23. The funding of capitalisation has been considered as per normative debt:equity ratio of 70:30.

GSECL has submitted the list of major items capitalised in each Station as under:



- **WTSP 1-6:** Construction of ETP Sump, cabin for Gate Mitra and Toilet block in Power House area, Installation and commissioning of 400 kV SF-6 circuit breakers, New Solar Roof top plant and central AC Plant system, CCTV system for chemical lab and capital spares;
- **WTSP 8:** Construction of building for BoP, office-cum-tool room and capital spares;
- **GTSP:** CCTV system for chemical lab, AC, furniture and capital spares;
- **Sikka:** Approach Road, PVC Cabins, masonry wall and chain fencing, RCC flooring in plant, water fountain near Administrative building and capital spares, CCTV system for chemical lab;
- **BLTPS:** Boiler Turbine Generator, Computers, scanners and capital spares;
- **KLTPS:** Augmentation of the LHP and Capital spares.

The actual capitalisation submitted by GSECL is shown in the following Table:

**Table 4-23: Actual Capitalisation for FY 2022-23 as submitted by GSECL**

Sr. No.	Power Station	Actual Capitalisation	Funding of Capitalisation	
			Debt amount	Equity amount
1.	Ukai (3-5)	17.90	12.53	5.37
2.	Gandhinagar (3-4)	23.43	16.40	7.03
3.	Gandhinagar 5*	0.00	-	-
4.	Wanakbori 1-6 TPS	62.15	43.50	18.64
5.	Wanakbori 7*	0.00	-	-
6.	Sikka Extension (3-4)*	30.07	21.05	9.02
7.	KLTPS 3	7.88	5.51	2.36
8.	KLTPS 4	19.43	13.60	5.83
9.	BLTPS*	61.24	42.87	18.37
10.	Dhuvaran CCPP 1*	0.05	0.03	0.01
11.	Dhuvaran CCPP 2	0.38	0.27	0.11
12.	Dhuvaran CCPP 3*	4.60	3.22	1.38
13.	Utran Extension*	4.84	3.38	1.45
14.	Ukai 6*	11.82	8.27	3.54
15.	Wanakbori 8 TPS*	22.78	15.95	6.83
16.	Ukai Hydro	0.62	0.43	0.19
17.	Kadana Hydro	0.09	0.06	0.03
	<b>Total</b>	<b>267.25</b>	<b>187.07</b>	<b>80.17</b>

\* PPA based stations



### **Commission's Analysis**

The Commission notes that GSECL has submitted the actual capitalisation of Rs. 267.25 Crore for power stations as against the capitalisation of Rs. 245.92 Crore approved for these plants in the Tariff Order dated 30<sup>th</sup> March, 2022. The Commission has analysed the details of works completed by GSECL during FY 2022-23. On query of the actual breakup of expenses against these assets, GSECL has provided a breakup of assets of Rs. 267.22 Crore as against claim of Rs. 267.25 crore in the Petition.

The Commission notes that major item of Capitalisation by GSECL is for Capital Spares for its various Units. GSECL has submitted that its Units are very old and they need these spares for efficient operation of the Units. While allowing the actual capital expenditure claimed by the Petitioner, the Commission cautions GSECL to maintain Capital Spares level of Units in prudent manner and within the limit prescribed under the appropriate provisions of GERC (MYT) Regulations, 2016 for the Units that have been commissioned after the notification of the GERC (MYT) Regulations, from time to time.

The Commission also notes that GSECL has claimed capitalisation towards miscellaneous items such as furniture and fixtures, etc. In this context, it is relevant to note Regulation 35.3 of the GERC (MYT) Regulation, 2016 as reproduced below:

*“Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets, etc., bought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2016.”*

While the Commission has not disallowed any additional capitalisation against these items in the true-up for FY 2022-23, the Commission directs GSECL to rationalise the capital expenditure against miscellaneous items, and undertake such essential expenditure under O&M expenses, if required.

The Commission further notes that GSECL has claimed capitalisation of Rs. 61.24 Crore in FY 2022-23 for BLTPS. However, according to its PPA with GUVNL there is Capital Cost Ceiling of Rs. 3615 Crore (Rs. 7.23 Crore/MW) as recorded in Tariff Order of FY 2019-20, while approving the Capital Cost and Tariff of BLTPS, as reproduced below:

*“GSECL has requested to approve the tariff for Bhavnagar Lignite thermal power Station which is as per the approved PPA between BECL (GSECL) and GUVNL. In this petition for the first time GSECL has submitted the PPA of BECL which is merged*



with the GSECL with effect from 1st April, 2018. GSECL has submitted the following documents:

1. PPA between BECL (GSECL) and GUVNL.

...

**Capital Cost of Rs. 3,615 Crore has been considered as per Schedule 5.2 of the PPA dated 17th November, 2010 executed between BECL and GUVNL wherein it is stated that Project Cost not to exceed Rs. 7.23 Crore / MW.” ... (emphasis added)**

The Commission notes that in respect of BLTPS, as submitted by GSECL, it has claimed capitalization of Rs. 46.42 Crore in FY 2022-23 for BTG paid against Price Variation Contract terms and balance amount of Rs. 14.79 Crore for various Capital Spares. Further, GSECL has de-capitalized Rs. 38.97 Crore up to FY 2022-23. Considering ceiling on capital cost under the PPA, the capitalization to the extent of decapitalization of Rs. 38.97 Crores and Capital Spares for amount of Rs. 14.79 Crore can be allowed. Hence, the Commission has considered Rs. 53.77 Crore (Rs. 38.97 Crore + Rs. 14.79 Crore) capitalisation in FY 2022-23 for BLTPS.

Moreover, the Commission has observed that the amount of Rs. 0.04 Crore towards capitalisation at corporate office is part of total claim of Rs. 267.22 Crore as considered by the Commission. The Commission decides to disallow Capitalisation of Rs. 0.04 Crore against GSECL's Corporate Office, which is not allowed under the provisions of GERC (MYT) Regulations, 2016. **Thus, for the purpose of Truing up, the Commission approves the Capitalisation of Rs. 259.73 Crore for FY 2022-23.**

#### **4.7 Fixed Charges**

As per GERC (MYT) Regulations, 2016, the Annual Fixed Charges of Generating Stations comprise the Depreciation, Interest and Finance Charges, Return on Equity, Operation and Maintenance Expenses, Interest on Working Capital, Water Charges, SLDC Charges, Income Tax and Non-Tariff Income. The analysis of each component of Annual Fixed Charges is discussed in subsequent Sections of this Order.

As regards the allocation of employee expenses and Corporate Office/Head Office (HO) expenses, it is observed that GSECL has considered allocation of such expenses only towards regulated stations, i.e., stations which are included in the Petition, and not to the other unregulated stations, viz., SSNNL, SPS, RE, etc. The Commission notes that HO is responsible for overall monitoring, control and review of operations of all stations of GSECL, regulated and unregulated, as well as commissioned and yet to be commissioned. Hence, the



support from HO is required irrespective of location of station or PPA arrangement. The Commission directed GSECL to re-submit the O&M expenses to the regulated Stations by allocating the HO expenses as well as Income Tax to all the Stations, regulated and unregulated, whether commissioned or yet to be commissioned, based on some appropriate methodology. Accordingly, GSECL submitted the revised expenses and Income Tax by allocating the HO expenses in the ratio of respective expenses and the Income Tax in the ratio of Taxable Profit of the Stations. The Commission has considered the allocation as submitted by GSECL for the purpose of truing up for FY 2022-23, but directs GSECL to ensure that henceforth, claims for expenses and Income Tax have to be accounted for appropriately across all Stations of GSECL, irrespective of whether they are regulated or unregulated and whether they are commissioned or yet to be commissioned.

Hence, for the purpose of truing up, the Commission has allocated the HO Expenses amongst Generating Stations, including SSNNL & SPS and RE and then excluded the expenses corresponding to these stations as submitted by GSECL. This approach has been adopted for allocation of revenue expenditure, Income Tax, as well as Non-Tariff Income, for the purpose of truing up for FY 2022-23.

#### **4.7.1 Depreciation for FY 2022-23**

##### **Petitioner's Submission**

GSECL has claimed Rs. 1,191.16 Crore towards depreciation charges in the Truing up for FY 2022-23. The depreciation approved for FY 2022-23 by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and now claimed by GSECL are as given in the Table below:

**Table 4-24: Depreciation for FY 2022-23**

(Rs. Crore)		
<b>Particulars</b>	<b>Approved as per Tariff Order</b>	<b>Actual claimed</b>
<b>Depreciation</b>	1,164.60	1,191.16

The closing GFA for all generating stations during FY 2022-23 has been computing by adding the assets capitalized during FY 2022-23 and deducting the assets retired or transferred from the opening balance of GFA.

GSECL has calculated the Depreciation for FY 2022-23 in accordance with the provisions of the GERC (MYT) Regulations, 2016. GSECL submitted that the depreciation claimed for FY 2022-23 is within the values approved by the Commission.



The approved station-wise depreciation and actual depreciation claimed by GSECL and the computation of gains/ (losses) on account of controllable and uncontrollable factors are given in the Table below:

**Table 4-25: Gains / Losses from Depreciation for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Approved	Actual claimed	Gain/(Loss) Due to Controllable Factors	Gain/(Loss) Due to Uncontrollable Factors
1.	Ukai (3-5)	46.06	50.00		(3.94)
2.	Gandhinagar (3-4)	39.16	39.44		(0.28)
3.	Gandhinagar 5*	-	2.15		
4.	Wanakbori 1-6 TPS	108.79	107.66		1.13
5.	Wanakbori 7*	-	2.15		
6.	Sikka Extension (3-4)*	159.10	171.45		
7.	KLTPS 3	30.34	29.60		0.74
8.	KLTPS 4	36.37	18.19		18.18
9.	BLTPS*	194.01	240.81		
10.	Dhuvaran CCPP 1*	11.67	10.14		
11.	Dhuvaran CCPP 2	12.36	13.16		(0.80)
12.	Dhuvaran CCPP 3*	81.49	78.95		
13.	Utran Extension*	66.02	38.18		
14.	Ukai 6*	150.06	156.49		
15.	Wanakbori 8 TPS*	221.18	224.92		
16.	Ukai Hydro	2.42	2.34		0.08
17.	Kadana Hydro	5.57	5.53		0.04
<b>18.</b>	<b>Total</b>	<b>1,164.60</b>	<b>1,191.16</b>	<b>-</b>	<b>15.15</b>

\* PPA based stations

### Commission's Analysis

The Commission has computed the depreciation for all the stations, taking into consideration the closing GFA of FY 2021-22 as the opening GFA for FY 2022-23, and adding the assets capitalized and deducting the asset retirement during FY 2022-23. The Commission in earlier Section of this Order has approved capitalisation of Rs. 267.18 Crore against the claim of Rs. 267.25 Crore of GSECL.

For the purpose of truing up, the Commission has considered the retirement of assets of Rs. 1.34 Crore as claimed by GSECL for Sikka Extension 3-4. Further, retirement of assets of Rs.



0.09 Crore has also been considered for other power stations in line with the submission of GSECL. The Gross Fixed assets approved is given in the Table below:

**Table 4-26: Approved Gross Fixed Assets**

Sr. No.	Particulars	Opening GFA	Additions	Deductions	Closing GFA
1.	Ukai (3-5)	1,370.01	17.89	0.01	1,387.89
2.	Gandhinagar (3-4)	1,274.69	23.43	-	1,298.12
3.	Gandhinagar 5*	657.84	-	-	657.84
4.	Wanakbori 1-6 TPS	2,474.83	62.14	-	2,536.97
5.	Wanakbori 7*	638.97	-	-	638.97
6.	Sikka Extension (3-4)*	3,113.46	30.06	1.34	3,142.18
7.	KLTPS 3	958.70	7.87	-	966.57
8.	KLTPS 4	707.84	19.42	-	727.26
9.	BLTPS*	3,605.49	53.77	0.08	3,659.18
10.	Dhuvaran CCPP 1*	409.75	0.05	-	409.80
11.	Dhuvaran CCPP 2	431.35	0.38	-	431.73
12.	Dhuvaran CCPP 3*	1,597.26	4.60	-	1,601.86
13.	Utran Extension*	1,362.61	4.83	-	1,367.44
14.	Ukai 6*	3,000.63	11.81	-	3,012.44
15.	Wanakbori 8 TPS*	4,349.41	22.78	-	4,372.19
16.	Ukai Hydro	180.06	0.61	0.00	180.67
17.	Kadana Hydro	333.90	0.09	-	333.99
	<b>Total</b>	<b>26,466.80</b>	<b>259.73</b>	<b>1.42</b>	<b>26,725.10</b>

\* PPA based stations

### Gains / Losses

As per the GERC (MYT) Regulations, 2016, depreciation is a controllable expense. However, the Commission is of the view that the amount of depreciation is dependent on the quantum of capitalization, rate of depreciation, and disposal of existing assets, if any. The Commission is, therefore, of the view that the parameters that impact depreciation should be treated as uncontrollable. The gain is calculated for Non-PPA plants.

In response to query of the Commission, GSECL clarified and confirmed that depreciation on assets which have already depreciated up to 90% of GFA has not been taken into consideration under the fixed cost.





The Commission has computed the depreciation by applying actual weighted average rate of depreciation based on Audited Accounts on GFA for each Station approved in above Table.

**The Commission, accordingly, approves the station-wise depreciation charges and the gain / (loss) on account of depreciation in the Truing up for FY 2022-23 as detailed in the Table below:**

**Table 4-27: Approved station-wise depreciation charges and gains/(losses) from Depreciation for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Approved as per Tariff Order	Actual as claimed by GSECL	Approved in truing up	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	46.06	50.00	50.00		(3.94)
2.	Gandhinagar (3-4)	39.16	39.44	39.44		(0.28)
3.	Wanakbori 1-6 TPS	108.79	107.66	107.66		1.13
4.	KLTPS 3	30.34	29.60	29.60		0.74
5.	KLTPS 4	36.37	18.19	18.19		18.18
6.	Dhuvaran CCPP 2	12.36	13.16	13.16		(0.80)
7.	Ukai Hydro	2.42	2.34	2.34		0.08
8.	Kadana Hydro	5.57	5.53	5.53		0.04
	<b>Sub Total A</b>	<b>281.07</b>	<b>265.92</b>	<b>265.92</b>		<b>15.15</b>
9.	Gandhinagar 5*	-	2.15	2.15		-
10.	Wanakbori 7* TPS	-	2.15	2.15		-
11.	Sikka Extn.(3-4)*	159.10	171.45	171.45		-
12.	BLTPS*	194.01	240.81	240.57		-
13.	Dhuvaran CCPP 1*	11.67	10.14	10.14		-
14.	Dhuvaran CCPP 3*	81.49	78.95	78.95		-
15.	Utran Extension*	66.02	38.18	38.18		-
16.	Ukai 6*	150.06	156.49	156.49		-
17.	Wanakbori 8 TPS*	221.18	224.92	224.92		-
	<b>Sub Total B</b>	<b>883.53</b>	<b>925.24</b>	<b>924.99</b>		
	<b>Total (A+B)</b>	<b>1,164.09</b>	<b>1,191.16</b>	<b>1,190.91</b>		<b>15.15</b>

\* PPA based stations



#### **4.7.2 Interest and Finance charges for FY 2022-23**

##### **Petitioner's Submission**

GSECL has claimed Rs. 532.22 Crore towards interest and finance charges in the Truing up for FY 2022-23. The repayment has been considered as minimum of depreciation computed or opening loan plus addition in loan for FY 2022-23 in line with the approach adopted by the Commission.

GSECL submitted that there are no actual loans for any plant of GSECL. Accordingly, GSECL has considered the weighted average rate of interest as 8.18 % as claimed in its Review Petition No. 2212 of 2023. GSECL submitted that all the actual outstanding loans of GSECL are already repaid and accordingly, it is submitted that there were no actual loans during most of the part of FY 2022-23. Further, Regulation 38.5 of the GERC (MYT) Regulations, 2016 specifies as under:

*“38.5 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 Generating Company or the Transmission Licensee or SLDC or the Distribution Licensee:*

*Provided that at the time of truing up, the weighted average rate of interest calculated on the basis of the actual loan portfolio during the year applicable to the Generating Company or the Transmission Licensee or SLDC or the Distribution Licensee shall be considered as the rate of interest:*

*Provided further 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 for the actual loan shall be considered: .....*”

In accordance with the second Proviso of Regulation 38.5, in case there is no actual loan for a particular year (FY 2022-23 in the present context), but normative loan is still outstanding, the last available weighted average rate of interest for the actual loan shall be considered. In the present case, the weighted average rate of interest for loan as calculated by GSECL in its Review Petition No. 2212 of 2023, i.e., 8.18%, has been considered.

The interest and finance charges approved for FY 2022-23 by the Commission in the Tariff Order, and now claimed by GSECL as actual, are given in the Table below:

**Table 4-28: Interest and Finance Charges claimed in truing up for FY 2022-23**

(Rs. Crore)		
Particulars	Approved as per Tariff Order	Actual claimed
Interest and Finance charges	544.65	532.22

Further, GSECL submitted that in the Tariff Order of FY 2021-22, Commission had approved loan addition of Rs. 108.32 Crore instead of Rs. 122.24 Crore claimed by GSECL in its Petition. Review Petition on the same has been filed by GSECL claiming the loss in the interest and financial charges due to non-consideration of loan addition of Rs. 13.91 Crore.

GSECL has captured the non-considered loan addition of FY 2021-22 in the opening loan balance of FY 2022-23 for the respective Station by adding Rs.13.91 Crore in the closing loan balance of Rs. 6,942.32 Crore of FY 2021-22 as approved by Commission in Tariff Order for FY 2023-24. Therefore, the opening loan balance considered for FY 2022-23 is Rs. 6956.23 Crore.

Also, GSECL has claimed Rs. 7.24 Crore towards gain attributed to uncontrollable factors against interest and finance charges. The station-wise interest and finance charges claimed by GSECL in the truing for FY 2022-23 and the gains/losses are given in the Table below:

**Table 4-29: Gains / Losses from Interest & Finance charges claimed for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	-	-	-	-
2.	Gandhinagar (3-4)	-	0.00	-	(0.00)
3.	Gandhinagar 5*	-	-		
4.	Wanakbori 1-6 TPS	19.58	9.86	-	9.72
5.	Wanakbori 7*	0.27	-		
6.	Sikka Extension (3-4)*	95.96	94.54		
7.	KLTPS 3	-	-	-	-
8.	KLTPS 4	1.88	4.70	-	(2.82)
9.	BLTPS*	106.41	99.13		
10.	Dhuvaran CCPP 1*	-	-		
11.	Dhuvaran CCPP 2	0.85	0.95	-	(0.10)
12.	Dhuvaran CCPP 3*	45.31	45.61		
13.	Utran Extension*	15.75	19.64		



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
14.	Ukai 6*	60.61	60.15	-	
15.	Wanakbori 8 TPS*	196.06	196.12		
16.	Ukai Hydro	1.97	1.53	-	0.44
17.	Kadana Hydro	-	-	-	-
	<b>Total</b>	<b>544.65</b>	<b>532.22</b>	<b>-</b>	<b>7.24</b>

\* PPA based stations

### Commission's Analysis

The Commission notes the submission of GSECL regarding non-consideration of Loan addition in the Order for true up of FY 2021-22. The Commission notes that the Review Petition filed by GSECL is sub-judice. Hence, the Commission has considered the Closing Normative Loans of FY 2021-22 as approved in the true-up Order for FY 2021-22, as the opening normative loan for FY 2022-23. The addition to loan has been considered equal to the approved debt component of capitalisation allowed in this Order for true up of FY 2022-23. The Commission has considered repayment as equal to the depreciation approved by the Commission for the stations for which depreciation allowed is lower than the opening Loan plus addition in Loan during FY 2022-23, and for the stations for which depreciation is higher than the opening loan plus addition in loan for FY 2022-23, lower amount of these two is considered as repayment, since repayment of loan cannot be higher making the closing loan a negative figure.

**Table 4-30: Details of Approved Loan for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Opening Loan	Additions	Repayment	Closing Loan
1.	Ukai (3-5)	-	12.52	12.52	-
2.	Gandhinagar (3-4)	-	16.40	16.40	-
3.	Gandhinagar 5*	-	-	-	-
4.	Wanakbori 1-6 TPS	152.25	43.50	107.66	88.09
5.	Wanakbori 7*	-	-	-	-
6.	Sikka Extension (3-4)*	1,230.92	21.04	171.45	1,080.51
7.	KLTPS 3	-	5.51	5.51	-
8.	KLTPS 4	59.80	13.60	18.19	55.20
9.	BLTPS*	1,297.32	37.64	240.57	1,094.39



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Opening Loan	Additions	Repayment	Closing Loan
10.	Dhuvaran CCPP 1*	-	0.03	0.03	-
11.	Dhuvaran CCPP 2	18.05	0.27	13.16	5.16
12.	Dhuvaran CCPP 3*	595.44	3.22	78.95	519.71
13.	Utran Extension*	257.48	3.38	38.18	222.68
14.	Ukai 6*	809.38	8.27	156.49	661.16
15.	Wanakbori 8 TPS*	2,502.04	15.94	224.92	2,293.07
16.	Ukai Hydro	19.64	0.43	2.34	17.73
17.	Kadana Hydro	-	0.06	0.06	-
	<b>Total</b>	<b>6,942.32</b>	<b>181.81</b>	<b>1,086.44</b>	<b>6,037.69</b>

\* PPA based stations

The Commission notes that GSECL has submitted that there is no actual Loan during FY 2022-23, and thereby the weighted average rate of interest of 8.18% is considered being actual weighted average rate of Interest during the true up of FY 2020-21, which GSECL claims is the last available weighted average Interest rate.

The Commission notes that in the Order for true up of FY 2021-22, the Commission has approved weighted average interest rate of 7.08% in the true up of FY 2021-22, which has been worked out considering actual date of repayment for each loan portfolio. Hence, as per 2<sup>nd</sup> proviso of Regulation 38.5 of the GERC (MYT) Regulations, 2016 the Commission approves interest and finance charge at the rate of 7.08%.

### **Gains / Losses**

The GERC (MYT) Regulations, 2016 consider variation in the interest rates as an uncontrollable parameter but variation in Interest and Finance charges as controllable. However, the Commission is of the view that the amount of interest and finance charges are dependent on the quantum of capitalization, and the extent of borrowing considered during the financial year. The Commission is, therefore, of the view that the parameters which impact interest and finance charges should be treated as uncontrollable.

GSECL has not claimed any gain/(loss) in respect of PPA governed stations.

**The Commission, accordingly, approves the station-wise interest and finance charges and the gain / (loss) on account of interest and finance charges in the Truing up for FY 2022-23, as detailed in the Table below:**



**Table 4-31: Approved Interest and Finance charges and gain/ (loss) for FY 2022-23**

(Rs. Crore)						
Sr. No.	Power Station	Approved as per Tariff Order	Actual as claimed by GSECL	Approved in truing up	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (3-5)	-	-	-		-
2.	Gandhinagar (3-4)	-	-	-		-
3.	Wanakbori 1-6 TPS	19.58	9.86	8.51		11.07
4.	KLTPS 3	-	-	-		-
5.	KLTPS 4	1.88	4.70	4.07		(2.19)
6.	Dhuvaran CCPP 2	0.85	0.95	0.82		0.03
7.	Ukai Hydro	1.97	1.53	1.32		0.65
8.	Kadana Hydro	-	-	-		-
	<b>Sub Total A</b>	<b>24.28</b>	<b>17.04</b>	<b>14.72</b>		<b>9.56</b>
9.	Gandhinagar 5*	-	-	-		
10.	Wanakbori 7* TPS	0.27	-	-		
11.	Sikka Extn.(3-4)*	95.96	94.54	81.82		
12.	BLTPS*	106.41	99.13	84.67		
13.	Dhuvaran CCPP 1*	-	-	-		
14.	Dhuvaran CCPP 3*	45.31	45.61	39.48		
15.	Utran Extension*	15.75	19.64	17.00		
16.	Ukai 6*	60.61	60.15	52.06		
17.	Wanakbori 8 TPS*	196.06	196.12	169.75		
	<b>Sub Total B</b>	<b>520.37</b>	<b>515.19</b>	<b>444.77</b>		
	<b>Total (A+B)</b>	<b>544.65</b>	<b>532.22</b>	<b>459.49</b>		<b>9.56</b>

\* PPA based stations

### 4.7.3 Return on Equity for FY 2022-23

#### Petitioner's Submission

GSECL has claimed Rs. 1068.40 Crore towards RoE in the Truing up for FY 2022-23. The RoE approved for FY 2022-23 by the Commission in Tariff Order dated 30<sup>th</sup> March, 2022 for FY 2022-23 and now claimed by GSECL as actual are given in the Table below:

**Table 4-32: Return on Equity for FY 2022-23 (Rs. Crore)**

Particulars	Approved as per Tariff Order	Actual claimed
<b>Return on Equity</b>	1077.96	1068.40



GSECL has submitted that the difference between the actual RoE and the RoE approved in the Tariff Order dated 30<sup>th</sup> March, 2022 resulted in a gain of Rs. 7.31 Crore attributed to uncontrollable factors. The station-wise RoE claimed by GSECL in the truing for FY 2022-23 and the gains/(losses) are given in the Table below:

**Table 4-33: Gains / Losses from Return on Equity claimed for FY 2022-23 (Rs. Crore)**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (3-5)	24.84	24.85	-	(0.01)
2.	Gandhinagar (3-4)	26.04	25.82	-	0.22
3.	Gandhinagar 5*	28.67	28.67		
4.	Wanakbori 1-6 TPS	101.61	94.77	-	6.84
5.	Wanakbori 7*	26.34	26.16		
6.	Sikka Extension (3-4)*	131.79	131.37		
7.	KLTPS 3	55.12	54.97	-	0.15
8.	KLTPS 4	29.65	30.06	-	(0.41)
9.	BLTPS*	155.56	152.72		
10.	Dhuvaran CCPP 1*	10.55	10.57		
11.	Dhuvaran CCPP 2	14.54	14.55	-	(0.01)
12.	Dhuvaran CCPP 3*	67.05	67.18		
13.	Utran Extension*	57.56	57.75		
14.	Ukai 6*	126.45	126.27	-	
15.	Wanakbori 8 TPS*	182.11	183.15		
16.	Ukai Hydro	10.98	10.65	-	0.33
17.	Kadana Hydro	29.09	28.90	-	0.19
18.	<b>Total</b>	<b>1,077.96</b>	<b>1,068.40</b>	<b>-</b>	<b>7.31</b>

\* PPA based stations

### Commission's Analysis

The Commission has considered RoE of 13% for Gandhinagar-5, Wanakbori-7 and Dhuvaran CCPP 1, as per their PPA, and RoE of 14% for all other stations.

The Commission has taken the closing equity of FY 2021-22 as the opening equity of FY 2022-23, and 30% of capitalisation approved has been considered as equity addition during the year. Further, the retirement of Rs. 0.43 Crore approved by the Commission has been reduced from equity base as claimed by GSECL, as given in the Table below:



**Table 4-34: Approved Equity for FY 2022-23**

Sr. No.	Power Station	(Rs. Crore)			
		Opening Equity	Addition	Retirement	Closing Equity
1.	Ukai (3-5)	174.83	5.37	0.00	180.19
2.	Gandhinagar (3-4)	180.88	7.03	-	187.91
3.	Gandhinagar 5*	220.57	-	-	220.57
4.	Wanakbori 1-6 TPS	667.60	18.64	-	686.24
5.	Wanakbori 7*	201.22	-	-	201.22
6.	Sikka Extension (3-4)*	934.05	9.02	0.40	942.67
7.	KLTPS 3	391.43	2.36	-	393.79
8.	KLTPS 4	211.78	5.83	-	217.61
9.	BLTPS*	1,081.65	16.13	0.02	1,097.76
10.	Dhuvaran CCPP 1*	81.29	0.01	-	81.30
11.	Dhuvaran CCPP 2	103.90	0.11	-	104.01
12.	Dhuvaran CCPP 3*	479.18	1.38	-	480.56
13.	Utran Extension*	411.76	1.45	-	413.21
14.	Ukai 6*	900.19	3.54	-	903.73
15.	Wanakbori 8 TPS*	1,304.82	6.83	-	1,311.65
16.	Ukai Hydro	75.97	0.18	0.00	76.15
17.	Kadana Hydro	206.39	0.03	-	206.42
	<b>Total</b>	<b>7,627.50</b>	<b>77.92</b>	<b>0.43</b>	<b>7,705.00</b>

\* PPA based stations

### Gains / (Losses)

The GERC (MYT) Regulations, 2016 consider the parameters impacting the variance in the RoE as controllable. However, the Commission is of the view that the RoE depends on the amount of capitalization and the debt equity ratio considered during the financial year, and these parameters are uncontrollable in nature. The variance in the amount of RoE is therefore, treated as uncontrollable.

**The Commission, accordingly, approves the station-wise return on equity and gain / (loss) on account of variation in RoE in the truing up for FY 2022-23 as detailed in the Table below:**





**Table 4-35: Approved Return on Equity and gain/ (loss) for FY 2022-23**

(Rs. Crore)

Sr. No	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (1-5)	24.84	24.85	24.85		(0.01)
2.	Gandhinagar (1-4)	26.04	25.82	25.82		0.22
3.	Wanakbori 1-6 TPS	101.61	94.77	94.77		6.84
4.	KLTPS 3	55.12	54.97	54.97		0.15
5.	KLTPS 4	29.65	30.06	30.06		(0.41)
6.	Dhuvaran CCPP 2	14.54	14.55	14.55		(0.01)
7.	Ukai Hydro	10.98	10.65	10.65		0.33
8.	Kadana Hydro	29.09	28.90	28.90		0.19
	<b>Subtotal A</b>	<b>291.87</b>	<b>284.56</b>	<b>284.56</b>		<b>7.31</b>
9.	Gandhinagar 5*	28.67	28.67	28.67		
10.	Wanakbori 7* TPS	26.34	26.16	26.16		
11.	Sikka Extn.(3-4)*	131.79	131.37	131.37		
12.	BLTPS*	155.56	152.72	152.56		
13.	Dhuvaran CCPP 1*	10.55	10.57	10.57		
14.	Dhuvaran CCPP 3*	67.05	67.18	67.18		
15.	Utran Extension*	57.56	57.75	57.75		
16.	Ukai 6*	126.45	126.27	126.27		
17.	Wanakbori 8 TPS*	182.11	183.15	183.15		
	<b>Subtotal B</b>	<b>786.08</b>	<b>783.84</b>	<b>783.69</b>		
	<b>Total (A+B)</b>	<b>1,077.96</b>	<b>1,068.40</b>	<b>1,068.24</b>		<b>7.31</b>

\* PPA based stations

#### 4.7.4 O&M Expenses for FY 2022-23

##### Petitioner's Submission

GSECL has claimed Rs. 1,173.46 Crore towards actual O&M expenses in the truing up for FY 2022-23. The O&M charges approved for FY 2022-23 by the Commission in the Tariff Order dated 30<sup>th</sup> March 2022, and now claimed by GSECL are given in the Table below:



**Table 4-36: O&M expenses for FY 2022-23**

(Rs. Crore)

Particulars	Approved as per Tariff Order	Actual claimed
<b>O&amp;M Expenses</b>	1,627.04	1,173.46

The O&M expenses have been considered as both “Controllable” and “Uncontrollable”. GSECL submitted that Wage revision arrears paid on account of 7<sup>th</sup> Pay Commission have been considered as uncontrollable expenses in line with the approach adopted by the Commission for approval of employee expenses for GSECL. Further, GSECL has also incurred certain expenditure towards COVID-19 related expenses during FY 2022-23, which have also been considered as uncontrollable expenses. GSECL has worked out a gain of Rs. 154.37 Crore on Controllable O&M Expenses. But, GSECL has computed a net loss of Rs. 21.29 Crore on O&M Expenses related wage revision on account of 7<sup>th</sup> Pay Revision and Covid-19 related expenses as uncontrollable expenses. The station-wise O&M expenses approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and now claimed by GSECL in the truing up for FY 2022-23 are given in the Table below:

**Table 4-37: Gains / Losses from O&M expenses for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (3-5)	262.61	214.11	54.72	(6.22)
2.	Gandhinagar (3-4)	152.10	188.61	(30.40)	(6.11)
3.	Gandhinagar 5*	61.66	1.49		
4.	Wanakbori 1-6 TPS	281.51	205.32	81.80	(5.61)
5.	Wanakbori 7*	21.32	16.88		
6.	Sikka Extension (3-4)*	146.73	123.00		(0.25)
7.	KLTPS 3	51.70	65.40	(11.87)	(1.83)
8.	KLTPS 4	20.97	23.54	(2.28)	(0.29)
9.	BLTPS*	188.44	88.66		
10.	Dhuvaran CCPP 1*	51.61	57.14		
11.	Dhuvaran CCPP 2	52.34	4.72	47.62	
12.	Dhuvaran CCPP 3*	5.20	7.17		
13.	Utran Extension*	54.91	53.37		
14.	Ukai 6*	57.54	38.71		



Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
15.	Wanakbori 8 TPS*	171.60	52.34		
16.	Ukai Hydro	15.45	14.74	1.02	(0.31)
17.	Kadana Hydro	31.35	18.26	13.76	(0.68)
18.	<b>Total</b>	<b>1,627.04</b>	<b>1,173.46</b>	<b>154.37</b>	<b>(21.29)</b>

\* PPA based stations

### Commission's Analysis

The O&M expenses comprise the following elements:

- (i) Employees expenses;
- (ii) Repairs & Maintenance expenses;
- (iii) Administration & General expenses.

These elements are discussed hereunder:

#### (i) Employee expenses

The Employees expenses as per the Audited Annual Accounts (Note No. 28) is Rs. 755.60 Crore net of expenses capitalised. GSECL has claimed Rs. 727.06 Crore as Employee expense in FY 2022-23 for the stations covered in the Petition. On query from the Commission regarding reconciliation of Employee expense claimed vs. Employee expense as per Audited Accounts and actual Corporate Office (HO) allocation between its Regulated and other businesses, GSECL has revised its Total Employee Expense to Rs. 760.10 Crore as against amount of Rs. 755.60 Crores as per Annual Accounts. GSECL has stated that it has claimed Rs. 4.50 Crore over and above the employee expenses of Rs. 755.60 Crore shown in the Audited Accounts for FY 2022-23 as GSECL has actually incurred Rs. 4.50 Crore from previous year's provision of Covid 19 related compensation to legal heirs of deceased employees, which have been incurred in FY 2022-23, but were not allowed by the Commission in the previous year. Accordingly, GSECL has claimed total employee expense of Rs. 720.46 Crore for the stations covered in the Petition, balance expense of Rs. 39.64 Crore is considered for other unregulated stations.

GSECL in its reconciliation of Employee expenses claimed that it has allocated Employee expenses between its Regulated stations and unregulated stations (SSNNL, SPS and RE Projects) as per actual employee expenses recorded in



these stations. Further, Corporate Office employee expenses have been allocated to these projects as per their respective expenses.

GSECL has claimed uncontrollable expenses on Impact of wage revision due to 7<sup>th</sup> Pay Commission in Employee Expense of FY 2022-23 as Rs. 24.15 Crore out of total employee expense of Rs. 760.10 Crore.

GSECL has submitted that for FY 2022-23, the Commission had approved Employee Expenses based on Expenses approved for FY 2021-22, which was based on average expenses of FY 2017-18, FY 2018-19 and FY 2019-20. Since, the actual pay out against 7<sup>th</sup> Pay revision was made from FY 2018-19 onwards, the impact of 7<sup>th</sup> pay revision in base employee expenses have been captured only for 2/3<sup>rd</sup> impact of salary revision, being FY 2018-19 and FY 2019-20. Thus, the escalated employee expenses approved by the Commission for FY 2021-22 and FY 2022-23 have not captured 1/3<sup>rd</sup> increase in employee cost on account of salary revision. For FY 2022-23, GSECL had computed wage revision difference between 7<sup>th</sup> Pay Commission and 6<sup>th</sup> Pay Commission amounting to Rs. (3.22) Crore (i.e. Rs. 528.79 Crore - Rs. 532 Crore). Accordingly, 1/3<sup>rd</sup> amount of Rs. (3.22) Crore being Rs. (1.07) Crore has been considered as uncontrollable in employee expenses for FY 2022-23.

GSECL has further submitted that for FY 2021-22, impact of pay revision in base year being 1/3<sup>rd</sup> of base year was inadvertently not claimed by GSECL in truing up as uncontrollable and was considered as controllable by Commission and passed on to Consumers as 1/3<sup>rd</sup> gain sharing as per MYT framework. Since, this element is uncontrollable, GSECL is claiming back 1/3<sup>rd</sup> controllable gain share of 1/3<sup>rd</sup> Pay Revision impact during truing up of FY 2021-22. The difference between pay revision for FY 2021-22 works out to Rs. 30.39 Crore (i.e., Rs. 505.19 Crore – Rs.474.80 Crore). Hence, 1/9<sup>th</sup> of Rs. 30.39 Crore being Rs. 3.38 Crore is now claimed back as uncontrollable amount towards FY 2021-22. Thus, total amount of Rs. 2.30 Crore, i.e., Rs. (1.07) Crore for FY 2021-22 + Rs. 3.38 Crore for FY 2022-23 has been claimed as uncontrollable in order to capture the pay revision impact in employee expenses.

Further, GSECL has also claimed impact of Implementation of 7<sup>th</sup> Pay Commission related to allowances and incentive for amount of Rs. 17.81 Crore and impact of implementation of 7<sup>th</sup> Pay Commission related to HRA and CLA as Rs. 4.03 Crore being actually paid in FY 2022-23, as uncontrollable expenses. Thus, total impact



of 7<sup>th</sup> Pay Commission related payments considered as uncontrollable by GSECL is Rs. 24.15 Crore (i.e. Rs. 2.30 Crore + Rs. 17.81 Crore + Rs. 4.03 Crore), out of which Rs. 1.14 Crore is considered for SSNNL, SPS and RE plants and Rs. 23.00 Crore is for regulated stations of GSECL covered in the Petition. The claim of GSECL in this regard is summarised below:

**Table 4-38: GSECL Claim of Impact on Wage revision due to 7<sup>th</sup> Pay Revision**

<b>Particulars</b>	<b>Amount (Rs. Crore)</b>
Impact of wage revision between 6th pay and 7th pay for FY 2022-23 due to partial consideration of pay revision while determining the base O&M Expenses of FY 2021-22.	-1.07
True Up of FY 2021-22: Impact of wage revision not claimed in previous year. (claimed 1/9th as this amount is already passed onto consumers as controllable, Since, this element is being uncontrollable, GSECL are claiming back 1/3rd controllable gain shared of 1/3rd pay revision impact during truing up of FY 2021-22)	3.38
<b>Sub-Total</b>	<b>2.30</b>
Impact of implementation of 7th Pay Commission related to HRA and CLA	4.03
Impact of implementation of 7th pay Commission related to allowances and incentive	17.81
<b>Total</b>	<b>24.15</b>

Thus, out of total amount of Rs. 760.10 Crore, GSECL has claimed amount of Rs. 28.65 Crore (i.e., Rs. 7<sup>th</sup> Pay impact of Rs. 24.15 Crore + Rs. 4.50 Crore Covid related pay-out) as uncontrollable and balance amount of Rs. 731.46 Crore as Controllable. Further, Corporate (HO) Employee Expenses of Rs. 30.53 Crore have been allocated to the regulated and un-regulated projects in proportion to their respective expenses. Hence, Rs. 1.73 Crore of HO employee expenses has been considered in SSNNL, SPS and RE units and Rs. 28.81 Crore has been allocated according to their employee expenses in the regulated stations of GSECL.



Hence, the total claim of Employee expense for FY 2022-23 is Rs. 720.46 Crore.

The reconciliation of such is provided as below:

Particulars	Legend	Amount (Rs. Crore)
Employee Cost (Controllable)	A	731.46
Employee Cost (impact of 7 <sup>th</sup> Pay Commission) (Uncontrollable)	B	24.15
<b>Sub – Total</b>	<b>C=A+B</b>	<b>755.60</b>
Covid -19 related payments paid from Provisions (uncontrollable)	D	4.50
Total Employee cost incl. SSNNL, SPS and RE	E=C+D	760.10
Employee Cost (Controllable) attributed to SSNNL, SPS and RE incl. HO Allocation	F	38.50
Employee Cost (Uncontrollable) attributed to SSNNL, SPS and RE incl. HO Allocation	G	1.14
<b>Employee Cost for the stations covered in the Petition</b>	<b>H=E-F-G</b>	<b>720.46</b>
<b>Employee Cost (uncontrollable)</b>	<b>I=B+D-G</b>	<b>27.50</b>
<b>Employee Cost (controllable)</b>	<b>J=H-I</b>	<b>692.96</b>

The Commission notes that GSECL has claimed back the amount of Rs. 3.38 Crore towards impact of 7<sup>th</sup> Pay Commission, which was inadvertently passed through as controllable in true up of FY 2021-22. The Commission is of the opinion that the Employee expense for FY 2021-22 is already true up vide Order dated 31.03.2023 and therefore the same is not allowed in the present proceedings. Hence, the Commission has not allowed the amount of Rs. 3.38 Crore being claimed back for FY 2021-22 in the true up of FY 2022-23.

**Table 4-39: Impact on Wage revision due to 7<sup>th</sup> pay Revision approved by Commission vs. claim of GSECL (Rs. Crore)**

Particulars	Amount claimed by GSECL	Amount approved by Commission
Impact of wage revision between 6th pay and 7th pay for FY 2022-23 due to partial consideration of pay revision while determining the base O&M Expenses of FY 2021-22.	(1.07)	(1.07)
True Up of FY 2021-22: Impact of wage revision not claimed in previous year. (claimed 1/9th as this amount is already passed onto consumers as controllable, Since, this element is being	3.38	0.00



Particulars	Amount claimed by GSECL	Amount approved by Commission
uncontrollable, GSECL are claiming back 1/3rd controllable gain shared of 1/3rd pay revision impact during truing up of FY 2021-22)		
<b>Sub-Total</b>	<b>2.30</b>	<b>(1.07)</b>
Impact of implementation of 7th Pay Commission related to HRA and CLA	4.03	4.03
Impact of implementation of 7th pay Commission related to allowances and incentive	17.81	17.81
<b>Total</b>	<b>24.15</b>	<b>20.77</b>

Hence, the Commission approves the Employee cost as controllable and uncontrollable as below:

**Table 4-40: Employee Expense approved by the Commission for FY 2022-23**

Particulars	Legend	Amount (Rs. Crore)
Employee Cost (Controllable)	A	731.46
Employee Cost (impact of 7 <sup>th</sup> Pay Commission) (Uncontrollable)	B	20.77
<b>Sub – Total</b>	<b>C=A+B</b>	<b>752.22</b>
Covid -19 related payments paid from Provisions (uncontrollable)	D	4.50
Total Employee cost incl. SSNNL, SPS and RE	E=C+D	756.72
Employee Cost (Controllable) attributed to SSNNL, SPS and RE incl. of HO Allocation	F	38.50
Employee Cost (Uncontrollable) attributed to SSNNL, SPS and RE incl. of HO Allocation	G	0.98
<b>Employee Cost attributable to stations covered in the Petition</b>	<b>H=E-F-G</b>	<b>717.24</b>
<b>Employee Cost (uncontrollable)</b>	<b>I=B+D-G</b>	<b>24.28</b>
<b>Employee Cost (controllable)</b>	<b>J=H-I</b>	<b>692.96</b>

**(ii) Repairs & Maintenance expenses**

As per the Audited Annual Accounts (Note No. 30), the R&M expenses are Rs. 318.28 Crore. GSECL has claimed Rs. 296.34 Crore as R&M expense in FY 2022-23. On query from the Commission regarding reconciliation of R&M expense claimed vs. R&M expense as per Audited Accounts and actual HO allocation



between its regulated and unregulated entities (SSNNL, SPS and RE), GSECL revised its total R&M expenses to Rs. 294.44 Crore.

The Commission notes that total Corporate R&M Expense is Rs. 3.86 Crore, which is allocated to Regulated entities and SSNNL, SPS and RE units in the ratio of their respective R&M Expenses. The Commission also notes that GSECL has considered R&M expenses of Rs. 15.58 Crore towards SSNNL and SPS and Rs. 8.26 Crore towards RE inclusive of HO allocation of R&M Expenses. The net R&M expenses works out to Rs. 294.44 Crore. Hence, R&M Expense of Rs. 294.44 Crore includes HO Expenses of Rs. 3.57 Crore for the stations covered under this Petition.

**(iii) Administration & General (A&G) expenses**

GSECL has claimed Rs. 150.06 Crore as A&G expenses in FY 2022-23 for the stations covered in the Petition. On query from the Commission regarding reconciliation of A&G expense claimed vs. A&G expense as per Audited Accounts and actual HO Expenses Allocation between its Regulated and Unregulated stations (SSNNL, SPS and RE), GSECL has submitted that out of total A&G Expense of Rs. 153 Crore, Rs. 3.21 Crore is for SSNNL, SPS and RE plants inclusive of HO A&G expense allocation of Rs. 0.27 Crore and balance Rs. 149.79 Crore is for regulated Units of GSECL. HO expense of Rs. 0.27 Crore has been considered for SSNNL, SPS and RE Stations and Rs. 12.48 Crore has been considered for regulated stations of GSECL covered in the Petition.

The Commission notes that as per the Audited Annual Accounts, the A&G expenses are Rs. 159.56 Crore net of capitalised expenses of Rs. 10.17 Crore. It is observed that these A&G expenses include expenses of Rs. 7.90 Crore towards Corporate Social Responsibility, Rs. 0.19 Crore towards provision on Loan to joint Venture, Rs. 2.68 Crore towards Other charitable expense and penalties under Misc. Expenses and Rs. 3.78 Crore towards SLDC charges which are already being considered under separate head. Hence, total allowable A&G Expense is Rs. 145.01 Crore, which is attributable to both Regulated and Other businesses of GSECL. GSECL has claimed total A&G Expenses for its regulated stations as Rs. 149.79 Crore from overall expense of Rs. 153 Crore, which is allocated between its Regulated stations and SSNNL, SPS and RE stations. The Commission notes that GSECL has considered Rs. 7.90 Crore of CSR expenses as part of HO A & G expense , which is allocated to its Regulated and Unregulated Business. Hence,





The Commission disallows Rs. 7.90 Crore towards CSR expenses. The A&G Expense claimed by GSECL and approved by the Commission is detailed below:

<b>Particulars</b>	<b>A&amp;G Expense Claimed by GSECL</b>	<b>A&amp;G Expense Approved</b>
A&G Expenses of regulated stations before allocation of HO expenses	137.31	137.31
A&G Expenses of Unregulated stations (SSNNL, SPS, RE stations) before allocation of HO expenses	2.94	2.94
A&G Expense of HO	12.75	4.85
A&G Expenses of HO allocated to Regulated stations	12.48	4.75
Less: A&G Expenses of HO allocated to unregulated stations	0.27	0.10
<b>A&amp;G Expenses of Regulated stations Claimed/allowed in the true up of FY 2022-23</b>	<b>149.79</b>	<b>142.06</b>

In view of the above, the total actual O&M Expenses approved by the Commission for FY 2022-23 are Rs. 1,153.74 Crore, including Employee Cost of Rs. 720.46 Crore, A&G Expenses of Rs. 142.06 Crore and R&M Expenses of Rs. 294.44 Crore.

#### **Gains / (Loss)**

The Commission observed that there is a gain of Rs. 166.28 Crore due to controllable factors and loss of Rs. 18.89 Crore due to uncontrollable factors by comparing the actual amount with the O&M expenses approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022.

**The Commission, approves the station-wise O&M expenses and the gain / (loss) on account of O&M expenses in the truing up for FY 2022-23 as detailed in the Table below:**



**Table 4-41: Approved O&M expenses gains/losses for FY 2022-23**

(Rs. Crore)						
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (3-5)	262.61	214.11	209.12	59.07	(5.58)
2.	Gandhinagar (3-4)	152.10	188.61	185.59	(28.08)	(5.41)
3.	Wanakbori 1-6 TPS	281.51	205.32	202.47	83.95	(4.91)
4.	KLTPS 3	51.70	65.40	62.70	(9.39)	(1.60)
5.	KLTPS 4	20.97	23.54	23.27	(2.05)	(0.25)
6.	Dhuvaran CCPP 2	52.34	4.72	4.73	47.61	-
7.	Ukai Hydro	15.45	14.74	14.56	1.15	(0.27)
8.	Kadana Hydro	31.35	18.26	17.94	14.03	(0.62)
	<b>Subtotal A</b>	<b>868.03</b>	<b>734.70</b>	<b>720.39</b>	<b>166.28</b>	<b>(18.64)</b>
9.	Gandhinagar 5*	61.66	1.49	1.53		
10.	Wanakbori 7* TPS	21.32	16.88	16.76		
11.	Sikka Extn.(3-4)*	146.73	123.00	120.38		
12.	BLTPS*	188.44	88.66	87.88		
13.	Dhuvaran CCPP 1*	51.61	57.14	55.94		
14.	Dhuvaran CCPP 3*	5.20	7.17	7.22		
15.	Utran Extension*	54.91	53.37	52.92		
16.	Ukai 6*	57.54	38.71	38.56		
17.	Wanakbori 8 TPS*	171.60	52.34	52.17		
	<b>Subtotal B</b>	<b>759.01</b>	<b>438.76</b>	<b>433.35</b>		
	<b>Total (A+B)</b>	<b>1,627.04</b>	<b>1,173.46</b>	<b>1,153.74</b>	<b>166.28</b>	<b>(18.64)</b>

\* PPA based stations

#### 4.7.5 Interest on Working Capital for FY 2022-23

##### Petitioner's Submission

GSECL has claimed Rs. 566.06 Crore towards interest on working capital (IoWC) in the Truing up for FY 2022-23. The IoWC approved for FY 2022-23 in the Tariff Order dated 30<sup>th</sup> March, 2022 and as claimed in the Truing up are given in the Table below:

**Table 4-42: Interest on Working Capital Claimed by GSECL in Truing up for FY 2022-23**

(Rs. Crore)		
Particulars	Approved as per Tariff Order	Actual claimed
Interest on Working Capital	370.27	566.06



GSECL has submitted that it has considered the interest rate for calculating loWC as 10.30% (weighted average of 1-year SBI MCLR for FY 2022-23 plus 2.50%). GSECL has further submitted that the loWC computed in the Truing up for FY 2022-23 indicates a loss of Rs. 31.67 Crore as shown in the Table below:

**Table 4-43: Gains / Losses from Interest on working capital claimed for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1.	Ukai (3-5)	36.37	47.49		(11.12)
2.	Gandhinagar (3-4)	28.46	32.96		(4.50)
3.	Gandhinagar 5*	12.82	15.86		
4.	Wanakbori 1-6 TPS	80.60	97.89		(17.29)
5.	Wanakbori 7*	13.34	14.97		
6.	Sikka Extension (3-4)*	34.39	75.68		
7.	KLTPS 3	5.22	7.86		(2.64)
8.	KLTPS 4	5.21	6.49		(1.28)
9.	BLTPS*	27.93	35.59		
10.	Dhuvaran CCPP 1*	4.65	0.91		
11.	Dhuvaran CCPP 2	5.67	0.49		5.18
12.	Dhuvaran CCPP 3*	15.57	74.19		
13.	Utran Extension*	16.04	58.35		
14.	Ukai 6*	31.66	38.25		
15.	Wanakbori 8 TPS*	50.69	57.42		
16.	Ukai Hydro	0.54	0.59		(0.05)
17.	Kadana Hydro	1.11	1.09		0.02
18.	<b>Total</b>	<b>370.27</b>	<b>566.06</b>	-	<b>(31.67)</b>

\* PPA based stations

### Commission's Analysis

The working capital requirement and the loWC have been computed as per the GERC (MYT) Regulations, 2016. The Commission has computed working capital requirement based on approved values of O&M costs, fuel costs, ARR and SFO cost. Further, the Commission has considered the interest rate on working capital as 10.30% as per the GERC (MYT) Regulations, 2016.



The interest on working capital is calculated at Rs. 563.40 Crore based on the expenses approved in the truing up for FY 2022-23.

**Gain / (Loss)**

Regarding GSECL's submission that interest on working capital should be considered as uncontrollable, the Commission is also of the view that interest on working capital should be considered as uncontrollable.

**The Commission accordingly approves the station-wise Interest on Working Capital and the gains / (losses) on account of Interest on Working Capital in the truing up for FY 2022-23 as detailed in the Table below:**

**Table 4-44: Approved Gains/ (Losses) from Interest on Working Capital for FY 2022-23**

(Rs. Crore)						
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1	Ukai (3-5)	36.37	47.49	47.46	-	(11.09)
2	Gandhinagar (3-4)	28.46	32.96	32.94	-	(4.48)
3	Wanakbori 1-6 TPS	80.60	97.89	97.88	-	(17.28)
4	KLTPS 3	5.22	7.86	7.84	-	(2.62)
5	KLTPS 4	5.21	6.49	6.48	-	(1.27)
6	Dhuvaran CCPP 2	5.67	0.49	0.49	-	5.18
7	Ukai Hydro	0.54	0.59	0.59	-	(0.05)
8	Kadana Hydro	1.11	1.09	1.08	-	0.03
	<b>Subtotal A</b>	<b>163.18</b>	<b>194.85</b>	<b>194.75</b>	<b>-</b>	<b>(31.57)</b>
9	Gandhinagar 5*	12.82	15.86	15.86	-	-
10	Wanakbori 7* TPS	13.34	14.97	14.97	-	-
11	Sikka Extn.(3-4)*	34.39	75.68	75.67	-	-
12	BLTPS*	27.93	35.59	35.58	-	-
13	Dhuvaran CCPP 1*	4.65	0.91	0.90	-	-
14	Dhuvaran CCPP 3*	15.57	74.19	74.07	-	-
15	Utran Extension*	16.04	58.35	58.27	-	-
16	Ukai 6*	31.66	38.25	38.26	-	-
17	Wanakbori 8 TPS*	50.69	57.42	55.07	-	-
	<b>Subtotal B</b>	<b>207.09</b>	<b>371.22</b>	<b>368.64</b>	<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>370.27</b>	<b>566.06</b>	<b>563.39</b>	<b>-</b>	<b>(31.57)</b>

\* PPA based stations



#### 4.7.6 SLDC Charges for FY 2022-23

##### Petitioner's Submission

GSECL has claimed Rs. 2.75 Crore towards SLDC charges in the Truing up for FY 2022-23. SLDC charges approved by the Commission in the Tariff Order for FY 2022-23, and now claimed by GSECL as actual are tabulated below:

**Table 4-45: SLDC charges for FY 2022-23**

	(Rs. Crore)	
Particulars	Approved as per Tariff Order	Actual claimed
<b>SLDC charges</b>	4.28	2.75

GSECL has submitted that it has considered the Gains/(Losses) on account of SLDC charges as "uncontrollable". The station-wise SLDC charges approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 and as claimed by GSECL in the Truing up for FY 2022-23 and Gains/(Losses) on account of uncontrollable factors are given in the Table below:

**Table 4-46: Gain/ (loss) for SLDC charges claimed for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	0.40	0.25	-	0.15
2.	Gandhinagar (3-4)	0.28	0.17	-	0.11
3.	Gandhinagar 5*	0.14	0.09		
4.	Wanakbori 1-6 TPS	0.83	0.52	-	0.31
5.	Wanakbori 7*	0.14	0.09		
6.	Sikka Extension (3-4)*	0.33	0.21		
7.	KLTPS 3	0.11	0.04	-	0.07
8.	KLTPS 4	0.05	0.03	-	0.02
9.	BLTPS*	0.33	0.21		
10.	Dhuvaran CCPP 1*	0.07	0.04		
11.	Dhuvaran CCPP 2	0.07	0.05	-	0.02
12.	Dhuvaran CCPP 3*	0.25	0.15		
13.	Utran Extension*	0.25	0.15		
14.	Ukai 6*	0.33	0.21	-	
15.	Wanakbori 8 TPS*	0.34	0.33		
16.	Ukai Hydro	0.20	0.13	-	0.07
17.	Kadana Hydro	0.16	0.10	-	0.06
18.	<b>Total</b>	<b>4.28</b>	<b>2.75</b>	-	<b>0.82</b>

\* PPA based stations



### Commission's Analysis

SLDC charges are not reflected separately in the annual accounts but are included in Other Expenses (Note 30). The Commission has reconciled the SLDC Charges with Other Expenses submitted in the Petition vis-à-vis Audited Accounts. The Commission approves Rs. 2.75 Crore towards SLDC charges in the truing up for FY 2022-23 as claimed by GSECL against Rs. 4.28 Crore approved in the Tariff Order dated 30<sup>th</sup> March, 2022.

### Gains / (Losses):

The parameters, which impact SLDC charges, are uncontrollable. The Commission accordingly approves the Gains/(Losses) on account of SLDC charges in the Truing up as detailed in the Table below:

**Table 4-47: Approved SLDC charges gains/ (losses) for FY 2022-23**

(Rs. Crore)						
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (1-5)	0.40	0.25	0.25	-	0.15
2.	Gandhinagar (1-4)	0.28	0.17	0.17	-	0.11
3.	Wanakbori 1-6 TPS	0.83	0.52	0.52	-	0.31
4.	KLTPS 3	0.11	0.04	0.04	-	0.07
5.	KLTPS 4	0.05	0.03	0.03	-	0.02
6.	Dhuvaran CCPP 2	0.07	0.05	0.05	-	0.02
7.	Ukai Hydro	0.20	0.13	0.13	-	0.07
8.	Kadana Hydro	0.16	0.10	0.10	-	0.06
	<b>Subtotal A</b>	<b>2.10</b>	<b>1.28</b>	<b>1.28</b>	-	<b>0.82</b>
9.	Gandhinagar 5*	0.14	0.09	0.09	-	-
10.	Wanakbori 7* TPS	0.14	0.09	0.09	-	-
11.	Sikka Extn.(3-4)*	0.33	0.21	0.21	-	-
12.	BLTPS*	0.33	0.21	0.21	-	-
13.	Dhuvaran CCPP 1*	0.07	0.04	0.04	-	-
14.	Dhuvaran CCPP 3*	0.25	0.15	0.15	-	-
15.	Utran Extension*	0.25	0.15	0.15	-	-
16.	Ukai 6*	0.33	0.21	0.21	-	-
17.	Wanakbori 8 TPS*	0.34	0.33	0.33	-	-
	<b>Subtotal B</b>	<b>2.18</b>	<b>1.47</b>	<b>1.47</b>	-	-
	<b>Total (A+B)</b>	<b>4.28</b>	<b>2.75</b>	<b>2.75</b>	-	<b>0.82</b>

\* PPA based stations



#### 4.7.7 Water Charges for FY 2022-23

GSECL has claimed Rs. 254.53 Crore towards water charges in the Truing up for FY 2022-23 against Rs. 168.46 Crore approved in the Tariff Order dated 30<sup>th</sup> March, 2022 as given in the Table below:

**Table 4-48: Water Charges for FY 2022-23**

Particulars	Approved as per Tariff Order	Actual claimed
<b>Water Charges</b>	168.45	254.53

(Rs. Crore)

#### Petitioner's Submission

The station-wise water charges approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022, claimed by GSECL in the Truing up for FY 2022-23, and Gains/(Losses) on account of uncontrollable factors are given in the Table below:

**Table 4-49: Gain/ (loss) for Water charges claimed for FY 2022-23**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	-	-	-	-
2.	Gandhinagar (3-4)	45.02	123.47	-	(78.45)
3.	Gandhinagar 5*	22.51	-		
4.	Wanakbori 1-6 TPS	32.09	48.87	-	(16.78)
5.	Wanakbori 7*	6.71	19.89		
6.	Sikka Extension (3-4)*	5.28	5.91		
7.	KLTPS 3	0.43	0.32	-	0.11
8.	KLTPS 4	-	-	-	-
9.	BLTPS*	13.72	26.59		
10.	Dhuvaran CCPP 1*	-	0.50		
11.	Dhuvaran CCPP 2	2.05	-	-	2.05
12.	Dhuvaran CCPP 3*	-	-		
13.	Utran Extension*	6.95	0.84		
14.	Ukai 6*	-	-	-	
15.	Wanakbori 8 TPS*	33.69	28.14		
16.	Ukai Hydro	-	-	-	-
17.	Kadana Hydro	-	-	-	-
18.	<b>Total</b>	<b>168.45</b>	<b>254.53</b>	<b>-</b>	<b>(93.07)</b>

\* PPA based stations



**Commission's Analysis**

The Commission has reconciled the Water Charges submitted in the Petition vis-à-vis Audited Accounts. It is noted that as per Audited Accounts the total water charges are Rs. 254.53 Crore. The Commission has accepted the same and approves Water Charges accordingly.

**Gains / (Losses):**

As provided in the GERC (MYT) Regulations, 2016, as well as in the Tariff Order for FY 2022-23, the Commission is of the opinion that the water charges should be considered as per actuals. Accordingly, the Commission approves the Gains/(Losses) on account of water charges as uncontrollable in the Truing up as detailed in the Table below:

**Table 4-50: Approved Water charges gain/ (loss) for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (1-5)	-	0.00	-	-	-
2.	Gandhinagar (1-4)	45.02	123.47	123.47	-	(78.45)
3.	Wanakbori 1-6 TPS	32.09	48.87	48.87	-	(16.78)
4.	KLTPS 3	0.43	0.32	0.32	-	0.11
5.	KLTPS 4	-	0.00	-	-	-
6.	Dhuvaran CCPP 2	2.05	0.00	-	-	2.05
7.	Ukai Hydro	-	0.00	-	-	-
8.	Kadana Hydro	-	0.00	-	-	-
	<b>Subtotal A</b>	<b>79.59</b>	<b>172.66</b>	<b>172.66</b>	<b>-</b>	<b>(93.07)</b>
9.	Gandhinagar 5*	22.51	0.00	-	-	-
10.	Wanakbori 7* TPS	6.71	19.89	19.89	-	-
11.	Sikka Extn.(3-4)*	5.28	5.91	5.91	-	-
12.	BLTPS*	13.72	26.59	26.59	-	-
13.	Dhuvaran CCPP 1*	-	0.50	0.50	-	-
14.	Dhuvaran CCPP 3*	-	0.00	-	-	-
15.	Utran Extension*	6.95	0.84	0.84	-	-
16.	Ukai 6*	-	0.00	-	-	-
17.	Wanakbori 8 TPS*	33.69	28.14	28.14	-	-
	<b>Subtotal B</b>	<b>88.86</b>	<b>81.87</b>	<b>81.87</b>	<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>168.45</b>	<b>254.53</b>	<b>254.53</b>	<b>-</b>	<b>(93.07)</b>

\* PPA based stations





#### 4.7.8 Income Tax for FY 2022-23

##### Petitioner's Submission

GSECL has claimed Rs. 7.92 Crore towards Income Tax in the Truing up for FY 2022-23. The Income Tax approved for FY 2022-23 by the Commission in the Tariff Order dated 30<sup>th</sup> March 2022 and now claimed by GSECL as actual is given in the Table below:

**Table 4-51: Income Tax for FY 2022-23**

(Rs. Crore)		
Particulars	Approved as per Tariff Order	Actual claimed
<b>Income Tax</b>	189.57	7.92

GSECL submitted that the Commission has considered the gains/losses arising from Income Taxes as Uncontrollable in its previous year true-ups. The working of gain/loss on account of deviation in Income Tax is generally based on approved Income Tax and actual Income Tax paid by GSECL during the year considered for true-up. For FY 2022-23, GSECL has not claimed the Income Tax on approved basis but has claimed and recovered on actual basis only. Therefore, no gain/ loss is claimed in true-up.

The station-wise Income Tax approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022, claimed by GSECL in the Truing up for FY 2022-23 and Gains/(Losses) on account of uncontrollable factors are given in the Table below:

**Table 4-52: Gain/ (loss) for Income Tax claimed for FY 2022-23**

(Rs. Crore)					
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	18.80	0.72	-	-
2.	Gandhinagar (3-4)	9.17	0.50	-	-
3.	Gandhinagar 5*	5.79	0.25	-	-
4.	Wanakbori 1-6 TPS	26.92	1.49	-	-
5.	Wanakbori 7*	4.84	0.25	-	-
6.	Sikka Extension (3-4)*	20.84	0.59	-	-
7.	KLTPS 3	3.69	0.09	-	-
8.	KLTPS 4	2.74	0.09	-	-
9.	BLTPS*	9.56	0.59	-	-
10.	Dhuvaran CCPP 1*	3.01	0.13	-	-
11.	Dhuvaran CCPP 2	3.21	0.13	-	-
12.	Dhuvaran CCPP 3*	7.09	0.45	-	-
13.	Utran Extension*	13.50	0.44	-	-



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
14.	Ukai 6*	23.02	0.59	-	-
15.	Wanakbori 8 TPS*	35.70	0.95	-	-
16.	Ukai Hydro	0.62	0.36	-	-
17.	Kadana Hydro	1.07	0.29	-	-
	<b>Total</b>	<b>189.57</b>	<b>7.92</b>	-	-

\* PPA based stations

### Commission's Analysis

The Commission has observed that the actual Income Tax as per the Audited Annual Accounts for FY 2022-23 is Rs. 7.92 Crore. The Commission has also verified the computation of Income Tax of Rs. 7.92 Crore shown in the Audited Accounts. As per the principle adopted in the previous Orders, the Commission has considered the Income Tax as per Audited Accounts for the purpose of truing up.

Further, the Commission notes that GSECL has submitted the actual profit/(loss) earned from operations as Rs. 66.25 Crore. GSECL has submitted the following Table giving break-up of profit/(loss) from its all plants and corresponding Income Tax allocation:

**Table 4-53: Profit/(Loss) of each of the station of GSECL for FY 2022-23**

Plants Name	(RS. CRORE)	
	Profit/(Loss)	Allocated Tax Expense
Ukai 3-5	(233.78)	
Ukai 6	(61.52)	
Gandhinagar 3-4	(57.36)	
Gandhinagar 5	(44.03)	
Wanakbori 1-6	(178.62)	
Wanakbori 7	(0.28)	
Wanakbori 8	416.15	3.67
Sikka 3-4	98.99	0.87
KLTPS 3	63.82	0.56
KLTPS 4	(30.81)	
BLTPS 1-2	(224.73)	
Dhuvaran I	19.81	0.17
Dhuvaran II	58.32	0.51
Dhuvaran III	38.35	0.34
Utran 375 MW	121.12	1.07



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Plants Name	Profit/(Loss)	Allocated Tax Expense
Ukai Hydro	17.92	0.16
Kadana Hydro	32.08	0.28
<b>Sub Total (A)</b>		<b>7.65</b>
Wind	4.64	0.04
Solar	17.36	0.15
SSNNL	5.92	0.05
SPS	2.90	0.03
<b>Sub Total (B)</b>		<b>0.27</b>
<b>TOTAL</b>	<b>66.25</b>	<b>7.92</b>

It is noted that the Income Tax is paid by the Company as whole. Separate station-wise details of income, expenditure and Income Tax payable are not available. In light of foregoing, it would be appropriate to consider the Income Tax in proportion to the profit generated from stations. Accordingly, the Commission has computed Income Tax of Rs. 0.27 Crore towards income of SSNNL, SPS and RE Assets and the same has been reduced from current year's Income Tax of Rs. 7.92 Crore. The Commission accordingly approves Income Tax of Rs. 7.65 Crore for FY 2022-23.

The Commission does not find merit in GSECL's submission that sharing of Gains/(Losses) should not be computed for Income Tax, as GSECL has claimed and recovered Income Tax on actual basis only. The tariff approved in the Order for FY 2022-23 allowed Income Tax of Rs. 189.57 Crore, whereas GSECL has incurred actual Income Tax of Rs. 7.65 Crore for its regulated stations. As the Income Tax is an uncontrollable parameter, the Gains/(Losses) have to be shared between GSECL and its beneficiaries, and hence, the Commission has computed the Gains/(Losses) on account of Income Tax for the non-PPA stations, in the manner adopted in all previous True-up Orders.

The station-wise approved Income Tax and gains/(losses) are given in the Table below:

**Table 4-54: Approved Income Tax and gains/ (losses) for FY 2022-23**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain / (Loss) due to controllable factor	(Rs. Crore)
						Gain / (Loss) due to uncontrollable factor
1.	Ukai (1-5)	18.80	0.72	-	-	18.80
2.	Gandhinagar (1-4)	9.17	0.50	-	-	9.17



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
3.	Wanakbori 1-6 TPS	26.92	1.49	-	-	26.92
4.	KLTPS 3	3.69	0.09	0.56	-	3.13
5.	KLTPS 4	2.74	0.09	-	-	2.74
6.	Dhuvaran CCPP 2	3.21	0.13	0.51	-	2.70
7.	Ukai Hydro	0.62	0.36	0.16	-	0.46
8.	Kadana Hydro	1.07	0.29	0.28	-	0.79
	<b>Subtotal A</b>	<b>66.22</b>	<b>3.68</b>	<b>1.52</b>	-	<b>64.70</b>
9.	Gandhinagar 5*	5.79	0.25	-	-	-
10.	Wanakbori 7* TPS	4.84	0.25	-	-	-
11.	Sikka Extn.(3-4)*	20.84	0.59	0.87	-	-
12.	BLTPS*	9.56	0.59	-	-	-
13.	Dhuvaran CCPP 1*	3.01	0.13	0.17	-	-
14.	Dhuvaran CCPP 3*	7.09	0.45	0.34	-	-
15.	Utran Extension*	13.50	0.44	1.07	-	-
16.	Ukai 6*	23.02	0.59	-	-	-
17.	Wanakbori 8 TPS*	35.70	0.95	3.67	-	-
	<b>Subtotal B</b>	<b>123.35</b>	<b>4.24</b>	<b>6.13</b>	-	-
	<b>Total (A+B)</b>	<b>189.57</b>	<b>7.92</b>	<b>7.65</b>	-	<b>64.70</b>

\* PPA based stations

#### 4.7.9 Non-Tariff Income for FY 2022-23

##### Petitioner's Submission

GSECL has claimed Rs. 124.28 Crore towards Non-Tariff Income in the Truing up FY 2022-23 as against Rs. 88.58 Crore approved in the Tariff Order dated 30<sup>th</sup> March, 2022, as given in the Table below:

**Table 4-55: Non-Tariff Income claimed for FY 2022-23**

(Rs. Crore)		
Particulars	Approved as per Tariff Order	Actual claimed
<b>Non-Tariff Income</b>	88.58	124.28



The Petitioner has submitted the station-wise Non-Tariff Income approved in the Tariff Order dated 30<sup>th</sup> March, 2022, claimed in the Truing up for FY 2022-23, and the Gains/(Losses) as given in the Table below:

**Table 4-56: Gain/ (loss) for Non-Tariff Income claimed for FY 2022-23**

Sr. No	Power Station	Approved as per Tariff Order	Actual Claimed	(Rs. Crore)	
				Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (3-5)	5.64	31.32	-	25.68
2.	Gandhinagar (3-4)	10.42	35.74	-	25.32
3.	Gandhinagar 5*	8.88	0.34		
4.	Wanakbori 1-6 TPS	20.39	21.34	-	0.95
5.	Wanakbori 7*	20.68	0.34		
6.	Sikka Extension (3-4)*	5.82	5.22		
7.	KLTPS 3	2.11	4.08	-	1.97
8.	KLTPS 4	0.27	1.99	-	1.72
9.	BLTPS*	2.85	6.61		
10.	Dhuvaran CCPP 1*	0.52	4.78		
11.	Dhuvaran CCPP 2	0.52	4.07	-	3.55
12.	Dhuvaran CCPP 3*	-	3.51		
13.	Utran Extension*	0.48	1.26		
14.	Ukai 6*	7.48	0.82	-	
15.	Wanakbori 8 TPS*	2.26	1.58		
16.	Ukai Hydro	-	0.50	-	0.50
17.	Kadana Hydro	0.26	0.76	-	0.50
	<b>Total</b>	<b>88.58</b>	<b>124.28</b>	<b>-</b>	<b>60.19</b>

\* PPA based stations

### Commission's Analysis

The Non-Tariff Income as reflecting in Audited Accounts is Rs. 364.96 Crore including income shown under Note 25 and Note 26. This income primarily includes liability written back of Rs. 125.10 Crore, income for O&M activity as Rs. 59.74 Crore, Penalties/ LD recovered of Rs. 63.49 Crore, and sale of fly ash of Rs. 52.43 Crore.



GSECL has provided the following justification for non-consideration of the following items as Non-Tariff Income:

Sr. No.	Particulars	Amount (Rs. Crore)	Justification of not consideration under NTI
<b>1</b>	<b>Liability Written back</b>		
a	Retention Amount Transfer to Income	15.05	Retention amounts are often withheld in accordance with contractual agreements to cover potential defects, warranty claims, or performance issues. Since, these amounts do not represent revenue earned from the core business operations, they cannot be considered part of NTI.
b	SD More than 3 years transfer to Income	0.96	Security deposits are typically held to cover potential defaults, damages, or breaches of contract by vendors or suppliers. They are not earned revenue from regular business operations but rather serve as a safeguard or compensation against contingent liabilities. Accordingly, they cannot be considered as part of NTI.
c	Reversal of Provision for Liability for Capital Works	0.22	Since NTI is intended to reflect income generated from regular business operations, adjustments related to expense provisions do not qualify as revenue and are thus, excluded. Moreover, the amount of provisions made against 7 <sup>th</sup> Pay Commission have been claimed after actual payments only
d	Reversal for Pay Revision Provision	108.21	
e	Others	0.66	
<b>2</b>	<b>O&amp;M Income from SSNNL and SPS</b>	59.86	This Income is from unregulated (Supervisory) business of the Company and is hence, not considered along with regulated income
<b>3</b>	<b>Penalties/LD recovered</b>	52.68	Penalties recovered are as part of contractual arrangement between the parties, due to breach of contract arrangement or delay of any kind. It is not income but compensation from regulated business and is therefore excluded from NTI. This amount pertains to the forfeiting of security deposit of the contractor who was awarded the contract for FGD installation work at WTPS-Unit-8. The contract of Rs. 415 crore was awarded to M/s Datang India who left the work and accordingly, the SD submitted was forfeited. New contract for the same work has been awarded to M/s L&T. The contract value is Rs. 600.00 crore. Hence, the amount booked on account of



Sr. No.	Particulars	Amount (Rs. Crore)	Justification of not consideration under NTI
			forfeiting of SD cannot be offered as Non-Tariff Income as it is compensation against higher cost of new contract
4	<b>Energy Conservation Grant</b>	3.05	<ul style="list-style-type: none"> <li>• Rs. 1.87 Crore is related to write back of grant received for RE projects, which is not related to Tariff.</li> <li>• Rs. 1.18 Crore is energy conservation grant received from Holding Company, which is not related to Tariff.</li> </ul>
5	<b>Total</b>	<b>240.68</b>	

The Commission is of the opinion that Retention amount withheld and SD encashed by the Utility on account of non-performance forms part of income of the utility and should be considered under Non-Tariff Income. Hence, the Commission considers Rs. 16.01 Crore (Rs. 15.05 Crore + Rs. 0.96 Crore) as Non-Tariff Income of GSECL in FY 2022-23.

As regards Reversal of Provision for Liability for Capital Works, the same have not been considered as the provisions have not been considered as expense earlier.

As regards the Penalties/LD recovered of Rs. 52.68 Crore from the Contractor, the Commission is of the opinion that these pertain to Capital Works and should be set off against their respective capital works by reducing their capitalisation. GSECL is directed to ensure that the LD recovered is set-off against the capital work for installation of FGD for Wanakbori Unit 8.

The Commission also notes that GSECL has considered Income from SSNNL and SPS as 59.86 Crore, however, the same is reported as Rs. 59.74 Crore in the Audited Accounts (Supervision income from O&M Activity of Rs. 8 Crore and Reimbursement of O&M activity of Rs. 51.74 Crore). The Commission has not considered Rs. 59.74 Crore in the Non-Tariff Income, as the expenses against SSNNL and SPS have also not been considered, on account of the same being against unregulated businesses.

The Commission has not considered the amount against the remaining heads under Non-Tariff Income for FY 2022-23, based on the justification submitted by GSECL.

Hence, the Commission has not considered the amount of Rs. 224.55 Crore (Rs. 240.68 Crore – Rs. 16.01 Crore – Rs. 59.86 Crore + Rs. 59.74 Crore) out of total income of Rs. 364.96 Crore shown in the books of accounts as Non-Tariff Income.



After excluding these elements, the net Non-Tariff Income works out to Rs. 140.41 Crore and accordingly, the Commission approves the Non-Tariff Income of Rs.140.41 Crore for FY 2022-23.

**Gains / (Losses):**

The parameters, which impact Non-Tariff Income, are considered uncontrollable. The Commission accordingly approves the Gains/(Losses) on account of Non-Tariff Income in the Truing up as detailed in the Table below:

**Table 4-57: Approved Non-Tariff Income and gain/ (loss) for FY 2022-23**

(Rs. Crore)						
Sr. No.	Power Station	Approved as per Tariff Order	Actual claimed	Approved in truing up	Gain / (Loss) due to controllable factor	Gain / (Loss) due to uncontrollable factor
1.	Ukai (1-5)	5.64	31.32	35.38	-	29.74
2.	Gandhinagar (1-4)	10.42	35.74	40.38	-	29.96
3.	Wanakbori 1-6 TPS	20.39	21.34	24.11	-	3.72
4.	KLTPS 3	2.11	4.08	4.61	-	2.50
5.	KLTPS 4	0.27	1.99	2.25	-	1.98
6.	Dhuvaran CCPP 2	0.52	4.07	4.60	-	4.08
7.	Ukai Hydro	-	0.50	0.57	-	0.57
8.	Kadana Hydro	0.26	0.76	0.86	-	0.60
	<b>Subtotal A</b>	<b>39.61</b>	<b>99.80</b>	<b>112.75</b>	<b>-</b>	<b>73.14</b>
9.	Gandhinagar 5*	8.88	0.34	0.39	-	-
10.	Wanakbori 7* TPS	20.68	0.34	0.39	-	-
11.	Sikka Extn.(3-4)*	5.82	5.22	5.90	-	-
12.	BLTPS*	2.85	6.61	7.47	-	-
13.	Dhuvaran CCPP 1*	0.52	4.78	5.41	-	-
14.	Dhuvaran CCPP 3*	-	3.51	3.96	-	-
15.	Utran Extension*	0.48	1.26	1.43	-	-
16.	Ukai 6*	7.48	0.82	0.93	-	-
17.	Wanakbori 8 TPS*	2.26	1.58	1.79	-	-
	<b>Subtotal B</b>	<b>48.97</b>	<b>24.48</b>	<b>27.65</b>	<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>88.58</b>	<b>124.28</b>	<b>140.41</b>	<b>-</b>	<b>73.14</b>

\* PPA based stations





#### 4.8 Approved Fixed Charges

The performance of GSECL has been reviewed under Regulation 21 of the GERC (MYT) Regulations, 2016 with reference to Audited Annual Accounts for FY 2022-23. Accordingly, the Commission has discussed and approved various components of fixed charges for approval of trued up ARR in the above paragraphs.

The fixed charges approved for FY 2022-23 in the Tariff Order dated 30<sup>th</sup> March, 2022, charges now approved by the Commission, and deviation (gain/ (loss)) with reference to approved values are given in the Table below:

**Table 4-58: Fixed Charges Approved in the Truing up for FY 2022-23**

(Rs. Crore)

Sr. No.	Fixed Charges	Approved as per Tariff Order	Actual claimed	Approved in truing up	Deviation+ (-)
1	2	3	4	5	6=3-5
<b>(A) Non-PPA Stations</b>					
1.	Depreciation	281.07	265.92	265.92	15.15
2.	Interest and Finance Charges	24.28	17.04	14.72	9.56
3.	Return on Equity	291.87	284.56	284.56	7.31
4.	Interest on Working Capital	163.18	194.85	194.75	(31.57)
5.	O&M Expenses	868.03	734.70	720.39	147.64
6.	Water Charges	79.59	172.66	172.66	(93.07)
7.	SLDC Charges	2.1	1.28	1.28	0.82
8.	Income Tax	66.22	3.68	1.52	64.70
9.	<b>Total Fixed Charges</b>	<b>1,776.34</b>	<b>1,674.69</b>	<b>1,655.80</b>	<b>120.54</b>
10.	Less: Non- Tariff Income	39.61	99.80	112.75	(73.14)
11.	<b>Net Fixed Charges</b>	<b>1,736.73</b>	<b>1,574.89</b>	<b>1,543.04</b>	<b>193.69</b>
<b>(B) PPA Stations</b>					
1.	Depreciation	883.53	925.24	924.99	(41.46)
2.	Interest and Finance Charges	520.37	515.19	444.77	75.60
3.	Return on Equity	786.08	783.84	783.69	2.39
4.	Interest on Working Capital	207.09	371.22	368.64	(161.55)
5.	O&M Expenses	759.01	438.76	433.35	325.66
6.	Water Charges	88.86	81.87	81.87	6.99
7.	SLDC Charges	2.18	1.47	1.47	0.71
8.	Income Tax	123.35	4.24	6.13	117.22
9.	<b>Total Fixed Charges</b>	<b>3,370.47</b>	<b>3,121.83</b>	<b>3,044.91</b>	<b>325.56</b>
10.	Less: Non- Tariff Income	48.97	24.48	27.65	21.32
11.	<b>Net Fixed Charges</b>	<b>3,321.50</b>	<b>3,097.35</b>	<b>3,017.26</b>	<b>304.24</b>
	<b>Total Net Fixed Charges (A+B)</b>	<b>5,058.23</b>	<b>4,672.23</b>	<b>4,560.30</b>	<b>497.93</b>

The station wise approved fixed charges are given in the Table below:



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**Table 4-59: Approved Station-wise Fixed Charges for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	Depreciation	Interest and Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Water Charges	SLDC Charges	Income Tax	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1.	UKAI (3-5)	50.00	-	24.85	47.46	209.12	-	0.25	-	331.68	35.38	296.29
2.	GANDHINAGAR (3-4)	39.44	0.00	25.82	32.94	185.59	123.47	0.17	-	407.43	40.38	367.05
3.	GANDHINAGAR 5*	2.15	-	28.67	15.86	1.53	-	0.09	-	48.30	0.39	47.91
4.	WANAKBORI 1-6 TPS	107.66	8.51	94.77	97.88	202.47	48.87	0.52	-	560.67	24.11	536.56
5.	WANAKBORI 7*	2.15	-	26.16	14.97	16.76	19.89	0.09	-	80.01	0.39	79.62
6.	SIKKA EXTENSION (3-4)*	171.45	81.82	131.37	75.67	120.38	5.91	0.21	0.87	587.69	5.90	581.79
7.	KLTPS 3	29.60	-	54.97	7.84	62.70	0.32	0.04	0.56	156.03	4.61	151.41
8.	KLTPS 4	18.19	4.07	30.06	6.48	23.27	-	0.03	-	82.10	2.25	79.85
9.	BLTPS*	240.57	84.67	152.56	35.58	87.88	26.59	0.21	-	628.04	7.47	620.57
10.	DHUVARAN CCPP 1*	10.14	-	10.57	0.90	55.94	0.50	0.04	0.17	78.27	5.41	72.87
11.	DHUVARAN CCPP 2	13.16	0.82	14.55	0.49	4.73	-	0.05	0.51	34.32	4.60	29.72
12.	DHUVARAN CCPP 3*	78.95	39.48	67.18	74.07	7.22	-	0.15	0.34	267.39	3.96	263.43
13.	UTRAN EXTENSION*	38.18	17.00	57.75	58.27	52.92	0.84	0.15	1.07	226.18	1.43	224.75
14.	UKAI 6*	156.49	52.06	126.27	38.26	38.56	-	0.21	-	411.84	0.93	410.91
15.	WANAKBORI 8 TPS*	224.92	169.75	183.15	55.07	52.17	28.14	0.33	3.67	717.19	1.79	715.40
16.	UKAI HYDRO	2.34	1.32	10.65	0.59	14.56	-	0.13	0.16	29.75	0.57	29.18
17.	KADANA HYDRO	5.53	-	28.90	1.08	17.94	-	0.10	0.28	53.83	0.86	52.97
	<b>Total</b>	<b>1,190.91</b>	<b>459.49</b>	<b>1,068.24</b>	<b>563.39</b>	<b>1,153.74</b>	<b>254.53</b>	<b>2.75</b>	<b>7.65</b>	<b>4,700.71</b>	<b>140.41</b>	<b>4,560.30</b>

\* PPA based stations



## **Sharing of Gains or Losses for FY 2022-23**

The Commission has analysed the gains/losses on account of controllable and uncontrollable factors. The relevant Regulations of the GERC (MYT) Regulations, 2016 are reproduced below:

### ***“Regulation 23. Mechanism for pass through of gains or losses on account of uncontrollable factors***

*23.1 The approved aggregate gain or loss to the Generating Company or Transmission Licensee or Distribution Licensee on account of uncontrollable factors shall be passed through as an adjustment in the Tariff of the Generating Company or Transmission Licensee or Distribution Licensee over such period as may be specified in the Order of the Commission passed under these Regulations.*

*23.2 The Generating Company or Transmission Licensee or Distribution Licensee shall submit such details of the variation between expenses incurred and revenue earned and figures approved by the Commission, in the prescribed format to the Commission, along with detailed computations and supporting documents as may be required for verification by the Commission.*

*23.3 Nothing contained in this Regulation 24 shall apply in respect of any gain or loss arising out of variations in the price of fuel and power purchase which shall be dealt with as specified by the Commission from time to time.*

### ***Regulation 24. Mechanism for sharing of gains or losses on account of controllable factors***

*24.1 The approved aggregate gain to the Generating Company or Transmission Licensee or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:*

- (a) One-third of the amount of such gain shall be passed on as a rebate in Tariffs over such period as may be specified in the Order of the Commission under Regulation 21.6;*
- (b) The balance amount, which will amount to two-thirds of such gain, may be utilized at the discretion of the Generating Company or Transmission Licensee or Distribution Licensee.*

24.2 The approved aggregate loss to the Generating Company or Transmission Licensee or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:

- (a) One-third of the amount of such loss may be passed on as an additional charge in Tariffs over such period as may be specified in the Order of the Commission under Regulation 21.6; and
- (b) The balance amount, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company or Transmission Licensee or Distribution Licensee.”

The Gains/(Losses) due to controllable factors in respect of O&M charges and fuel charges approved to be passed through to the beneficiaries are given in the Table below:

**Table 4-60: Approved Gains / (Losses) due to controllable factors for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	O&M Expenses	Fuel Charges	Total Gains / (Losses) Due to Controllable factors	Total Gains / (Losses) to be passed through (1/3 <sup>rd</sup> of gains / losses)
1.	Ukai (3- 5)	59.07	(186.42)	(127.36)	(42.45)
2.	Gandhinagar (3-4)	(28.08)	(52.87)	(80.95)	(26.98)
3.	Wanakbori 1-6 TPS	83.95	(247.45)	(163.50)	(54.50)
4.	KLTPS 3	(9.39)	(44.24)	(53.63)	(17.88)
5.	KLTPS 4	(2.05)	(40.44)	(42.49)	(14.16)
6.	Dhuvaran CCPP 2	47.61	-	47.61	15.87
7.	Ukai Hydro	1.15	-	1.15	0.38
8.	Kadana Hydro	14.03	-	14.03	4.68
	<b>Subtotal A</b>	<b>166.28</b>	<b>(571.43)</b>	<b>(405.15)</b>	<b>(135.05)</b>
9.	Gandhinagar 5*	-	-	-	-
10.	Wanakbori 7* TPS	-	-	-	-
11.	Sikka Extn.(3-4)*	-	-	-	-
12.	BLTPS*	-	-	-	-
13.	Dhuvaran CCPP 1*	-	-	-	-
14.	Dhuvaran CCPP 3*	-	-	-	-
15.	Utran Extension*	-	-	-	-
16.	Ukai 6*	-	-	-	-
17.	Wanakbori 8 TPS*	-	-	-	-
	<b>Subtotal B</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>166.28</b>	<b>(571.43)</b>	<b>(405.15)</b>	<b>(135.05)</b>

\* PPA based stations



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

The Gains / (Losses) due to uncontrollable factors in respect of depreciation, interest & finance charges, return on equity, interest on working capital, SLDC, water charges, Income Tax, and Non-Tariff Income approved to be passed through to the beneficiaries are given in the Table below:

**Table 4-61: Approved Gains / (Losses) of fixed cost due to Uncontrollable Factors for FY 2022-23**

(Rs. Crore)

Sr. No.	Power Station	O&M (Employee Cost uncontrollable)	Depreciation	Interest and Finance Charges	Return on Equity	Interest on Working Capital	Water Charges	SLDC Charges	Income Tax	Non-Tariff Income	Total Gains / (Losses) to be passed through
1.	Ukai (3-5)	(5.58)	(3.94)	-	(0.01)	(11.09)	-	0.15	18.80	29.74	28.08
2.	Gandhinagar (3-4)	(5.41)	(0.28)	(0.00)	0.22	(4.48)	(78.45)	0.11	9.17	29.96	(49.16)
3.	Wanakbori 1-6 TPS	(4.91)	1.13	11.07	6.84	(17.28)	(16.78)	0.31	26.92	3.72	11.03
4.	KLTPS 3	(1.60)	0.74	-	0.15	(2.62)	0.11	0.07	3.13	2.50	2.48
5.	KLTPS 4	(0.25)	18.18	(2.19)	(0.41)	(1.27)	-	0.02	2.74	1.98	18.80
6.	Dhuvaran CCPP 2	-	(0.80)	0.03	(0.01)	5.18	2.05	0.02	2.70	4.08	13.25
7.	Ukai Hydro	(0.27)	0.08	0.65	0.33	(0.05)	-	0.07	0.46	0.57	1.84
8.	Kadana Hydro	(0.62)	0.04	-	0.19	0.03	-	0.06	0.79	0.60	1.09
	<b>Sub Total A</b>	<b>(18.64)</b>	<b>15.15</b>	<b>9.56</b>	<b>7.31</b>	<b>(31.57)</b>	<b>(93.07)</b>	<b>0.82</b>	<b>64.70</b>	<b>73.14</b>	<b>27.40</b>
9.	Gandhinagar 5*	-	-	-	-	-	-	-	-	-	-
10.	Wanakbori 7* TPS	-	-	-	-	-	-	-	-	-	-
11.	Sikka Extn.(3-4)*	-	-	-	-	-	-	-	-	-	-
12.	BLTPS*	-	-	-	-	-	-	-	-	-	-
13.	Dhuvaran CCPP 1*	-	-	-	-	-	-	-	-	-	-
14.	Dhuvaran CCPP 3*	-	-	-	-	-	-	-	-	-	-
15.	Utran Extension*	-	-	-	-	-	-	-	-	-	-
16.	Ukai 6*	-	-	-	-	-	-	-	-	-	-
17.	Wanakbori 8 TPS*	-	-	-	-	-	-	-	-	-	-
	<b>Sub Total B</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>(18.64)</b>	<b>15.15</b>	<b>9.56</b>	<b>7.31</b>	<b>(31.57)</b>	<b>(93.07)</b>	<b>0.82</b>	<b>64.70</b>	<b>73.14</b>	<b>27.40</b>

\* PPA based stations



The Consolidated Gains / (Losses) approved in the Truing up for FY 2022-23 are given in the Table below:

**Table 4-62: Total Consolidated Gains / (Losses) in Approved for FY 2022-23**

(Rs. Crore)				
Sr. No.	Power Station	Gains / (Losses) of controllable factors	Gains / (Losses) of Uncontrollable factors to be passed through	Total Gains / (Losses)
		A	B	c = (a/3)+b
<b>A Non-PPA Based Stations</b>				
1.	Ukai (3-5)	(127.36)	28.08	(14.37)
2.	Gandhinagar (3-4)	(80.95)	(49.16)	(76.15)
3.	Wanakbori 1-6 TPS	(163.50)	11.03	(43.47)
4.	KLTPS 3	(53.63)	2.48	(15.40)
5.	KLTPS 4	(42.49)	18.80	4.63
6.	Dhuvaran CCPP 2	47.61	13.25	29.12
7.	Ukai Hydro	1.15	1.84	2.23
8.	Kadana Hydro	14.03	1.09	5.76
	<b>Sub Total A</b>	<b>(405.15)</b>	<b>27.40</b>	<b>(107.65)</b>
<b>B PPA Based Stations</b>				
1.	Gandhinagar 5*			
2.	Wanakbori 7* TPS			
3.	Sikka Extn.(3-4)*			
4.	BLTPS*			
5.	Dhuvaran CCPP 1*			
6.	Dhuvaran CCPP 3*			
7.	Utran Extension*			
8.	Ukai 6*			
9.	Wanakbori 8 TPS*			
	<b>Sub Total B</b>	-	-	-
	<b>Total (A+B)</b>	<b>(405.15)</b>	<b>27.40</b>	<b>(107.65)</b>

\* PPA based stations

Further, reduction in gains and losses for Fixed Charges has been considered in accordance with the provisions of GERC (MYT) Regulations, 2016. The presentation of the aforesaid loss and gain under fixed and fuel cost is given in the Table below:



**Table 4-63: Total Consolidated (Fixed and Fuel Cost) Gains / (Losses) Approved for FY 2022-23**

(Rs. Crore)												
Sr. No.	Power Station	Gains / (Losses) of controllable factors	Gains / (Losses) of Uncontrollable factors to be passed through	Total Gains / (Losses) c = a/3+b		Total Gains/(Losses) to be passed through at actual PAF		Gains / (Losses) of controllable factors	Total Gains / (Losses) d/3	Gains / (Losses) of uncontrollable factors (Fuel cost saved due to Solar Generation)	Total Gains / (Losses) f = d/3+e	Total Gains / (Losses)
		(a)	(b)	Fixed charges	Fixed charges	(d)	Fuel cost	Fuel cost	Fuel cost	Fuel cost	Fixed & Fuel cost	
		Fixed charges	Fixed charges	Fixed charges	Fixed charges	Fuel cost	Fuel cost	Fuel cost	Fuel cost	Fuel cost	Fixed & Fuel cost	
<b>A</b>	<b>Non-PPA Stations</b>											
1.	Ukai (3-5)	59.07	28.08	47.77	31.20	(186.42)	(62.14)				(62.14)	(30.94)
2.	Gandhinagar (3-4)	(28.08)	(49.16)	(58.52)	(49.94)	(52.87)	(17.62)				(17.62)	(67.57)
3.	Wanakbori 1-6 TPS	83.95	11.03	39.01	24.18	(247.45)	(82.48)	0.70			(81.79)	(57.60)
4.	KLTPS 3	(9.39)	2.48	(0.65)	(0.47)	(44.24)	(14.75)				(14.75)	(15.22)
5.	KLTPS 4	(2.05)	18.80	18.11	9.72	(40.44)	(13.48)				(13.48)	(3.76)
6.	Dhuvaran CCPP 2	47.61	13.25	29.12	29.12	-	-				-	29.12
7.	Ukai Hydro	1.15	1.84	2.23	2.23	-	-				-	2.23
8.	Kadana Hydro	14.03	1.09	5.76	5.70	-	-				-	5.70
	<b>Sub Total A</b>	<b>166.28</b>	<b>27.40</b>	<b>82.83</b>	<b>51.73</b>	<b>(571.43)</b>	<b>(190.48)</b>	<b>0.70</b>			<b>(189.78)</b>	<b>(138.05)</b>
<b>B</b>	<b>PPA Stations</b>											
1.	Gandhinagar 5*											
2.	Wanakbori 7* TPS											
3.	Sikka Extn.(3-4)*											
4.	BLTPS*											
5.	Dhuvaran CCPP 1*											
6.	Dhuvaran CCPP 3*											
7.	Utran Extn.*											
8.	Ukai 6*											
9.	Wanakbori 8 TPS*											
	<b>Sub Total B</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>			<b>-</b>	<b>-</b>
	<b>Total (A+B)</b>	<b>166.28</b>	<b>27.40</b>	<b>82.83</b>	<b>51.73</b>	<b>(571.43)</b>	<b>(190.48)</b>	<b>0.70</b>			<b>(189.78)</b>	<b>(138.05)</b>



\* *PPA based stations*

The Commission thus approves the net loss of Rs. 138.05 Crore in the Truing up for FY 2022-23. The net loss of Rs. 138.05 Crore approved in the truing up for FY 2022-23 is to be recovered from four DISCOMs through GUVNL in twelve (12) equal monthly instalments during FY 2024-25.





## 5 Determination of Aggregate Revenue Requirement for FY 2024-25

### 5.1 Introduction

This chapter deals with the determination of ARR and Tariff for FY 2024-25.

### 5.2 Generating Stations of GSECL

The details of the existing stations along with their capacities and date of commissioning are given in the Table below:

**Table 5-1: Capacity and COD of GSECL existing Generating Stations**

Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
Ukai	3	200	21/01/1979
	4	200	11/09/1979
	5	210	30/01/1985
	<b>Sub Total</b>	<b>610</b>	
Gandhinagar	3	210	20/03/1990
	4	210	20/07/1991
	5	210	17/03/1998
	<b>Sub Total</b>	<b>630</b>	
Wanakbori	1	210	23/03/1982
	2	210	15/01/1983
	3	210	15/03/1984
	4	210	09/03/1986
	5	210	23/09/1986
	6	210	18/11/1987
	7	210	31/12/1998
	<b>Sub Total</b>	<b>1,470</b>	
KLTPS	3	75	31/03/1997
	4	75	20/12/2009
	<b>Sub Total</b>	<b>150</b>	
Dhuvaran	7 – Gas	106.617	28/01/2004
	8 – Gas	112.45	01/11/2007
	<b>Sub Total</b>	<b>219.067</b>	
Utran Extension	GT -1	374.571	08-11-2009



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
Sikka TPS 3&4	3	250	14/09/2015
	4	250	28/12/2015
	<b>Sub Total</b>	<b>500</b>	
Ukai TPS	6	500	08/06/2013
Dhuvaran (Gas)	3	376.10	01/02/2016
BLTPS	1	250	16/05/2016
	2	250	27/03/2017
	<b>Sub Total</b>	<b>500</b>	
Wanakbori 8 TPS	1	800	13/10/2019
<b>SUB TOTAL GSECL (Coal + Lignite)</b>		<b>5,160</b>	
<b>SUB TOTAL GSECL (Gas)</b>		<b>970</b>	
<b>TOTAL GSECL (Thermal)</b>		<b>6,130</b>	
Ukai Hydro	1	75	08/07/1974
	2	75	13/12/1974
	3	75	22/4/1975
	4	75	04/03/1976
	<b>Sub Total</b>	<b>300</b>	
Ukai LBC	1	2.5	08/12/1987
	2	2.5	19/02/1988
	<b>Sub Total</b>	<b>5</b>	
Kadana Hydro	1	60	31/03/1990
	2	60	02/09/1990
	3	60	03/01/1998
	4	60	27/05/1998
	<b>Sub Total</b>	<b>240</b>	
Panam	1	1	24/03/1994
	2	1	31/03/1994
	<b>Sub Total</b>	<b>2</b>	
<b>SUB TOTAL GSECL (Hydro)</b>		<b>547</b>	
<b>Wind Mills</b>	Layza	10	04/01/2009
<b>Solar</b>	Chandrasan (canal top)	1	29/03/2012
	Gandhinagar (Ash dyke)	1	27/03/2012
	Charanka	10	23/03/2015



Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
	KLTPS	1	02/05/2016
	STPS	1	02/05/2016
	Dhuvaran Ph-1	75	05/02/2019
	Dhuvaran ph -2	75	15/04/2021
	Chandarva	30	28/08/2021
	Khandia	35	10/08/2022
	Palitana	25	13/06/2022
	Raghnesda	100	18/10/2022
	Haripar	40	12/07/2022
	Pachham	25	10/12/2022
	Sub Total (Wind + Solar)	<b>429</b>	
<b>TOTAL GSECL as a Whole</b>		<b>7,106</b>	

### 5.3 Operating Performance of GSECL Stations

Power generating stations are broadly governed by the following operational parameters:

- ✓ Station Heat Rate
- ✓ Plant Availability Factor
- ✓ Plant Load Factor
- ✓ Secondary Fuel Oil Consumption
- ✓ Auxiliary Consumption

The Petitioner submitted that the above operating parameters are dependent on various technical factors like design, level of operation (low/partial load operation), ageing, etc. The justification for the operational parameters has been discussed in detail in the subsequent sections

#### 5.3.1 Plant Availability Factor (PAF)

##### Petitioner's Submission

GSECL has submitted the projected PAF for different stations for FY 2024-25. GSECL has considered the PAF same as the PAF of FY 2023-24 approved in the Tariff Order of 31<sup>st</sup> March, 2023. The PAF projected by GSECL for its stations for FY 2024-25 for recovery of fixed charges are given in the Table below:



**Table 5-2: Plant Availability Factor for FY 2024-25**

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	80%
2.	Gandhinagar (3-4)	84%
3.	Gandhinagar 5*	85%
4.	Wanakbori 1-6 TPS	85%
5.	Wanakbori 7*	85%
6.	Sikka Extension (3-4)*	85%
7.	KLTPS 3	75%
8.	KLTPS 4	80%
9.	BLTPS*	80%
10.	Dhuvaran CCPP 1*	85%
11.	Dhuvaran CCPP 2	85%
12.	Dhuvaran CCPP 3*	85%
13.	Utran Extension*	85%
14.	Ukai 6*	85%
15.	Wanakbori 8 TPS*	85%
16.	Ukai Hydro	80%
17.	Kadana Hydro	80%

\* PPA based stations

### Commission's Analysis

The Commission observed that GSECL has considered the PAF for FY 2024-25 in line with the PAF approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March 2023. The approved PAF for PPA governed stations is based on their respective PPA's and for other stations, the approved PAF is based on the GERC (MYT) Regulations, 2016. Accordingly, the Commission approves the normative PAF as submitted by GSECL for recovery of Fixed cost for FY 2024-25.

**Table 5-3: Plant Availability Factor approved for FY 2024-25**

Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	80%	80%
2.	Gandhinagar (3-4)	84%	84%
3.	Gandhinagar 5*	85%	85%
4.	Wanakbori 1-6 TPS	85%	85%
5.	Wanakbori 7*	85%	85%



Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
6.	Sikka Extension (3-4)*	85%	85%
7.	KLTPS 3	75%	75%
8.	KLTPS 4	80%	80%
9.	BLTPS*	80%	80%
10.	Dhuvaran CCPP 1*	85%	85%
11.	Dhuvaran CCPP 2	85%	85%
12.	Dhuvaran CCPP 3*	85%	85%
13.	Utran Extension*	85%	85%
14.	Ukai 6*	85%	85%
15.	Wanakbori 8 TPS*	85%	85%
16.	Ukai Hydro	80%	80%
17.	Kadana Hydro	80%	80%

\* PPA based stations

### 5.3.2 Plant Load Factor (PLF)

#### Petitioner's Submission

GSECL has submitted the projected PLF for different stations for FY 2024-25. GSECL has considered the PLF on the basis of available resources to achieve optimum generation from different units. The PLF projected by GSECL for its stations for FY 2024-25 is given in the Table below:

**Table 5-4: Plant Load Factor for FY 2024-25**

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	65%
2.	Gandhinagar (3-4)	65%
3.	Gandhinagar 5*	75%
4.	Wanakbori 1-6 TPS	60%
5.	Wanakbori 7*	85%
6.	Sikka Extension (3-4)*	50%
7.	KLTPS 3	70%
8.	KLTPS 4	20%
9.	BLTPS*	65%
10.	Dhuvaran CCPP 1*	10%
11.	Dhuvaran CCPP 2	10%



Sr. No.	Power Station	Projected
12.	Dhuvaran CCPP 3*	20%
13.	Utran Extension*	20%
14.	Ukai 6*	70%
15.	Wanakbori 8 TPS*	75%
16.	Ukai Hydro	30%
17.	Kadana Hydro	15%

\* PPA based stations

### Commission's Analysis

The Commission observed that GSECL has considered the PLF for FY 2024-25 as per their own estimations based on available resources in order to optimize the generation from sources. However, the Commission has considered the PLF as approved by the Commission in the Tariff Orders for FY 2024-25 in respect of the beneficiary of the Petitioner for working out power purchase cost for FY 2024-25. Accordingly, the Commission approves the PLF as given in the Table below:

**Table 5-5: PLF Approved for FY 2024-25**

Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	65%	50%
2.	Gandhinagar (3-4)	65%	55%
3.	Gandhinagar 5*	75%	70%
4.	Wanakbori 1-6 TPS	60%	48%
5.	Wanakbori 7*	85%	70%
6.	Sikka Extension (3-4)*	50%	22%
7.	KLTPS 3	70%	75%
8.	KLTPS 4	20%	20%
9.	BLTPS*	65%	30%
10.	Dhuvaran CCPP 1*	10%	1%
11.	Dhuvaran CCPP 2	10%	1%
12.	Dhuvaran CCPP 3*	20%	1%
13.	Utran Extension*	20%	1%
14.	Ukai 6*	70%	65%
15.	Wanakbori 8 TPS*	75%	65%
16.	Ukai Hydro	30%	37%



Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
17.	Kadana Hydro	15%	17%

\* PPA based stations

### 5.3.3 Auxiliary Consumption

#### Petitioner's Submission

GSECL has submitted the Auxiliary Consumption for different stations for FY 2024-25. GSECL has considered the Auxiliary Consumption same as the Auxiliary Consumption approved in the Tariff Order for FY 2023-24 dated 31<sup>st</sup> March, 2023 for all power plants. The Auxiliary Consumption projected by GSECL for its stations for FY 2024-25 is given in the Table below:

**Table 5-6: Auxiliary Consumption for FY 2024-25**

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	9.00%
2.	Gandhinagar (3-4)	9.00%
3.	Gandhinagar 5*	9.50%
4.	Wanakbori 1-6 TPS	9.00%
5.	Wanakbori 7*	9.50%
6.	Sikka Extension (3-4)*	9.00%
7.	KLTPS 3	12.00%
8.	KLTPS 4	12.00%
9.	BLTPS*	11.00%
10.	Dhuvaran CCPP 1*	4.00%
11.	Dhuvaran CCPP 2	3.00%
12.	Dhuvaran CCPP 3*	3.00%
13.	Utran Extension*	3.00%
14.	Ukai 6*	6.00%
15.	Wanakbori 8 TPS*	5.25%
16.	Ukai Hydro	0.60%
17.	Kadana Hydro	1.00%

\* PPA based stations

#### Commission's Analysis

The Commission observed that GSECL has considered the Auxiliary Consumption for FY 2024-25 in line with the Auxiliary Consumption approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March 2023. The approved Auxiliary Consumption for PPA governed stations is



based on their respective PPA's and for other stations, the approved Auxiliary Consumption is based on the GERC (MYT) Regulations, 2016. Accordingly, the Commission approves the Auxiliary Consumption as submitted by GSECL, as given in the Table below:

**Table 5-7: Auxiliary Consumption (%) approved for FY 2024-25**

Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	9.00%	9.00%
2.	Gandhinagar (3-4)	9.00%	9.00%
3.	Gandhinagar 5*	9.50%	9.50%
4.	Wanakbori 1-6 TPS	9.00%	9.00%
5.	Wanakbori 7*	9.50%	9.50%
6.	Sikka Extension (3-4)*	9.00%	9.00%
7.	KLTPS 3	12.00%	12.00%
8.	KLTPS 4	12.00%	12.00%
9.	BLTPS*	11.00%	11.00%
10.	Dhuvaran CCPP 1*	4.00%	4.00%
11.	Dhuvaran CCPP 2	3.00%	3.00%
12.	Dhuvaran CCPP 3*	3.00%	3.00%
13.	Utran Extension*	3.00%	3.00%
14.	Ukai 6*	6.00%	6.00%
15.	Wanakbori 8 TPS*	5.25%	5.25%
16.	Ukai Hydro	0.60%	0.60%
17.	Kadana Hydro	1.00%	1.00%

\* PPA based stations

### 5.3.4 Station Heat Rate (SHR)

#### Petitioner's Submission

GSECL has submitted the SHR for different stations for FY 2024-25. GSECL has considered the SHR same as the SHR approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March, 2023 for all power plants. The SHR projected by GSECL for its stations for FY 2024-25 is given in the Table below:





**Table 5-8: Station Heat Rate for FY 2024-25**

(kcal/kWh)		
Sr. No.	Power Station	Projected
1.	Ukai (3-5)	2,625
2.	Gandhinagar (3-4)	2,625
3.	Gandhinagar 5*	2,460
4.	Wanakbori 1-6 TPS	2,575
5.	Wanakbori 7*	2,460
6.	Sikka Extension (3-4)*	2,398
7.	KLTPS 3	3,231
8.	KLTPS 4	3,000
9.	BLTPS*	2,623
10.	Dhuvaran CCPP 1*	1,950
11.	Dhuvaran CCPP 2	1,950
12.	Dhuvaran CCPP 3*	1,850
13.	Utran Extension*	1,850
14.	Ukai 6*	2,385
15.	Wanakbori 8 TPS*	2,248

\* PPA based stations

### Commission's Analysis

The Commission has considered the SHR for FY 2024-25 in line with the SHR approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March 2023. The approved SHR for PPA governed stations is based on their respective PPA's and for other stations, the approved SHR is based on the GERC (MYT) Regulations, 2016. Accordingly, the Commission approves the SHR as submitted by GSECL, as given in the Table below:

**Table 5-9: Station Heat Rate approved for FY 2024-25**

(kcal/kWh)			
Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	2,625	2,625
2.	Gandhinagar (3-4)	2,625	2,625
3.	Gandhinagar 5*	2,460	2,460
4.	Wanakbori 1-6 TPS	2,575	2,575
5.	Wanakbori 7*	2,460	2,460
6.	Sikka Extension (3-4)*	2,398	2,398



Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
7.	KLTPS 3	3,231	3,231
8.	KLTPS 4	3,000	3,000
9.	BLTPS*	2,623	2,623
10.	Dhuvaran CCPP 1*	1,950	1,950
11.	Dhuvaran CCPP 2	1,950	1,950
12.	Dhuvaran CCPP 3*	1,850	1,850
13.	Utran Extension*	1,850	1,850
14.	Ukai 6*	2,385	2,385
15.	Wanakbori 8 TPS*	2,248	2,248

\* PPA based stations

### 5.3.5 Secondary Fuel Oil Consumption (SFOC)

#### Petitioner's Submission

GSECL has submitted the SFOC for different stations for FY 2024-25. GSECL has considered the SFOC same as the SFOC approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March, 2023 for all power plants. The SFOC projected by GSECL for its stations for FY 2024-25 is given in the Table below:

**Table 5-10: Secondary Fuel Oil Consumption for FY 2024-25**  
(ml/kWh)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	1.00
2.	Gandhinagar (3-4)	1.00
3.	Gandhinagar 5*	3.50
4.	Wanakbori 1-6 TPS	1.00
5.	Wanakbori 7*	3.50
6.	Sikka Extension (3-4)*	1.00
7.	KLTPS 3	3.00
8.	KLTPS 4	3.00
9.	BLTPS*	1.00
10.	Ukai 6*	1.00
11.	Wanakbori 8 TPS*	0.50

\* PPA based stations



### Commission's Analysis

The Commission observed that GSECL has considered the SFOC for FY 2024-25 in line with the SFOC approved in the Tariff Order for FY 2023-24 dated 31<sup>st</sup> March 2023. The approved SFOC for PPA governed stations is based on the terms of their respective PPA's and for other stations, the approved SFOC is based on the GERC (MYT) Regulations, 2016. Accordingly, the Commission approves the SFOC as submitted by GSECL, as given in the Table below:

**Table 5-11: Secondary Fuel Oil Consumption approved for FY 2024-25**

Sr. No.	Power Station	As claimed by GSECL	As approved by the Commission
			(ml/kWh)
1.	Ukai (3-5)	1.00	1.00
2.	Gandhinagar (3-4)	1.00	1.00
3.	Gandhinagar 5*	3.50	3.50
4.	Wanakbori 1-6 TPS	1.00	1.00
5.	Wanakbori 7*	3.50	3.50
6.	Sikka Extension (3-4)*	1.00	1.00
7.	KLTPS 3	3.00	3.00
8.	KLTPS 4	3.00	3.00
9.	BLTPS*	1.00	1.00
10.	Ukai 6*	1.00	1.00
11.	Wanakbori 8 TPS*	0.50	0.50

\* PPA based stations

### 5.3.6 Transit Loss

#### Petitioner's Submission

GSECL has submitted the Transit Loss for different stations for FY 2024-25. GSECL has considered the Transit Loss same as the Transit Loss approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March, 2023 for all power plants. The Transit Loss projected by GSECL for its stations for FY 2024-25 is given in the Table below:

**Table 5-12: Transit Loss for FY 2024-25**

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	0.80%
2.	Gandhinagar (3-4)	0.80%
3.	Gandhinagar 5*	0.80%
4.	Wanakbori 1-6 TPS	0.80%



Sr. No.	Power Station	Projected
5.	Wanakbori 7*	0.80%
6.	Sikka Extension (3-4)*	0.00%
7.	KLTPS 3	0.20%
8.	KLTPS 4	0.20%
9.	BLTPS*	0.80%
10.	Ukai 6*	0.80%
11.	Wanakbori 8 TPS*	0.80%

\* PPA based stations

### Commission's Analysis

The Commission observed that GSECL has considered the Transit Loss for FY 2024-25 in line with the Transit Loss approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March 2023. The approved Transit Loss for PPA governed stations is based on the terms of their respective PPA's and for other stations, the approved Transit Loss is based on the GERC (MYT) Regulations, 2016. Accordingly, the Commission approves the Transit Loss as submitted by GSECL, as given in the Table below.

**Table 5-13: Transit Loss approved for FY 2024-25**

Sr. No.	Power Stations	(%)	
		As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	0.80%	0.80%
2.	Gandhinagar (3-4)	0.80%	0.80%
3.	Gandhinagar 5*	0.80%	0.80%
4.	Wanakbori 1-6 TPS	0.80%	0.80%
5.	Wanakbori 7*	0.80%	0.80%
6.	Sikka Extension (3-4)*	0.00%	0.00%
7.	KLTPS 3	0.20%	0.20%
8.	KLTPS 4	0.20%	0.20%
9.	BLTPS*	0.80%	0.80%
10.	Ukai 6*	0.80%	0.80%
11.	Wanakbori 8 TPS*	0.80%	0.80%

\* PPA based stations

**The Transit Loss is considered only for indigenous coal, washed coal and lignite, but not for imported coal as specified in the GERC (MYT) Regulations, 2016.**



### 5.3.7 Summary of Performance Parameters Approved for FY 2024-25

The performance parameters, approved for different stations for FY 2024-25 after the analysis in the preceding paras, are listed in the Table below:

**Table 5-14: Performance parameters approved for FY 2024-25**

Sr. No.	Power Stations	PAF (%)	PLF (%)	Auxiliary consumption (%)	SHR (kcal / kWh)	SFO consumption (ml / kWh)	Transit Loss (%)
1.	Ukai (3-5)	80%	50%	9.00%	2,625	1.00	0.80%
2.	Gandhinagar (3-4)	84%	55%	9.00%	2,625	1.00	0.80%
3.	Gandhinagar 5*	85%	70%	9.50%	2,460	3.50	0.80%
4.	Wanakbori 1-6 TPS	85%	48%	9.00%	2,575	1.00	0.80%
5.	Wanakbori 7*	85%	70%	9.50%	2,460	3.50	0.80%
6.	Sikka Extension (3-4)*	85%	22%	9.00%	2,398	1.00	0.00%
7.	KLTPS 3	75%	75%	12.00%	3,231	3.00	0.20%
8.	KLTPS 4	80%	20%	12.00%	3,000	3.00	0.20%
9.	BLTPS*	80%	30%	11.00%	2,623	1.00	0.80%
10.	Dhuvaran CCPP 1*	85%	1%	4.00%	1,950	-	-
11.	Dhuvaran CCPP 2	85%	1%	3.00%	1,950	-	-
12.	Dhuvaran CCPP 3*	85%	1%	3.00%	1,850	-	-
13.	Utran Extension*	85%	1%	3.00%	1,850	-	-
14.	Ukai 6*	85%	65%	6.00%	2,385	1.00	0.80%
15.	Wanakbori 8 TPS*	85%	65%	5.25%	2,248	0.50	0.80%
16.	Ukai Hydro	80%	37%	0.60%	-	-	-
17.	Kadana Hydro	80%	17%	1.00%	-	-	-

\* PPA based stations

### 5.4 Gross and Net Generation

The gross and net generation of different stations, based on the PLF and auxiliary consumption discussed above, as submitted by GSECL and as approved by the Commission for FY 2024-25, are given in the Table below:



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**Table 5-15: Gross and Net Generation for FY 2024-25**

S r. N o .	Power Stations	As claimed by GSECL				As approved by the Commission			
		Gross Generati on (MU)	Aux. Cons. (%)	Aux. Cons. (MU)	Net Generati on (MU)	Gross Generati on (MU)	Aux. Cons. (%)	Aux. Cons. (MU)	Net Generati on (MU)
1.	Ukai (3-5)	3,473.34	9.00%	312.60	3,160.74	2,671.80	9.00%	240.46	2,431.34
2.	Gandhinagar (3-4)	2,391.48	9.00%	215.23	2,176.25	2,023.56	9.00%	182.12	1,841.44
3.	Gandhinagar 5*	1,379.70	9.50%	131.07	1,248.63	1,287.72	9.50%	122.33	1,165.39
4.	Wanakbori 1-6 TPS	6,622.56	9.00%	596.03	6,026.53	5,298.05	9.00%	476.82	4,821.22
5.	Wanakbori 7*	1,379.70	9.50%	131.07	1,248.63	1,379.70	9.50%	131.07	1,248.63
6.	Sikka Extension (3-4)*	2,190.00	9.00%	197.10	1,992.90	964.91	9.00%	86.84	878.07
7.	KLTPS 3	459.90	12.00%	55.19	404.71	492.75	12.00%	59.13	433.62
8.	KLTPS 4	131.40	12.00%	15.77	115.63	131.40	12.00%	15.77	115.63
9.	BLTPS*	2,847.00	11.00%	313.17	2,533.83	1,315.31	11.00%	144.68	1,170.63
10.	Dhuvaran CCPP 1*	93.40	4.00%	3.74	89.66	9.34	4.00%	0.37	8.97
11.	Dhuvaran CCPP 2	98.51	3.00%	2.96	95.55	9.85	3.00%	0.30	9.56
12.	Dhuvaran CCPP 3*	658.93	3.00%	19.77	639.16	32.95	3.00%	0.99	31.96
13.	Utran Extension*	656.25	3.00%	19.69	636.56	32.81	3.00%	0.98	31.83
14.	Ukai 6*	3,066.00	6.00%	183.96	2,882.04	2,847.00	6.00%	170.82	2,676.18
15.	Wanakbori 8 TPS*	5,256.00	5.25%	275.94	4,980.06	4,555.20	5.25%	239.15	4,316.05
16.	Ukai Hydro	801.54	0.60%	4.81	796.73	983.76	0.60%	5.90	977.85
17.	Kadana Hydro	317.99	1.00%	3.18	314.81	352.33	1.00%	3.52	348.81
	<b>Total</b>	<b>31,823.69</b>		<b>2,481.27</b>	<b>29,342.42</b>	<b>24,388.44</b>		<b>1,881.27</b>	<b>22,507.17</b>

\* PPA based stations



## 5.5 Cost Parameters

The variable costs (mostly fuel cost) depend on the cost parameters such as GCV of different fuels used, mix of fuel and price of fuel. GSECL's generating stations operate on coal, lignite and gas as base fuels. For some of the coal stations, a mix of indigenous and washed coal is used and for some station only imported coal is used. In the case of hydro stations, no fuel costs are involved. However, the charges for hydro stations shall be recovered in accordance with the GERC (MYT) Regulations, 2016. GSECL has submitted the details of weighted average GCV, mix of coal and weighted average price of fuel for different stations as discussed below:

### 5.5.1 Wt. Avg. Gross Calorific Value (GCV) of fuels

GSECL has computed the Wt. Avg. GCV of primary fuels and secondary fuel and coal mix for FY 2024-25 based on the 3-month weighted average Gross Calorific Value of primary fuels and secondary fuel received in July 2023, August 2023 and September 2023 for the thermal power plants in accordance with Regulation 58.8 of the GERC (MYT) Regulations, 2016.:

**Table 5-16: Wt. Avg. Gross Calorific Value (GCV) of fuels for different stations for FY 2024-25**

Sr. No.	Power Stations	Wt. Avg. GCV of Coal (kcal/kg)	Wt. Avg. GCV of Lignite (kcal/kg)	Wt. Avg. GCV of Gas (kcal/SCM)	Wt. Avg. GCV of Oil (kcal/kl)
1.	Ukai (3-5)	3,406			10,332
2.	Gandhinagar (3-4)	3,758			10,438
3.	Gandhinagar 5*	3,750			10,452
4.	Wanakbori 1-6 TPS	3,357			10,386
5.	Wanakbori 7 TPS*	3,374			10,380
6.	Sikka Extension (3-4)*	4,901			10,400
7.	KLTPS 3		2,238		10,672
8.	KLTPS 4		2,411		10,910
9.	BLTPS*		2,755		9,882
10.	Dhuvaran CCPP 1*			9,323	
11.	Dhuvaran CCPP 2			9,313	
12.	Dhuvaran CCPP 3*			9,311	
13.	Utran Extension*			9,472	
14.	Ukai 6*	3,432			10,397
15.	Wanakbori 8 TPS*	3,367			10,413

\* PPA based stations



### Commission's Analysis

The Commission has considered the Wt. Avg. GCV of primary fuels and secondary fuel and coal mix for FY 2024-25 based on the latest 3-month weighted average Gross Calorific Value of primary fuels and secondary fuel received in October 2023, November 2023 and December 2023 for the thermal power plants as per the details submitted by GSECL as part of reply of the additional data gaps raised by the Commission, in accordance with the Regulation 58.8 of the GERC (MYT) Regulations, 2016, as shown in the Table below:

Sr. No.	Power Stations	As per GSECL				As approved by the Commission			
		Wt. Avg. GCV of Coal (kcal/kg)	Wt. Avg. GCV of Lignite (kcal/kg)	Wt. Avg. GCV of Gas (kcal/SCM)	Wt. Avg. GCV of Oil (kcal/kl)	Wt. Avg. GCV of Coal (kcal/kg)	Wt. Avg. GCV of Lignite (kcal/kg)	Wt. Avg. GCV of Gas (kcal/SCM)	Wt. Avg. GCV of Oil (kcal/kl)
1.	Ukai (3-5)	3,406			10,332	3,341			10,306
2.	Gandhinagar (3-4)	3,758			10,438	3,513			10,471
3.	Gandhinagar 5*	3,750			10,452	3,513			10,471
4.	Wanakbori 1-6 TPS	3,357			10,386	3,483			10,584
5.	Wanakbori 7 TPS*	3,374			10,380	3,483			10,584
6.	Sikka Extension (3-4)*	4,901			10,400	5,146			10,414
7.	KLTPS 3		2,238		10,672		2,406		10,733
8.	KLTPS 4		2,411		10,910		2,406		10,733
9.	BLTPS*		2,755		9,882		2,759		10,136
10.	Dhuvaran CCPP 1*			9,323				9,421	
11.	Dhuvaran CCPP 2			9,313				9,421	
12.	Dhuvaran CCPP 3*			9,311				9,426	
13.	Utran Extension*			9,472				9,659	
14.	Ukai 6*	3,432			10,397	3,341			10,306
15.	Wanakbori 8 TPS*	3,367			10,413	3,483			10,584

### 5.5.2 Mix of Coal

GSECL submitted that the power supply position in the country has seen a consistent rising trend, which has been coupled with inadequate domestic coal supply, thus, leading to depletion of coal stock at Domestic Coal based plants across the country. Therefore, in order to ensure uninterrupted power supply across the country, the Ministry of Power has decided on blending of imported coal @ 6% (by weight) for Generating Companies and Independent Power Producers (IPPs). Therefore, Ministry of Power, vide Order dated 25<sup>th</sup> October 2023,





has directed all GENCOs including IPPs for blending of imported coal @ 6% (by weight) with existing fuel stock till March 2024. Accordingly, for the purpose of this Petition, blending of imported coal @ 6% has been considered for FY 2024-25 while proposing the mix of coal.

GSECL has projected the mix of coal of FY 2024-25 as given in the Table below:

**Table 5-17: Projected Mix of Different Types of Coal for FY 2024-25**

Sr. No.	Power Station	Mix of coal (%)		
		Indigenous	Washed	Imported
1.	Ukai (3-5)	48.00%	46.00%	6.00%
2.	Gandhinagar (3-4)	38.00%	56.00%	6.00%
3.	Gandhinagar 5*	38.00%	56.00%	6.00%
4.	Wanakbori 1-6 TPS	36.00%	58.00%	6.00%
5.	Wanakbori 7*	36.00%	58.00%	6.00%
6.	Sikka Extension (3-4)*	0.00%	0.00%	100.00%
7.	Ukai 6*	48.00%	46.00%	6.00%
8.	Wanakbori 8 TPS*	36.00%	58.00%	6.00%

\* PPA based stations

### Commission's Analysis

As regards the projected mix of coal, the same is based on the annual contracted quantities as per the fuel linkage for indigenous coal, washed coal, the targeted quantities of imported coal and the latest scenario of fuel availability. The Commission notes the directive from MoP regarding 6% blending of imported coal. The Commission decides to accept the projections of the Petitioner. Hence, the approved mix of Coal for FY 2022-23 is as follows:

**Table 5-18: Approved Mix of Different Types of Coal for FY 2024-25**

Sr. No.	Power Station	Mix of coal (%)		
		Indigenous	Washed	Imported
9.	Ukai (3-5)	48.00%	46.00%	6.00%
10.	Gandhinagar (3-4)	38.00%	56.00%	6.00%
11.	Gandhinagar 5*	38.00%	56.00%	6.00%
12.	Wanakbori 1-6 TPS	36.00%	58.00%	6.00%
13.	Wanakbori 7*	36.00%	58.00%	6.00%
14.	Sikka Extension (3-4)*	0.00%	0.00%	100.00%
15.	Ukai 6*	48.00%	46.00%	6.00%
16.	Wanakbori 8 TPS*	36.00%	58.00%	6.00%

\* PPA based stations



The actual mix of coal shall be considered at the time of true-up for FY 2024-25.

### 5.5.3 Wt. Avg. Prices of Fuel

GSECL has computed the weighted average price of primary fuels and secondary fuel and coal mix for FY 2024-25 based on the 3-month weighted average price of primary fuels and secondary fuel received in July 2023, August 2023, and September 2023 for the thermal power plants, in accordance with the Regulation 58.8 of the GERC (MYT) Regulations, 2016. The summary of coal prices projected by GSECL for FY 2024-25 along with price of gas and oil is shown in the following table:

**Table 5-19: Weighted Average Price / Unit of Fuels for FY 2024-25**

Sr. No.	Station	Cost of Indigeno us Coal (Rs./MT)	Cost of Washed Coal (Rs./MT)	Cost of Importe d Coal (Rs./MT)	Wt. Avg. Cost of Coal (Rs./MT)	Cost of Lignite (Rs./MT)	Cost of Gas (Rs./SCM)	Cost of Oil (Rs./KI)
1.	Ukai (3-5)	5,251	5,129	17,627	5,937			58,370
2.	Gandhinagar (3-4)	5,900	5,491	17,546	6,370			53,665
3.	Gandhinagar 5*	5,889	5,488	17,546	6,364			58,137
4.	Wanakbori 1-6 TPS	5,467	5,560	17,221	6,226			55,826
5.	Wanakbori 7*	5,456	5,553	17,221	6,218			56,047
6.	Sikka Extension (3-4)*	-	-	13,920	13,920			64,639
7.	KLTPS 3					2,909		71,453
8.	KLTPS 4					2,909		83,404
9.	BLTPS*					3,120		75,622
10.	Dhuvaran CCPP 1*						50.99	
11.	Dhuvaran CCPP 2						50.69	
12.	Dhuvaran CCPP 3*						50.00	
13.	Utran Extension*						50.80	
14.	Ukai 6*	5,257	5,115	17,627	5,934			60,571
15.	Wanakbori 8 TPS*	5,461	5,558	17,221	6,223			58,775

\* PPA based stations

### Commission's Analysis

The Commission has considered the weighted average price of primary fuels and secondary fuel and coal mix for FY 2024-25 based on the 3-month weighted average price of primary fuels and secondary fuel received in October 2023, November 2023, and December 2023 for the thermal power plants as per the details submitted by GSECL as part of the reply of



additional data gaps raised by the Commission in accordance with the Regulation 58.8 of the GERC (MYT) Regulations, 2016. The summary of coal prices for FY 2024-25 along with price of gas and oil is shown in the following table:

**Table 5-20: Weighted Average Price/Unit of Fuels Approved for FY 2024-25**

Sr. No.	Station	Cost of Indigeno us Coal (Rs./MT)	Cost of Washed Coal (Rs./MT)	Cost of Importe d Coal (Rs./MT)	Wt. Avg. Cost of Coal (Rs./MT)	Cost of Lignite (Rs./MT)	Cost of Gas (Rs./SCM)	Cost of Oil (Rs./KI)
16.	Ukai (3-5)	5,066	5,083	17,627	5,828			57,701
17.	Gandhinagar (3-4)	5,835	5,575	17,546	6,392			56,027
18.	Gandhinagar 5*	5,835	5,575	17,546	6,392			56,027
19.	Wanakbori 1-6 TPS	5,393	5,262	17,224	6,027			57,446
20.	Wanakbori 7*	5,393	5,262	17,224	6,027			57,446
21.	Sikka Extension (3-4)*	-	-	12,733	12,733			61,988
22.	KLTPS 3					2,915		68,656
23.	KLTPS 4					2,915		68,656
24.	BLTPS*					2,979		80,179
25.	Dhuvaran CCPP 1*						47.55	
26.	Dhuvaran CCPP 2						47.55	
27.	Dhuvaran CCPP 3*						47.58	
28.	Utran Extension*						48.75	
29.	Ukai 6*	5,066	5,083	17,627	5,828			57,701
30.	Wanakbori 8 TPS*	5,393	5,262	17,224	6,027			57,446

\* PPA based stations

## 5.6 Fuel Costs

Based on the performance and cost parameters, the approved fuel costs for each of the stations for FY 2024-25, along with the fuel cost submitted by GSECL, are given in the Table below:



**Table 5-21: Fuel Cost of different stations for FY 2024-25**

Sr. No.	Power Stations	As claimed by GSECL				As approved by the Commission			
		Gross Generation (MU)	Net Generation (MU)	Fuel Cost (Rs. Crore)	Fuel Cost per unit (Rs./ kWh)	Gross Generation (MU)	Net Generation (MU)	Fuel Cost (Rs. Crore)	Fuel Cost per unit (Rs./ kWh)
1	2	3	4	5	6=5/4	7	8	9	10=9/8
1.	Ukai (3-5)	3,473	3,161	1,614	5.11	2,672	2,431	1,241.93	5.11
2.	Gandhinagar (3-4)	2,391	2,176	1,080	4.96	2,024	1,841	980.55	5.32
3.	Gandhinagar 5*	1,380	1,249	599	4.80	1,288	1,165	596.93	5.12
4.	Wanakbori 1-6 TPS	6,623	6,027	3,208	5.32	5,298	4,821	2,396.74	4.97
5.	Wanakbori 7*	1,380	1,249	648	5.19	1,380	1,249	609.97	4.89
6.	Sikka Extension (3-4)*	2,190	1,993	1,499	7.52	965	878	576.02	6.56
7.	KLTPS 3	460	405	202	4.98	493	434	201.58	4.65
8.	KLTPS 4	131	116	51	4.43	131	116	50.20	4.34
9.	BLTPS*	2,847	2,534	969	3.83	1,315	1,171	391.59	3.35
10.	Dhuvaran CCPP 1*	93	90	100	11.11	9	9	9.19	10.25
11.	Dhuvaran CCPP 2	99	96	105	10.94	10	10	9.70	10.15
12.	Dhuvaran CCPP 3*	659	639	655	10.24	33	32	30.76	9.63
13.	Utran Extension*	656	637	651	10.23	33	32	30.64	9.63
14.	Ukai 6*	3,066	2,882	1,286	4.46	2,847	2,676	1,203.40	4.50
15.	Wanakbori 8 TPS*	5,256	4,980	2,209	3.36	4,555	4,316	1,792.38	4.15
16.	<b>Grand Total</b>	<b>30,704</b>	<b>28231</b>	<b>14,874</b>	<b>5.27</b>	<b>23,052</b>	<b>21,181</b>	<b>10,121.58</b>	<b>4.78</b>

\* PPA based stations



## 5.7 Capital Expenditure and Capitalisation

### Petitioner's Submission

GSECL submitted the expected Capital Expenditure of Rs. 512.50 Crore for FY 2024-25 for the existing power stations. This CAPEX includes major and minor Renovation & Modernisation works proposed to be undertaken by GSECL during the year. The following Table shows the Capital Expenditure proposed for FY 2024-25 by GSECL

**Table 5-22: Capital Expenditure as submitted by GSECL for FY 2024-25**

Sr. No.	Power Station	Amount
1.	Ukai (3-5)	27.48
2.	Gandhinagar (3-4)	35.98
3.	Gandhinagar 5*	-
4.	Wanakbori 1-6 TPS	207.94
5.	Wanakbori 7*	-
6.	Sikka Extension (3-4)*	46.17
7.	KLTPS 3	12.09
8.	KLTPS 4	-
9.	BLTPS*	94.04
10.	Dhuvaran CCPP 1*	0.07
11.	Dhuvaran CCPP 2	0.59
12.	Dhuvaran CCPP 3*	7.06
13.	Utran Extension*	7.43
14.	Ukai 6*	18.15
15.	Wanakbori 8 TPS*	54.41
16.	Ukai Hydro	0.95
17.	Kadana Hydro	0.14
18.	<b>TOTAL</b>	<b>512.50</b>

\* PPA based stations

GSECL submitted that it has proposed to take up Renovation & Modernisation activities like FGD installation, ESP retrofitting, Boiler Modification, Turbine Retrofitting, etc., Certain Capital Civil Works and procurement of capital spares. The proposed capitalization of Rs. 512.50 Crore includes these works.

GSECL submitted that the major capital work proposed in FY 2024-25 are as under:



- **Ukai:** There are other capital works providing retrofitting of water distribution lines of Ukai TPS Colony, engineering and consultancy services for combined ash slurry pump house, FDD system, erecting and commissioning of dry fog and dust suppressing system at Ukai, and Railway track and siding work in the yard of Ukai TPS.
- **Wanakbori:** Laying of new railway track at Wanakbori TPS, installation of passenger cum goods lift, and construction of office building at Wanakbori plant area.
- **BLTPS:** Construction of compound work, periphery road and other civil work of 800 mm diameter pipeline from STP to sump, construction of store godown, lignite handling system, ash handling system, construction of tertiary treatment plant at BLTPS, and construction of alternate lignite feeding system at BLTPS.

On query of the amount of Capitalisation proposed for the various works, GSECL submitted that most capital works are in progress, which are likely to be capitalised in FY 2024-25, and submitted the item-wise CWIP figures from the Accounts as summarised below:

**Table 5-23: Item-wise CWIP at the end of FY 2022-23**

Name of Power station	Particulars	CWIP available (Rs. Crore)
Ukai (3-5)	Providing & laying & commissioning the HDPE distribution line for colony (water supply project) - Ukai	2.35
Ukai (3-5)	Providing and laying and commissioning the UPVC distribution line for house connection of Urjanagar Colony - Ukai	0.21
Ukai (3-5)	Engineering, procurement and construction (EPC) contract for disposing of fly ash and bottom ash for 200 MU Unit no.3 & 4 and 210 MW Unit no.5 from pumping station to the dykes including erection - Ukai	23.28
Ukai (3-5)	For civil work - design, engineering, supply, erection, test - Ukai	2.17
Ukai (3-5)	Engineering & consultancy service for providing combined ash slurry pump house-3/4/5 Units - Ukai	0.20
Ukai (3-5)	Engineering service cost for installation of FGD system & ESP retrofitting - Ukai	0.11
Ukai (3-5)	Design, manufacturing, supply, erection and commissioning of dry fog dust suppressing system at conveyor belts transfer point (DFDS system) - Ukai	3.41
Ukai (3-5)	Consultancy Charges (Pre-operative expenses) - Ukai Unit 7	0.48
Gandhinagar (3-4)	Engineering consulting service for installation of FGD - GTPS	0.14



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

<b>Name of Power station</b>	<b>Particulars</b>	<b>CWIP available (Rs. Crore)</b>
Wanakbori 1-6	ESP retrofitting phase-III dt. 17.10.19 - WTPS 4-6	109.53
Wanakbori 1-6	Railway track from Sevalia to Wanakbori TPC - Civil Railway maintenance - WTPS 1 to 6	19.05
Wanakbori 1-6	Construction work for office building of EMD-IMD-TMD and civil Maintenance Phase - WTPS 1 to 6	0.85
Wanakbori 1-6	Construction of new control panel building of WTPS 3 & 4 with misc. facilities including electrical works & C&I related works at WTPS 1 to 6	0.09
Wanakbori 1-6	Transfer of engineering service cost for installation of FGD system & ESP retrofitting - WTPS 1to6	0.09
Wanakbori 1-6	Commissioning of new generator relay panels grp in place of old panels WTPS 1to6	1.35
Wanakbori 1-6	Supply of multi cap pc based operator training simulator - WTPS	10.40
Wanakbori 1-6	Commissioning of gearless passenger cum goods lift no 3 & 4 in boiler area - WTPS 1to6	1.28
Sikka TPS Units 3&4	Construction of bituminous road to the periphery of the plant at Sikka TPS Units 3&4	1.36
KLTPS 3	FGD systems & ESP retrofitting works - KLTPS	0.31
BLTPS	Construction of balance general civil work, reconstruction of compound wall, periphery road along the boundary, construction of H <sub>2</sub> & CO <sub>2</sub> building & other miscellaneous work – BLTPS	6.38
BLTPS	Construction of new boundary wall parallel to one side of passing cart road in plant premises, PVC coated chain link fencing and collapsed/tilted boundary wall for closing of factory – BLTPS	0.80
BLTPS	Work of 800mm dia di k-7 pipeline from 45mld STP to BECL sump at Budhel – BLTPS	33.20
BLTPS	Post bid consultancy services for design review/study & approval of drawings for discharge of colling water blow down water from BLTPS plant - BLTPS	4.15
BLTPS	Construction of store godown - BLTPS	0.01
BLTPS	Balance of plant – BLTPS	145.35
BLTPS	Lignite & limestone handling system - BLTPS	27.82
BLTPS	Ash handling system – BLTPS	0.22



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Name of Power station	Particulars	CWIP available (Rs. Crore)
BLTPS	Limestone milling & conveying system - BLTPS	2.37
BLTPS	EPC contract for tertiary treatment plant and partial RO plant for treatment of STP water -BLTPS	19.36
BLTPS	Alternate lignite feeding system at unit 2 - BLTPS	2.00
KLTPS 4	FGD & ESP retro fitting - KLTPS unit 4	0.33
Ukai 6	Providing & laying additional rail track line - Ukai unit.6	23.45
Wanakbori 8	ACR project - WTPS 8	46.99
Wanakbori 8	Retaining wall civil - WTPS 8	12.30
Wanakbori 8	Additional rail tracks- WTPS 8	21.25
Wanakbori 8	Supply installation commissioning & testing of FGD system-WTPS 8	1.04
Wanakbori 8	Dismantling of RCC slab of existing railway track hopper and allied structures including whole existing track hopper and other civil works for laying of railway -WTPS 8	1.76
Wanakbori 8	Rolling & consoildation of SUD grade using vibratory roller for the preparation of formation of railway track at GSECL - WTPS 8	0.09
Wanakbori 8	Design, engineering supply erection testing & commissioning of complete PA system -WTPS 8	1.25
Wanakbori 7	Transnfer of engineering service cost for installation of FGD system & ESP retrofitting -WTPS 7	0.02
	<b>Total</b>	<b>526.81</b>

The summary of Unit wise CWIP figures are as under:





**Table 5-24: Unit wise CWIP of GSECL vs. Unit wise Capitalisation Proposed in FY 2024-25**

Sr. No.	Power Station	CWIP	Capitalisation proposed for FY 2024-25
1.	Ukai (3-5)	32.21	27.48
2.	Gandhinagar (3-4)	0.14	35.98
3.	Gandhinagar 5*	-	-
4.	Wanakbori 1-6 TPS	142.64	207.94
5.	Wanakbori 7*	0.02	-
6.	Sikka Extension (3-4)*	1.36	46.17
7.	KLTPS 3	0.31	12.09
8.	KLTPS 4	0.33	-
9.	BLTPS*	241.67	94.04
10.	Dhuvaran CCPP 1*	-	0.07
11.	Dhuvaran CCPP 2	-	0.59
12.	Dhuvaran CCPP 3*	-	7.06
13.	Utran Extension*	-	7.43
14.	Ukai 6*	23.45	18.15
15.	Wanakbori 8 TPS*	84.68	54.41
16.	Ukai Hydro	-	0.95
17.	Kadana Hydro	-	0.14
	<b>Total</b>	<b>526.80</b>	<b>512.50</b>

The following Table shows the capitalisation proposed by GSECL for FY 2024-25. GSECL has proposed capitalization based on the capital expenditure estimated for FY 2023-24 and FY 2024-25. The funding of capitalisation has been considered through debt-equity ratio of 70:30 in accordance with GERC (MYT) Regulations, 2016.



**Table 5-25: Proposed Capitalisation for FY 2024-25 as submitted by GSECL**

Sr. No.	Power Station	Capitalisation	Funding of Capitalisation	
			Debt amount	Equity amount
1.	Ukai (3-5)	27.48	19.24	8.25
2.	Gandhinagar (3-4)	35.98	25.19	10.79
3.	Gandhinagar 5*	-	-	-
4.	Wanakbori 1-6 TPS	207.94	145.56	62.38
5.	Wanakbori 7*	-	-	-
6.	Sikka Extension (3-4)*	46.17	32.32	13.85
7.	KLTPS 3	12.09	8.47	3.63
8.	KLTPS 4	-	-	-
9.	BLTPS*	94.04	65.83	28.21
10.	Dhuvaran CCPP 1*	0.07	0.05	0.02
11.	Dhuvaran CCPP 2	0.59	0.41	0.18
12.	Dhuvaran CCPP 3*	7.06	4.95	2.12
13.	Utran Extension*	7.43	5.20	2.23
14.	Ukai 6*	18.15	12.70	5.44
15.	Wanakbori 8 TPS*	54.41	38.09	16.32
16.	Ukai Hydro	0.95	0.66	0.28
17.	Kadana Hydro	0.14	0.10	0.04
	<b>Total</b>	<b>512.50</b>	<b>358.75</b>	<b>153.75</b>

\* PPA based stations

### Commission's Analysis

For approving the capitalisation for FY 2024-25, the Commission has analysed the actual capitalisation incurred by GSECL in the last three years, as shown in the Table below:

**Table 5-26: Actual Capitalisation for FY 2020-21 to FY 2022-23 (Rs. Crore)**

Sr. No.	Particulars	FY 2020-21	FY 2021-22	FY 2022-23	AVERAGE
1.	Capitalisation	245.92	174.63	259.73	226.76

As seen from the Table above, the proposed capitalisation of Rs. 512.50 Crore is well above the actual average capitalisation of last three years.

In order to avoid upfront cost on the consumers w.r.t. capitalisation of assets, the Commission finds it appropriate to consider the average of actual capitalisation of last three years, i.e., FY



2020-21 to FY 2022-23 for projecting the capitalisation for FY 2024-25. The actual capitalisation will be considered at the time of truing up of FY 2024-25 after prudence check. Thus, the Commission has computed Average Capitalisation of last 3 years as percentage of Claimed Capitalisation of FY 2024-25 as 44.25%, and has considered the same to project the capitalisation of each power station of GSECL for FY 2024-25.

Further, the Commission notes that GSECL has projected capitalisation of Rs. 94.04 Crore for BLTPS in FY 2024-25. In reply to the Commission's query, GSECL has submitted that the proposed capitalization for BLTPS is mainly intended to complete the works of Balance of Plant (BoP), Lignite Handling System and Capital Spares. Considering ceiling on the Capital Cost under the the Commission has considered Nil Capitalisation in FY 2024-25 for BLTPS. Accordingly, Power station wise Capitalisation considered by the Commission for FY 2024-25 is as follows:

**Table 5-27: Capitalisation provisionally approved by the Commission in FY 2024-25**

Sr. No.	Power Station	Capitalisation projected by GSECL in FY 2024-25	Capitalisation approved by Commission in FY 2024-25
1.	Ukai (3-5)	27.48	12.16
2.	Gandhinagar (3-4)	35.98	15.92
3.	Gandhinagar 5*	-	-
4.	Wanakbori 1-6 TPS	207.94	92.00
5.	Wanakbori 7*	-	-
6.	Sikka Extension (3-4)*	46.17	20.43
7.	KLTPS 3	12.09	5.35
8.	KLTPS 4	-	-
9.	BLTPS*	94.04	-
10.	Dhuvaran CCPP 1*	0.07	0.03
11.	Dhuvaran CCPP 2	0.59	0.26
12.	Dhuvaran CCPP 3*	7.06	3.13
13.	Utran Extension*	7.43	3.29
14.	Ukai 6*	18.15	8.03
15.	Wanakbori 8 TPS*	54.41	24.07
16.	Ukai Hydro	0.95	0.42
17.	Kadana Hydro	0.14	0.06
	<b>Total</b>	<b>512.50</b>	<b>185.15</b>

\* PPA based Stations



Accordingly, the Commission provisionally approves the capitalisation of Rs. 185.15 Crore for FY 2024-25 as shown in the Table above. For working out the ARR components, station-wise proposed capitalisation has been reduced in proportion to the difference between total projected and approved capitalisation for FY 2024-25. The funding of capitalisation is approved in line with the normative Debt : Equity ratio of 70:30 as specified in the GERC (MYT) Regulations, 2016.

## 5.8 Fixed Charges

As per GERC (MYT) Regulations, 2016, the Annual Fixed Charges of Generating Stations include the Depreciation, Interest and Finance Charges, Return on Equity, Operation and Maintenance Expenses, Interest on Working Capital, Water Charges, SLDC Charges, and Income Tax, reduced by Non-Tariff Income. The analysis of each component of Annual Fixed Charges is discussed in subsequent Sections of this Order.

### 5.8.1 Depreciation for FY 2024-25

#### Petitioner's Submission

GSECL has considered the opening Gross Fixed Assets for FY 2023-24 based on the closing gross block claimed in the true-up for FY 2022-23. The addition during FY 2023-24 has been considered same as that approved by the Commission in the Tariff Order dated 31<sup>st</sup> March, 2023. The closing balance of GFA for FY 2023-24 thus worked out is considered as opening balance of GFA for FY 2024-25. The capital addition during FY 2024-25 has been considered based on the projected capitalisation during FY 2024-25.

GSECL has considered Depreciation rates based on actual rate of depreciation in FY 2022-23 or average depreciation rate of 5.28%, whichever is lower.

GSECL further submitted that for Generating Stations under the Transfer Scheme, the depreciation has been calculated as per the GERC (MYT) Regulations, 2016.

The following Table shows the depreciation rates considered by GSECL and the depreciation claimed by GSECL for FY 2024-25:

**Table 5-28: Depreciation claimed for FY 2024-25**

Sr. No.	Power Station	Depreciation rates (%)	Depreciation
1.	Ukai (3-5)	3.63%	51.39
2.	Gandhinagar (3-4)	3.07%	40.69

(Rs. Crore)



Sr. No.	Power Station	Depreciation rates (%)	Depreciation
3.	Gandhinagar 5*	0.33%	2.15
4.	Wanakbori 1-6 TPS	4.30%	117.59
5.	Wanakbori 7*	0.34%	2.15
6.	Sikka Extension (3-4)*	5.28%	167.87
7.	KLTPS 3	3.07%	30.11
8.	KLTPS 4	2.54%	18.44
9.	BLTPS*	5.28%	197.16
10.	Dhuvaran CCPP 1*	2.47%	10.16
11.	Dhuvaran CCPP 2	3.05%	13.19
12.	Dhuvaran CCPP 3*	4.94%	79.28
13.	Utran Extension*	2.80%	38.41
14.	Ukai 6*	5.20%	157.98
15.	Wanakbori 8 TPS*	5.16%	228.66
16.	Ukai Hydro	1.30%	2.35
17.	Kadana Hydro	1.66%	5.54
<b>18.</b>	<b>Total</b>		<b>1,163.09</b>

\* PPA based stations

### Commission's Analysis

The Commission has considered the opening GFA for FY 2023-24 in line with the closing GFA approved in this Order for True-up of FY 2022-23. The capitalisation for FY 2023-24 is considered in line with the capitalisation approved in the Tariff Order dated 31<sup>st</sup> March 2023. Accordingly, the Commission has arrived at the closing balance of GFA for FY 2023-24, which is considered as opening balance of GFA for FY 2024-25.

The Commission has considered the capitalisation for FY 2024-25 in line with the approved capitalisation as discussed above. The Commission has thus, arrived at the closing GFA of FY 2024-25.

The Commission has considered Depreciation rates based on actual rate of depreciation in FY 2022-23 or average depreciation rate of 5.28%, whichever is lower, on the average GFA for FY 2024-25.

The Commission has continued with the approach adopted in the true-up for FY 2022-23 and has not considered any depreciation for Gandhinagar-5 and Wanakbori 7 for FY 2024-25. The GFA approved for FY 2024-25 is given in the Table below:



**Table 5-29: Approved Gross Fixed Assets for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	Opening GFA	Additions	Closing GFA
1.	Ukai (3-5)	1,403.60	12.16	1,415.76
2.	Gandhinagar (3-4)	1,308.94	15.92	1,324.86
3.	Gandhinagar 5*	657.84	-	657.84
4.	Wanakbori 1-6 TPS	2,633.26	92.00	2,725.26
5.	Wanakbori 7*	638.97	-	638.97
6.	Sikka Extension (3-4)*	3,156.20	20.43	3,176.63
7.	KLTPS 3	973.17	5.35	978.53
8.	KLTPS 4	727.26	-	727.26
9.	BLTPS*	3,679.53	-	3,679.53
10.	Dhuvaran CCPP 1*	410.72	0.03	410.75
11.	Dhuvaran CCPP 2	432.01	0.26	432.27
12.	Dhuvaran CCPP 3*	1,602.66	3.13	1,605.79
13.	Utran Extension*	1,369.38	3.29	1,372.67
14.	Ukai 6*	3,026.01	8.03	3,034.04
15.	Wanakbori 8 TPS*	4,406.11	24.07	4,430.18
16.	Ukai Hydro	180.67	0.42	181.09
17.	Kadana Hydro	334.33	0.06	334.39
	<b>Total</b>	<b>26,940.66</b>	<b>185.15</b>	<b>27,125.81</b>

\* PPA based stations

Based on the opening and closing GFA approved in the above Table, the Commission has worked out the depreciation for FY 2024-25.

**The Commission, accordingly, approves the station-wise depreciation for FY 2024-25 as detailed in the Table below**

**Table 5-30: Depreciation approved for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	Depreciation rates	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	3.63%	51.39	51.11
2.	Gandhinagar (3-4)	3.07%	40.69	40.38
3.	Gandhinagar 5*	-	2.15	-
4.	Wanakbori 1-6 TPS	4.30%	117.59	115.10
5.	Wanakbori 7*	-	2.15	-
6.	Sikka Extension (3-4)*	5.28%	167.87	167.19



Sr. No.	Particulars	Depreciation rates	As claimed by GSECL	As approved by the Commission
7.	KLTPS 3	3.07%	30.11	30.00
8.	KLTPS 4	2.54%	18.44	18.44
9.	BLTPS*	5.28%	197.16	194.28
10.	Dhuvaran CCPP 1*	2.47%	10.16	10.16
11.	Dhuvaran CCPP 2	3.05%	13.19	13.18
12.	Dhuvaran CCPP 3*	4.94%	79.28	79.18
13.	Utran Extension*	2.80%	38.41	38.35
14.	Ukai 6*	5.20%	157.98	157.71
15.	Wanakbori 8 TPS*	5.16%	228.66	227.87
16.	Ukai Hydro	1.30%	2.35	2.35
17.	Kadana Hydro	1.66%	5.54	5.54
18.	<b>Total</b>		<b>1,163.09</b>	<b>1,150.85</b>

\* PPA based stations

## 5.8.2 Interest and Finance charges for FY 2024-25

### Petitioner's Submission

GSECL has considered the closing balance of loan as claimed in the true-up for FY 2022-23 as the opening balance of loan for FY 2023-24. Addition and repayment during FY 2023-24 have been considered same as that approved by the Commission in its Tariff Order dated 31<sup>st</sup> March, 2023 to work out closing balance of FY 2023-24, which has been considered as opening balance of normative loan for FY 2024-25

GSECL has considered the funding for new capital expenditure in FY 2024-25 at the normative debt : equity ratio of 70:30 in accordance with the GERC (MYT) Regulations, 2016 and accordingly estimated the new loan addition during the year.

GSECL has considered the weighted average rate of interest of 8.18% on the basis of actuals of FY 2022-23, in line with the present market scenario.

The station-wise interest and finance charges claimed by GSECL for FY 2024-25 are given in the Table below:

**Table 5-31: Interest & Finance charges claimed for FY 2024-25**

(Rs. Crore)		
Sr. No.	Power Station	Projected
1.	Ukai (3-5)	0.79



Sr. No.	Power Station	Projected
2.	Gandhinagar (3-4)	1.03
3.	Gandhinagar 5*	0.00
4.	Wanakbori 1-6 TPS	4.81
5.	Wanakbori 7*	0.00
6.	Sikka Extension (3-4)*	70.05
7.	KLTPS 3	0.35
8.	KLTPS 4	2.25
9.	BLTPS*	70.94
10.	Dhuvaran CCPP 1*	0.00
11.	Dhuvaran CCPP 2	0.02
12.	Dhuvaran CCPP 3*	33.05
13.	Utran Extension*	13.84
14.	Ukai 6*	36.06
15.	Wanakbori 8 TPS*	163.20
16.	Ukai Hydro	1.19
17.	Kadana Hydro	0.00
	<b>Total</b>	<b>397.58</b>

\* PPA based stations

### Commission's Analysis

The Commission has considered the opening Loan for FY 2023-24 in line with the closing Loan approved in the true-up of FY 2022-23. The loan addition and repayment for FY 2023-24 have been considered as approved in the Tariff Order dated 31<sup>st</sup> March 2023 for FY 2023-24. Accordingly, the Commission has arrived at the closing balance of Loan for FY 2023-24, which is considered as opening balance of Loan for FY 2024-25.

The Commission has considered the addition to loan for FY 2024-25 based on the financing of capitalisation as approved earlier in this Chapter. The repayment for FY 2024-25 is considered equal to approved depreciation or addition of opening loan and loan addition, whichever is lower. The Commission has thus, arrived at the closing Loan for FY 2024-25.

**Table 5-32: Details of Approved Loan for FY 2024-25**

					(Rs. Crore)
Sr. No.	Power Station	Opening Loan	Additions	Repayment	Closing Loan
1.	Ukai (3-5)	-	8.51	8.51	-
2.	Gandhinagar (3-4)	-	11.14	11.14	-





**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Opening Loan	Additions	Repayment	Closing Loan
3.	Gandhinagar 5*	-	-	-	-
4.	Wanakbori 1-6 TPS	46.37	64.40	110.77	-
5.	Wanakbori 7*	-	-	-	-
6.	Sikka Extension (3-4)*	923.55	14.30	167.19	770.66
7.	KLTPS 3	-	3.75	3.75	-
8.	KLTPS 4	37.31	-	18.44	18.88
9.	BLTPS*	917.56	-	194.28	723.28
10.	Dhuvaran CCPP 1*	-	0.02	0.02	-
11.	Dhuvaran CCPP 2	-	0.18	0.18	-
12.	Dhuvaran CCPP 3*	441.36	2.19	79.18	364.36
13.	Utran Extension*	186.20	2.30	38.35	150.15
14.	Ukai 6*	513.42	5.62	157.71	361.33
15.	Wanakbori 8 TPS*	2,091.71	16.85	227.87	1,880.69
16.	Ukai Hydro	15.42	0.29	2.35	13.36
17.	Kadana Hydro	0.24	0.04	0.28	-
	<b>Total</b>	<b>5,173.13</b>	<b>129.60</b>	<b>1,020.03</b>	<b>4,282.70</b>

\* PPA based stations

The Commission has considered the weighted average interest rate of 7.08% as approved in the True-up of FY 2022-23.

**The Commission, accordingly, approves the station-wise interest and finance charges for FY 2024-25 as detailed in the Table below:**

**Table 5-33: Approved Interest and Finance Charges for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	0.79	-
2.	Gandhinagar (3-4)	1.03	-
3.	Gandhinagar 5*	0.00	-
4.	Wanakbori 1-6 TPS	4.81	1.64
5.	Wanakbori 7*	0.00	-
6.	Sikka Extension (3-4)*	70.05	59.97
7.	KLTPS 3	0.35	-
8.	KLTPS 4	2.25	1.99
9.	BLTPS*	70.94	58.09
10.	Dhuvaran CCPP 1*	0.00	-
11.	Dhuvaran CCPP 2	0.02	-



Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
12.	Dhuvaran CCPP 3*	33.05	28.52
13.	Utran Extension*	13.84	11.91
14.	Ukai 6*	36.06	30.97
15.	Wanakbori 8 TPS*	163.20	140.62
16.	Ukai Hydro	1.19	1.02
17.	Kadana Hydro	0.00	0.01
18.	<b>Total</b>	<b>397.58</b>	<b>334.74</b>

\* PPA based stations

### 5.8.3 Return on Equity for FY 2024-25

#### Petitioner's Submission

GSECL has considered the closing balance of equity as claimed in the true-up for FY 2022-23 as the opening balance of equity for FY 2023-24. Addition of equity during FY 2023-24 have been considered same as that approved by the Commission in its Tariff Order dated 31<sup>st</sup> March, 2023 to work out closing balance of FY 2023-24, which has been considered as opening balance of normative loan for FY 2024-25.

GSECL has considered the funding for new capital expenditure in FY 2024-25 at the normative debt : equity ratio of 70:30 in accordance with the GERC (MYT) Regulations, 2016 and accordingly estimated the equity addition during the year.

GSECL has claimed RoE for FY 2024-25 on normative basis, i.e., at 14% for all transferred stations (non-PPA based stations), in line with the GERC (MYT) Regulations, 2016. The RoE claimed by GSECL for FY 2024-25 is shown in the Table below:

**Table 5-34: Return on Equity claimed for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	26.46
2.	Gandhinagar (3-4)	27.52
3.	Gandhinagar 5*	28.67
4.	Wanakbori 1-6 TPS	104.49
5.	Wanakbori 7*	26.16
6.	Sikka Extension (3-4)*	133.53
7.	KLTPS 3	55.66



Sr. No.	Power Station	Projected
8.	KLTPS 4	30.47
9.	BLTPS*	156.83
10.	Dhuvaran CCPP 1*	10.61
11.	Dhuvaran CCPP 2	14.59
12.	Dhuvaran CCPP 3*	67.46
13.	Utran Extension*	58.09
14.	Ukai 6*	127.47
15.	Wanakbori 8 TPS*	186.20
16.	Ukai Hydro	10.68
17.	Kadana Hydro	28.92
18.	<b>Total</b>	<b>1,093.80</b>

\* PPA based stations

### Commission's Analysis

The Commission has considered the opening equity for FY 2023-24 in line with the closing equity approved in the True-up of FY 2022-23. The equity addition for FY 2023-24 is considered as approved in the Tariff Order dated 31<sup>st</sup> March 2023 for FY 2023-24. Accordingly, the Commission has arrived at the closing balance of equity for FY 2023-24, which is considered as opening balance of equity for FY 2024-25.

The Commission has considered the addition to equity for FY 2024-25 at 30% of the approved capitalisation for FY 2024-25. The Commission has thus, arrived at the closing equity for FY 2024-25, as shown in the Table below:

**Table 5-35: Approved Equity for FY 2024-25**

				(Rs. Crore)
Sr. No.	Power Station	Opening Equity	Addition	Closing Equity
1.	Ukai (3-5)	184.91	3.65	188.55
2.	Gandhinagar (3-4)	191.15	4.78	195.93
3.	Gandhinagar 5*	220.57	-	220.57
4.	Wanakbori 1-6 TPS	715.13	27.60	742.73
5.	Wanakbori 7*	201.22	-	201.22
6.	Sikka Extension (3-4)*	946.87	6.13	953.00
7.	KLTPS 3	395.77	1.61	397.38
8.	KLTPS 4	217.61	-	217.61
9.	BLTPS*	1,103.86	0.00	1,103.86



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Opening Equity	Addition	Closing Equity
10.	Dhuvaran CCPP 1*	81.57	0.01	81.58
11.	Dhuvaran CCPP 2	104.11	0.08	104.19
12.	Dhuvaran CCPP 3*	480.80	0.94	481.74
13.	Utran Extension*	413.79	0.99	414.78
14.	Ukai 6*	907.81	2.41	910.21
15.	Wanakbori 8 TPS*	1,321.83	7.22	1,329.05
16.	Ukai Hydro	76.15	0.13	76.28
17.	Kadana Hydro	206.52	0.02	206.54
	<b>Total</b>	<b>7,769.67</b>	<b>55.54</b>	<b>7,825.21</b>

\* PPA based stations

The Commission has considered RoE of 13% for Gandhinagar-5, Wanakbori-7 and Dhuvaran CCPP 1, as per their PPA, and RoE of 14% for all other stations.

**The Commission, accordingly, approves the station-wise RoE for FY 2024-25 as detailed in the Table below:**

**Table 5-36: Approved Return on Equity for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	26.46	26.14
2.	Gandhinagar (3-4)	27.52	27.10
3.	Gandhinagar 5*	28.67	28.67
4.	Wanakbori 1-6 TPS	104.49	102.05
5.	Wanakbori 7*	26.16	26.16
6.	Sikka Extension (3-4)*	133.53	132.99
7.	KLTPS 3	55.66	55.52
8.	KLTPS 4	30.47	30.46
9.	BLTPS*	156.83	155.54
10.	Dhuvaran CCPP 1*	10.61	10.60
11.	Dhuvaran CCPP 2	14.59	14.68
12.	Dhuvaran CCPP 3*	67.46	67.38
13.	Utran Extension*	58.09	58.00
14.	Ukai 6*	127.47	127.26



Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
15.	Wanakbori 8 TPS*	186.20	185.56
16.	Ukai Hydro	10.68	10.67
17.	Kadana Hydro	28.92	28.91
18.	<b>Total</b>	<b>1,093.80</b>	<b>1,086.61</b>

\* PPA based stations

#### 5.8.4 O&M Expenses for FY 2024-25

##### Petitioner's Submission

GSECL has claimed O&M expenses for FY 2024-25 by escalating the O&M expenses approved for FY 2023-24 in the Tariff Order dated 31<sup>st</sup> March, 2023 by 5.72%, which is the escalation factor specified by the Commission in the GERC (MYT) Regulations, 2016.

The following Table shows the station-wise O&M expenses claimed by GSECL for FY 2024-25:

**Table 5-37: O&M expenses claimed for FY 2024-25**  
(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	293.51
2.	Gandhinagar (3-4)	170.00
3.	Gandhinagar 5*	68.92
4.	Wanakbori 1-6 TPS	314.63
5.	Wanakbori 7*	23.83
6.	Sikka Extension (3-4)*	163.99
7.	KLTPS 3	57.79
8.	KLTPS 4	23.44
9.	BLTPS*	210.62
10.	Dhuvaran CCPP 1*	57.68
11.	Dhuvaran CCPP 2	58.49
12.	Dhuvaran CCPP 3*	5.81
13.	Utran Extension*	61.37
14.	Ukai 6*	64.31
15.	Wanakbori 8 TPS*	191.80
16.	Ukai Hydro	17.26
17.	Kadana Hydro	35.04



Sr. No.	Power Station	Projected
18.	<b>Total</b>	<b>1,818.49</b>

\* PPA based stations

### Commission's Analysis

In the Tariff Order dated 31<sup>st</sup> March, 2023, the Commission had escalated O&M expenses approved for FY 2022-23 by 5.72% to arrive at normative O & M expenses for FY 2023-24. Accordingly, the Commission, approves the station-wise O&M expenses for FY 2024-25, by escalating the approved O&M Expenses for FY 2023-24 by 5.72%, as detailed in the Table below:

**Table 5-38: Approved O&M expenses for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	293.51	293.51
2.	Gandhinagar (3-4)	170.00	170.00
3.	Gandhinagar 5*	68.92	68.92
4.	Wanakbori 1-6 TPS	314.63	314.63
5.	Wanakbori 7*	23.83	23.83
6.	Sikka Extension (3-4)*	163.99	163.99
7.	KLTPS 3	57.79	57.79
8.	KLTPS 4	23.44	23.44
9.	BLTPS*	210.62	210.62
10.	Dhuvaran CCPP 1*	57.68	57.68
11.	Dhuvaran CCPP 2	58.49	58.49
12.	Dhuvaran CCPP 3*	5.81	5.81
13.	Utran Extension*	61.37	61.36
14.	Ukai 6*	64.31	64.31
15.	Wanakbori 8 TPS*	191.80	191.80
16.	Ukai Hydro	17.26	17.26
17.	Kadana Hydro	35.04	35.04
18.	<b>Total</b>	<b>1,818.49</b>	<b>1,818.48</b>

\* PPA based stations



### 5.8.5 Interest on Working Capital for FY 2024-25

#### Petitioner's Submission

GSECL has worked out IoWC based on norms specified under the GERC (MYT) Regulations, 2016. GSECL has considered the interest rate as 10.30%. The IoWC claimed by GSECL for FY 2024-25 is given in the Table below:

**Table 5-39: Interest on working capital claimed for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	49.73
2.	Gandhinagar (3-4)	35.73
3.	Gandhinagar 5*	16.86
4.	Wanakbori 1-6 TPS	108.41
5.	Wanakbori 7*	17.38
6.	Sikka Extension (3-4)*	64.21
7.	KLTPS 3	7.42
8.	KLTPS 4	6.00
9.	BLTPS*	35.52
10.	Dhuvaran CCPP 1*	16.13
11.	Dhuvaran CCPP 2	16.95
12.	Dhuvaran CCPP 3*	51.14
13.	Utran Extension*	51.03
14.	Ukai 6*	40.67
15.	Wanakbori 8 TPS*	67.01
16.	Ukai Hydro	0.61
17.	Kadana Hydro	1.25
18.	<b>Total</b>	<b>586.06</b>

\* PPA based stations

#### Commission's Analysis

The working capital requirement and the IoWC have been worked out as per the GERC (MYT) Regulations, 2016. The Commission has calculated working capital based on approved values of O&M costs, fuel costs, ARR and SFO cost.

Regulation 40.1.(d) GERC (MYT) Regulation states that,

*“Interest on working capital shall be allowed at a rate equal to the State Bank Base Rate (SBBR)/1 Year State bank of India (SBI) Marginal cost of funds based Lending*



*rate(MCLR)/ any replacement thereof by SBI for the time being in effect applicable for 1 year period, as may be applicable as on 1<sup>st</sup> April of the financial year in which the Petition is filed plus 250 basis points.”*

The SBI MCLR rate applicable at 1<sup>st</sup> April, 2023 is 8.50%. Hence, the Commission has considered the interest rate on working capital as 11.00% as per the GERC (MYT) Regulations, 2016.

The Commission accordingly approves the station-wise IoWC for FY 2024-25 as detailed in the Table below:

**Table 5-40: Approved Interest on Working Capital for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	49.73	53.09
2.	Gandhinagar (3-4)	35.73	40.45
3.	Gandhinagar 5*	16.86	19.04
4.	Wanakbori 1-6 TPS	108.41	108.72
5.	Wanakbori 7*	17.38	14.76
6.	Sikka Extension (3-4)*	64.21	61.00
7.	KLTPS 3	7.42	7.59
8.	KLTPS 4	6.00	6.34
9.	BLTPS*	35.52	35.17
10.	Dhuvaran CCPP 1*	16.13	16.03
11.	Dhuvaran CCPP 2	16.95	16.93
12.	Dhuvaran CCPP 3*	51.14	51.53
13.	Utran Extension*	51.03	51.52
14.	Ukai 6*	40.67	43.68
15.	Wanakbori 8 TPS*	67.01	67.65
16.	Ukai Hydro	0.61	0.65
17.	Kadana Hydro	1.25	1.33
18.	<b>Total</b>	<b>586.06</b>	<b>595.46</b>

\* PPA based stations

## 5.8.6 SLDC Charges for FY 2024-25

### Petitioner's Submission





GSECL has claimed SLDC Fees and Charges plant-wise for FY 2024-25, same as that actually incurred in FY 2022-23. The following Table shows the SLDC Fees and Charges claimed by GSECL for FY 2024-25:

**Table 5-41: SLDC Charges claimed for FY 2024-25**  
(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	0.25
2.	Gandhinagar (3-4)	0.17
3.	Gandhinagar 5*	0.09
4.	Wanakbori 1-6 TPS	0.52
5.	Wanakbori 7*	0.09
6.	Sikka Extension (3-4)*	0.21
7.	KLTPS 3	0.04
8.	KLTPS 4	0.03
9.	BLTPS*	0.21
10.	Dhuvaran CCPP 1*	0.04
11.	Dhuvaran CCPP 2	0.05
12.	Dhuvaran CCPP 3*	0.15
13.	Utran Extension*	0.15
14.	Ukai 6*	0.21
15.	Wanakbori 8 TPS*	0.33
16.	Ukai Hydro	0.13
17.	Kadana Hydro	0.10
18.	<b>Total</b>	<b>2.75</b>

\* PPA based stations

### Commission's Analysis

The Commission has approved the SLDC Charges for FY 2024-25 in line with the amount considered in True-up of FY 2022-23. The SLDC charges approved for FY 2024-25 are as shown in the following Table:

**Table 5-42: Approved SLDC Charges for FY 2024-25**

(Rs. Crore)			
Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	0.25	0.25



Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
2.	Gandhinagar (3-4)	0.17	0.17
3.	Gandhinagar 5*	0.09	0.09
4.	Wanakbori 1-6 TPS	0.52	0.52
5.	Wanakbori 7*	0.09	0.09
6.	Sikka Extension (3-4)*	0.21	0.21
7.	KLTPS 3	0.04	0.04
8.	KLTPS 4	0.03	0.03
9.	BLTPS*	0.21	0.21
10.	Dhuvaran CCPP 1*	0.04	0.04
11.	Dhuvaran CCPP 2	0.05	0.05
12.	Dhuvaran CCPP 3*	0.15	0.15
13.	Utran Extension*	0.15	0.15
14.	Ukai 6*	0.21	0.21
15.	Wanakbori 8 TPS*	0.33	0.33
16.	Ukai Hydro	0.13	0.13
17.	Kadana Hydro	0.10	0.10
18.	<b>Total</b>	<b>2.75</b>	<b>2.75</b>

\* PPA based stations

### 5.8.7 Water Charges for FY 2024-25

GSECL has claimed Water Charges plant-wise for FY 2024-25, same as that actually incurred in FY 2022-23. The following Table shows the Water Charges claimed by GSECL for FY 2024-25:

**Table 5-43: Water Charges claimed for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	-
2.	Gandhinagar (3-4)	123.47
3.	Gandhinagar 5*	-
4.	Wanakbori 1-6 TPS	48.87
5.	Wanakbori 7*	19.89
6.	Sikka Extension (3-4)*	5.91
7.	KLTPS 1-3	0.32
8.	KLTPS 4	-
9.	BLTPS*	26.59



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Power Station	Projected
10.	Dhuvaran CCPP 1*	0.50
11.	Dhuvaran CCPP 2	-
12.	Dhuvaran CCPP 3*	-
13.	Utran Extension*	0.84
14.	Ukai 6*	-
15.	Wanakbori 8 TPS*	28.14
16.	Ukai Hydro	-
17.	Kadana Hydro	-
18.	<b>Total</b>	<b>254.53</b>

\* PPA based stations

### Commission's Analysis

The Commission has approved the Water Charges for FY 2024-25 in line with the amount considered in True-up of FY 2022-23. The Water Charges approved for FY 2024-25 are as shown in the following Table

**Table 5-44: Approved Water charges for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	-	-
2.	Gandhinagar (3-4)	123.47	123.47
3.	Gandhinagar 5*	-	-
4.	Wanakbori 1-6 TPS	48.87	48.87
5.	Wanakbori 7*	19.89	19.89
6.	Sikka Extension (3-4)*	5.91	5.91
7.	KLTPS 3	0.32	0.32
8.	KLTPS 4	-	-
9.	BLTPS*	26.59	26.59
10.	Dhuvaran CCPP 1*	0.50	0.50
11.	Dhuvaran CCPP 2	-	-
12.	Dhuvaran CCPP 3*	-	-
13.	Utran Extension*	0.84	0.84
14.	Ukai 6*	-	-
15.	Wanakbori 8 TPS*	28.14	28.14
16.	Ukai Hydro	-	-
17.	Kadana Hydro	-	-



Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
18.	<b>Total</b>	<b>254.53</b>	<b>254.53</b>

\* PPA based stations

### 5.8.8 Income Tax for FY 2024-25

#### Petitioner's Submission

GSECL has claimed Income Tax plant-wise for FY 2024-25, same as that actually incurred in FY 2022-23. The following Table shows the Income Tax claimed by GSECL for FY 2024-25:

**Table 5-45: Income Tax claimed for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Projected
1.	Ukai (3-5)	0.72
2.	Gandhinagar (3-4)	0.50
3.	Gandhinagar 5*	0.25
4.	Wanakbori 1-6 TPS	1.49
5.	Wanakbori 7*	0.25
6.	Sikka Extension (3-4)*	0.59
7.	KLTPS 1-3	0.09
8.	KLTPS 4	0.09
9.	BLTPS*	0.59
10.	Dhuvaran CCPP 1*	0.13
11.	Dhuvaran CCPP 2	0.13
12.	Dhuvaran CCPP 3*	0.45
13.	Utran Extension*	0.44
14.	Ukai 6*	0.59
15.	Wanakbori 8 TPS*	0.95
16.	Ukai Hydro	0.36
17.	Kadana Hydro	0.29
	<b>Total</b>	<b>7.92</b>

\* PPA based stations

#### Commission's Analysis

The Commission has approved the Income Tax for FY 2024-25 in line with the amount considered in True-up of FY 2022-23 on provisional basis subject to true-up, as shown in the following Table:



**Table 5-46: Approved Income Tax for FY 2024-25**

(Rs. Crore)

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	0.72	-
2.	Gandhinagar (3-4)	0.50	-
3.	Gandhinagar 5*	0.25	-
4.	Wanakbori 1-6 TPS	1.49	-
5.	Wanakbori 7*	0.25	-
6.	Sikka Extension (3-4)*	0.59	0.87
7.	KLTPS 3	0.09	0.56
8.	KLTPS 4	0.09	-
9.	BLTPS*	0.59	-
10.	Dhuvaran CCPP 1*	0.13	0.17
11.	Dhuvaran CCPP 2	0.13	0.51
12.	Dhuvaran CCPP 3*	0.45	0.34
13.	Utran Extension*	0.44	1.07
14.	Ukai 6*	0.59	-
15.	Wanakbori 8 TPS*	0.95	3.67
16.	Ukai Hydro	0.36	0.16
17.	Kadana Hydro	0.29	0.28
18.	<b>Total</b>	<b>7.92</b>	<b>7.65</b>

\* PPA based stations

## 5.8.9 Non-Tariff Income for FY 2024-25

### Petitioner's Submission

GSECL has claimed Non-Tariff Income plant-wise for FY 2024-25, same as actual income earned in FY 2022-23. The following Table shows the Non-Tariff Income claimed by GSECL for FY 2024-25:

**Table 5-47: Non-Tariff Income claimed for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Claimed
1.	Ukai (3-5)	31.32
2.	Gandhinagar (3-4)	35.74
3.	Gandhinagar 5*	0.34



Sr. No.	Power Station	Claimed
4.	Wanakbori 1-6 TPS	21.34
5.	Wanakbori 7*	0.34
6.	Sikka Extension (3-4)*	5.22
7.	KLTPS 3	4.08
8.	KLTPS 4	1.99
9.	BLTPS*	6.61
10.	Dhuvaran CCPP 1*	4.78
11.	Dhuvaran CCPP 2	4.07
12.	Dhuvaran CCPP 3*	3.51
13.	Utran Extension*	1.26
14.	Ukai 6*	0.82
15.	Wanakbori 8 TPS*	1.58
16.	Ukai Hydro	0.50
17.	Kadana Hydro	0.76
	<b>Total</b>	<b>124.28</b>

\* PPA based stations

### Commission's Analysis

The Commission has approved the Non-Tariff Income for FY 2024-25 in line with the amount considered in the True-up of FY 2022-23, as shown in the following Table:

**Table 5-48: Approved Non-Tariff Income for FY 2024-25**

(Rs. Crore)			
Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
1.	Ukai (3-5)	31.32	35.38
2.	Gandhinagar (3-4)	35.74	40.38
3.	Gandhinagar 5*	0.34	0.39
4.	Wanakbori 1-6 TPS	21.34	24.11
5.	Wanakbori 7*	0.34	0.39
6.	Sikka Extension (3-4)*	5.22	5.90
7.	KLTPS 3	4.08	4.61
8.	KLTPS 4	1.99	2.25
9.	BLTPS*	6.61	7.47
10.	Dhuvaran CCPP 1*	4.78	5.41
11.	Dhuvaran CCPP 2	4.07	4.60
12.	Dhuvaran CCPP 3*	3.51	3.96

**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

Sr. No.	Particulars	As claimed by GSECL	As approved by the Commission
13.	Utran Extension*	1.26	1.43
14.	Ukai 6*	0.82	0.93
15.	Wanakbori 8 TPS*	1.58	1.79
16.	Ukai Hydro	0.50	0.57
17.	Kadana Hydro	0.76	0.86
18.	<b>Total</b>	<b>124.28</b>	<b>140.41</b>

\* PPA based stations

## 5.9 Approved Fixed Charges

The Commission has discussed and approved various components of fixed charges for approval of ARR for FY 2024-25 in the above paragraphs.

The station-wise approved fixed charges for FY 2024-25 are given in the Table below:

**Table 5-49: Approved Station-wise Fixed Charges for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Depreciation	Interest and Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Water Charges	Income Tax	SLDC charges	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1.	Ukai (3-5)	51.11	-	26.14	53.09	293.51	-	-	0.25	424.11	35.38	388.72
2.	Gandhinagar (3-4)	40.38	-	27.10	40.45	170.00	123.47	-	0.17	401.56	40.38	361.18
3.	Gandhinagar 5*	-	-	28.67	19.04	68.92	-	-	0.09	116.72	0.39	116.33
4.	Wanakbori 1-6 TPS	115.10	1.64	102.05	108.72	314.63	48.87	-	0.52	691.54	24.11	667.43
5.	Wanakbori 7*	-	-	26.16	14.76	23.83	19.89	-	0.09	84.72	0.39	84.33
6.	Sikka Extension (3-4)*	167.19	59.97	132.99	61.00	163.99	5.91	0.87	0.21	592.13	5.90	586.23
7.	KLTPS 3	30.00	-	55.52	7.59	57.79	0.32	0.56	0.04	151.82	4.61	147.21
8.	KLTPS 4	18.44	1.99	30.46	6.34	23.44	-	-	0.03	80.70	2.25	78.45
9.	BLTPS*	194.28	58.09	154.54	35.17	210.62	26.59	-	0.21	679.48	7.47	672.02
10.	Dhuvaran CCPP 1*	10.16	-	10.60	16.03	57.68	0.50	0.17	0.04	95.20	5.41	89.79
11.	Dhuvaran CCPP 2	13.18	-	14.58	16.93	58.49	-	0.51	0.05	103.74	4.60	99.14
12.	Dhuvaran CCPP 3*	79.18	28.52	67.38	51.53	5.81	-	0.34	0.15	232.92	3.96	228.96
13.	Utran Extension*	38.35	11.91	58.00	51.52	61.36	0.84	1.07	0.15	223.20	1.43	221.77
14.	Ukai 6*	157.71	30.97	127.26	43.68	64.31	-	-	0.21	424.13	0.93	423.20
15.	Wanakbori 8 TPS*	227.87	140.62	185.56	67.65	191.80	28.14	3.67	0.33	845.64	1.79	843.85
16.	Ukai Hydro	2.35	1.02	10.67	0.65	17.26	-	0.16	0.13	32.23	0.57	31.67
17.	Kadana Hydro	5.54	0.01	28.91	1.33	35.04	-	0.28	0.10	71.21	0.86	70.36
	<b>Total</b>	<b>1,150.85</b>	<b>334.74</b>	<b>1,086.61</b>	<b>595.46</b>	<b>1,818.48</b>	<b>254.53</b>	<b>7.65</b>	<b>2.75</b>	<b>5,251.06</b>	<b>140.41</b>	<b>5,110.66</b>

\* PPA based stations



## 6 Determination of Tariff for FY 2024-25

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The Commission approves the station-wise energy charges for FY 2024-25 as outlined in the Table below:

**Table 6-1: Energy Charges Approved for FY 2024-25**

(Rs./kWh)

Sr. No.	Power Station	Energy Charges
1.	Ukai (3-5)	5.108
2.	Gandhinagar (3-4)	5.325
3.	Gandhinagar 5*	5.122
4.	Wanakbori 1-6	4.971
5.	Wanakbori 7*	4.885
6.	Sikka Extension (3-4)*	6.560
7.	KLTPS 3	4.649
8.	KLTPS 4	4.341
9.	BLTPS*	3.345
10.	Dhuvaran CCPP 1*	10.252
11.	Dhuvaran CCPP 2	10.147
12.	Dhuvaran CCPP 3*	9.626
13.	Utran Extension*	9.626
14.	Ukai 6*	4.497
15.	Wanakbori 8*	4.153

\* PPA based stations

The approved Energy Charges for FY 2024-25 are given in **Annexure B** of this Order.

The Commission approves the station-wise fixed charges for FY 2024-25 as approved in the Chapter on Determination of ARR for FY 2024-25, and as summarised in the Table below:



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**Table 6-2: Approved Station-wise Fixed Charges for FY 2024-25**

(Rs. Crore)

Sr. No.	Power Station	Depreciation	Interest and Financial Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Water Charges	Income Tax	SLDC charges	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1.	Ukai (3-5)	51.11	-	26.14	53.09	293.51	-	-	0.25	424.11	35.38	388.72
2.	Gandhinagar (3-4)	40.38	-	27.10	40.45	170.00	123.47	-	0.17	401.56	40.38	361.18
3.	Gandhinagar 5*	-	-	28.67	19.04	68.92	-	-	0.09	116.72	0.39	116.33
4.	Wanakbori 1-6 TPS	115.10	1.64	102.05	108.72	314.63	48.87	-	0.52	691.54	24.11	667.43
5.	Wanakbori 7*	-	-	26.16	14.76	23.83	19.89	-	0.09	84.72	0.39	84.33
6.	Sikka Extension (3-4)*	167.19	59.97	132.99	61.00	163.99	5.91	0.87	0.21	592.13	5.90	586.23
7.	KLTPS 3	30.00	-	55.52	7.59	57.79	0.32	0.56	0.04	151.82	4.61	147.21
8.	KLTPS 4	18.44	1.99	30.46	6.34	23.44	-	-	0.03	80.70	2.25	78.45
9.	BLTPS*	194.28	58.09	154.54	35.17	210.62	26.59	-	0.21	679.48	7.47	672.02
10.	Dhuvaran CCPP 1*	10.16	-	10.60	16.03	57.68	0.50	0.17	0.04	95.20	5.41	89.79
11.	Dhuvaran CCPP 2	13.18	-	14.58	16.93	58.49	-	0.51	0.05	103.74	4.60	99.14
12.	Dhuvaran CCPP 3*	79.18	28.52	67.38	51.53	5.81	-	0.34	0.15	232.92	3.96	228.96
13.	Utran Extension*	38.35	11.91	58.00	51.52	61.36	0.84	1.07	0.15	223.20	1.43	221.77
14.	Ukai 6*	157.71	30.97	127.26	43.68	64.31	-	-	0.21	424.13	0.93	423.20
15.	Wanakbori 8 TPS*	227.87	140.62	185.56	67.65	191.80	28.14	3.67	0.33	845.64	1.79	843.85
16.	Ukai Hydro	2.35	1.02	10.67	0.65	17.26	-	0.16	0.13	32.23	0.57	31.67
17.	Kadana Hydro	5.54	0.01	28.91	1.33	35.04	-	0.28	0.10	71.21	0.86	70.36
	<b>Total</b>	<b>1,150.85</b>	<b>334.74</b>	<b>1,086.61</b>	<b>595.46</b>	<b>1,818.48</b>	<b>254.53</b>	<b>7.65</b>	<b>2.75</b>	<b>5,251.06</b>	<b>140.41</b>	<b>5,110.66</b>

\* PPA based stations



## 7 Compliance to Directives

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### 7.1 Compliance of Directives issued by the Commission

The compliance of directives issued by the Commission and issue of new directives are discussed below:

### 7.2 Compliance of Earlier Directives

#### Directive 1: Actual Performance Parameters

GSECL shall submit month-wise, at quarterly intervals, the actual performance parameters like PAF, PLF, SHR, Aux. Consumption, SFOC, Transit loss, etc., actual gross generation, actual net generation and coal stock position (both imported and indigenous) for each station to the Commission and place the said information on its website.

#### Compliance:

Month-wise performance parameters and coal stock position are being uploaded on quarterly basis on GSECL's website.

#### Commission Comments:

The Commission has noted the submission of the Petitioner. GSECL shall continue to submit copy of this information to the Commission and on its website at quarterly intervals.

#### Directive 2: Deviation of Capital Expenditure

GSECL is directed to submit a prior intimation to the Commission with proper justification for any variation of more than 10% between approved and actual CAPEX.

#### Compliance:

GSECL has included CAPEX Proposal for FY 2024-25 in present Petition as per the directives of the Commission.

#### Commission Comments:

The Commission has noted that GSECL has projected capital expenditure for FY 2024-25 in their Petition. The Commission reiterates its directive that GSECL should submit a prior intimation to the Commission with proper justification for any variation of more than 10% between approved and actual CAPEX and failure to do this shall be viewed as non-compliance on part of GSECL.



**Directive 3: Life Assessment & fulfilling Environment Norms of GSECL Plants (Vide Order dated: - 24th April,2019)**

GSECL is directed to carry out detailed technical study on the aging of its different Units at various stations for life assessment and requirement of any Renovation & Modernization with techno-commercial assessment keeping new environmental norms of MoEF for Thermal Power Plants. GSECL shall submit a comprehensive report at the earliest.

**Compliance:**

GSECL submitted the progress report on Life assessment and Fulfilling environment norms of GSECL plants along with the Petition.

**Further Compliance:**

GSECL has already submitted the Progress Report on Life Assessment & Fulfilling Environment Norms of GSECL Plants vide letter dated 18<sup>th</sup> September, 2023 to the Commission.

**Commission Comments:**

The Commission has noted the submission. GSECL shall continue to submit the progress report as per directive.

**Directive 4: Performance of Lignite Based Stations**

The Commission has noted the submission made by GSECL. During truing up for FY 2021-22, the Commission notes that performance of lignite-based station is not as per approved parameters. The Commission is of view that GSECL shall take necessary measures for improvement of such performance and the same shall be considered during next tariff Petition while approving the performance parameters for these Stations. The lower performance will not give any liberty to GSECL for claim of lower performance parameter in future years. Further, the Commission directs that GSECL shall submit the progress report on performance improvement plan for Lignite based Power Stations. GSECL is directed to improve the O&M practices of these units so as to have improvement in PLF and efficiency.

**Further Compliance:**

GSECL is implementing better O&M practices for improvement of performance of the lignite-based plants. The plant wise details is as under:-

**KLTPS-3**

- KLTPS Unit #3 is running at 65 MW and PAF is around 68 to 70%.



#### **KLTPS-4**

- From 5<sup>th</sup> July, 2023, KLTPS #4 is under major outage due to IDCT Collapse during “Biparjoy” cyclone.

#### **BLTPS#1 & 2**

To improve the performance of BLTPS Units #1 and 2 GSECL has taken following steps:-

1. Commissioning of second stream of lignite feeding.
2. To reduce boiler tube leakages, Replacement of dissimilar weld joints in convective super heater zone is planned to be carried out during AOH of Units in FY 2023-24.
3. Construction of screen house to address to lignite sizing issue is under progress is likely to be completed by 31.01.2024.
4. The PAF till December 2023 achieved in BLTPS- 1 & 2 is 35.81%, which was 27.31% in F.Y.2022-23. This shows some improvement in performance.

#### **Commission Comments:**

The Commission has noted the submission. The Commission notes that GSECL is still lagging in performance parameters. GSECL is directed to expedite its processes and show the results. GSECL should submit the justification for poor performance parameters. GSECL should also show the actual improvement on account of the steps already taken. GSECL shall also continue to submit the progress report as per directive.

### **7.3 Directives Issued vide Order dated 31<sup>st</sup> March, 2023**

#### **Directive 1: Efficiency improvements in Normative Parameters**

It is observed that most of GSECL's older stations have achieved a lower PLF as they are not part of the SLDC reported Merit Order Dispatch (MOD) schedule and have been ordered to back down. On the other hand, GSECL has commissioned new stations that qualify for MOD due to their lower energy charges but have higher fixed costs. The Petitioner is instructed to improve its plant load factor for various generation plants in order to achieve operational efficiencies. In addition to the above, it is noted that the availability of GSECL generating plants was affected due to various reasons listed in its Petition during FY 2021-22. The Petitioner is therefore instructed to ensure the availability of his facilities.

#### **Compliance:**

GSECL has already submitted the compliances of the directive of Commission vide letter dated 18<sup>th</sup> September, 2023.



**Commission Comments:**

The Commission has noted the submission. The Commission observes that all old stations are having poor performance parameters. GSECL show the actual improvement in the performance and submit the progress report against the steps taken to improve the operational efficiency and submit the same on quarterly basis.

**Directive 2: Feasibility of Pump Storage**

The Petitioner is directed to carry out the feasibility study to establish Pump Storage Station at its Hydro Plants and submit the same before the Commission

**Compliance:**

GSECL has already submitted the compliances of the directive of Commission vide letter dated 18<sup>th</sup> September, 2023

**Commission Comments:**

The Commission has noted the submission made by GSECL. The GSECL is directed to submit the status report to the Commission at the earliest in regard to further progress made.

## **7.4 Fresh Directives of this Order**

**Directive 1: Capitalisation of Capital Spares**

The Commission directs GSECL to submit details of the capital spares capitalised for FY 2023-24 and onwards along with every MYT/Tariff Petition to be filed subsequently.

GSECL, along with the above details, should also submit the detailed justification for excess capitalisation of capital spares, if any, with respect to the limit specified in the applicable GERC (MYT) Regulations and the actions proposed with respect to the excess capitalisation of capital spares, if any. Non-submission of such details along with every subsequent MYT/ Tariff Petition may lead to disallowance of capitalisation against capital spares.

**Directive 2: Capitalisation against Sundry items**

The Commission observes that GSECL is undertaking capitalisation against furniture, computers, etc., which are not allowed as additional capitalisation for its existing stations. The Commission directs GSECL to rationalise the capital expenditure against these items, and undertake such essential expenditure under O&M expenses, if required.



**Directive 3: Mandatory Reporting of LD recovered against the FGD installation work at Wanakbori 8**

The Commission notes that an income of Rs. 52.68 Crore has been reported under other income in the Audited Accounts of FY 2022-23, which GSECL has not considered in Non-Tariff Income for true up of FY 2022-23. GSECL has submitted that the amount pertains to the forfeiting of security deposit (SD) of the contractor who was awarded the contract for FGD installation work at WTPS-Unit-8. The contractor left the work and accordingly, the SD submitted was forfeited. New contract for the same work has been awarded to another contractor. Hence, the amount booked on account of forfeiting of SD is compensation against higher cost of new contract. The Commission is of the view that GSECL should consider this amount against Capitalisation of FGD installation in Wanakbori 8. Hence, The Commission directs GSECL to report this information as discussed until the said asset is capitalised.

**Directive 4: Inclusion of compliance of directives as part of Petition**

The Commission directs GSECL to ensure that the Compliance of Directives should be made part of all Tariff Petitions filed in future, so that all stakeholders can take an informed view.

**Directive 5: Allocation of Corporate Office O&M Expenses and Income Tax to all Stations of GSECL**

The Commission has accepted the allocation of HO Expenses and Income tax as submitted by GSECL for the purpose of truing up for FY 2022-23, but directs GSECL to ensure that henceforth, HO expenses and Income Tax have to be accounted for appropriately across all Stations of GSECL, irrespective of whether they are regulated or unregulated and whether they are commissioned or yet to be commissioned.

**Directive 6: Reconciliation of FPPPA with Cost claimed in Petition**

GSECL is directed to henceforth submit reconciliation of fuel cost claimed in quarterly FPPPA with claimed in True up of respective year, in the Petition itself.

**Directive 7: Viability of Solar plant installation in all plants with poor Auxiliary Energy consumption (AEC)**



GSECL has commissioned a 700-kW capacity solar plant in Wanakbori TPS 1-6, which has helped GSECL to reduce the Auxiliary Energy Consumption (AEC). The Commission directs GSECL to explore the possibility of installation of solar capacity at various locations in the power plants / administrative offices of GSECL to support auxiliary / own consumption considering quantum of solar capacity that can be installed at various locations, estimated generation and cost of the proposed plant, Cost benefit analysis etc. GSECL shall submit proposal to the Commission based on the findings of such Study.



## COMMISSION'S ORDER

The Commission has determined Tariff of GSECL for FY 2024-25 in Chapter 6 of this Order. Accordingly, the approved Energy Charges and Fixed Charges are as mentioned in the Table 6-1 and Table 6-2, respectively. The Commission approves the station-wise Fixed Charges and Energy Charges for FY 2024-25 as outlined in the Table below:

Sr. No.	Power Station	Annual Fixed Charges for FY 2024-25 (Rs. Crore)	Energy Charges for FY 2024-25 (Rs./kWh)
1.	Ukai (3-5)	388.72	5.108
2.	Gandhinagar (3-4)	361.18	5.325
3.	Gandhinagar 5*	116.33	5.122
4.	Wanakbori 1-6	667.43	4.971
5.	Wanakbori 7*	84.33	4.885
6.	Sikka 3 & 4*	586.23	6.560
7.	KLTPS 3	147.21	4.649
8.	KLTPS 4	78.45	4.341
9.	BLTPS*	672.02	3.345
10.	Dhuvaran CCPP 1*	89.79	10.252
11.	Dhuvaran CCPP 2	99.14	10.147
12.	Dhuvaran CCPP 3*	228.96	9.626
13.	Utran Extension*	221.77	9.626
14.	Ukai 6*	423.20	4.497
15.	Wanakbori 8*	843.85	4.153
16.	Ukai Hydro	31.67	-
17.	Kadana Hydro	70.36	-
	<b>Total</b>	<b>5,110.66</b>	

\* PPA based stations

The Annual Fixed Charges are exclusive of approved Consolidated (Fixed & Fuel Cost) Gains / (Losses) of Rs. **138.05** Crore of FY 2022-23. This amount is to be recovered from four DISCOMs in Twelve (12) equal monthly instalments through GUVNL.

**This Order shall come into force with effect from 1<sup>st</sup> April, 2024.**

<b>Sd/-</b>	<b>Sd/-</b>	<b>Sd/-</b>
<b>S. R. PANDEY</b>	<b>MEHUL M. GANDHI</b>	<b>ANIL MUKIM</b>
<b>Member</b>	<b>Member</b>	<b>Chairman</b>

Place: Gandhinagar

Date: 01.06.2024





**ANNEXURE A**

**A-1: Ukai TPS 3 to 5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	<b>2,773.38</b>
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	249.60
4	Net Generation	Y=A-B	MUs	2,523.77
5	Station Heat Rate	D	kcal/kWh	2625.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross calorific value of coal	F	kcal/Kg	3509.30
8	Calorific value of oil	G	kcal/l	10325.85
9	Overall Heat	H= A x D	GCal	7280109.38
10	Heat from Oil	I= (A x E x G)/1000	GCal	28637.47
11	Heat from Coal	J = H-I	GCal	7251471.91
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	(A) Indigenous coal	X1	%	71.09%
15	(B) Washed Coal	X2	%	27.61%
16	(C) Imported Coal	X3	%	1.29%
17	Actual oil consumption	L= A x E	Kl	2773.38
18	Actual Coal consumption	M= (J x 1000)/F	MT	2066359.75
19	(A) Indigenous coal	Q1=M* x X1/(1-K)	MT	1480925.70
20	(B) Washed Coal	Q2=M* x X2 / (1-K)	MT	575216.76
21	(C) Imported Coal	Q3=M* X X3	MT	26666.43
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	5,001
24	(B) Washed Coal	P2	Rs./MT	5,179
25	(C) Imported Coal	P3	Rs./MT	17,739
26	Price of oil	P4	Rs./Kl	60,026
27	Coal Cost			
28	(A) Indigenous coal	N1=Q1 X P1/10 <sup>7</sup>	Rs. Crore	740.68
29	(B) Washed Coal	N2=Q2 X P2/10 <sup>7</sup>	Rs. Crore	297.88
30	(C) Imported Coal	N3=Q3 X P3/10 <sup>7</sup>	Rs. Crore	47.30
31	Total coal cost	N4= N1+N2+N3	Rs. Crore	1085.86
32	Oil Cost	N5=P4 x L/10 <sup>7</sup>	Rs. Crore	16.65
33	Total fuel cost	O= N4+N5	Rs. Crore	1102.51
34	Fuel cost/Unit (Gross)	P= O/(A*10)	Rs./kWh	3.98
35	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.37
36	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1514.41
37	Actual net generation	S	MUs	2484.66
38	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	1085.42



**A-2: Gandhinagar 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	2,435.17
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	219.17
4	Net Generation	Y=A-B	MUs	2,216.00
5	Station Heat Rate	D	kcal/kWh	2625.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross calorific value of coal	F	kcal/Kg	3658.90
8	Calorific value of oil	G	kcal/l	10425.77
9	Overall Heat	H= A x D	GCal	6392316.00
10	Heat from Oil	I= (A x E x G)/1000	GCal	25388.51
11	Heat from Coal	J = H-I	GCal	6366927.49
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	(A) Indigenous coal	X1	%	66.44%
15	(B) Washed Coal	X2	%	32.01%
16	(C) Imported Coal	X3	%	1.55%
17	Actual oil consumption	L= A x E	Kl	2435.17
18	Actual Coal consumption	M= (J x 1000)/F	MT	1740121.41
19	(A) Indigenous coal	Q1=M* x X1/(1-K)	MT	1165449.54
20	(B) Washed Coal	Q2=M* x X2 / (1-K)	MT	561548.54
21	(C) Imported Coal	Q3=M* X X3	MT	26939.32
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	5207.09
24	(B) Washed Coal	P2	Rs./MT	5678.80
25	(C) Imported Coal	P3	Rs./MT	18434.35
26	Price of oil	P4	Rs./Kl	57473.93
27	Coal Cost			
28	(A) Indigenous coal	N1=Q1 X P1/10 <sup>7</sup>	Rs. Crore	606.86
29	(B) Washed Coal	N2=Q2 X P2/10 <sup>7</sup>	Rs. Crore	318.89
30	(C) Imported Coal	N3=Q3 X P3/10 <sup>7</sup>	Rs. Crore	49.66
31	Total coal cost	N4= N1+N2+N3	Rs. Crore	975.41
32	Oil Cost	N5=P4 x L/10 <sup>7</sup>	Rs. Crore	14.00
33	Total fuel cost	O= N4+N5	Rs. Crore	989.41
34	Fuel cost/Unit (Gross)	P= O/(A*10)	Rs./kWh	4.06
35	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.46
36	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1547.81
37	Actual net generation	S	MUs	2169.35
38	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	968.58

**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**A-3: Gandhinagar 5 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	1,259.35
2	Auxiliary Consumption	C	%	9.50%
3	Auxiliary Consumption	B	MUs	119.64
4	Net Generation	Y=A-B	MUs	1,139.71
5	Station Heat Rate	D	kcal/kWh	2460.00
6	Sp. Oil Consumption	E	ml/kWh	3.50
7	Gross calorific value of coal	F	kcal/Kg	3626.46
8	Calorific value of oil	G	kcal/l	10440.00
9	Overall Heat	H= A x D	GCal	3098003.46
10	Heat from Oil	I= (A x E x G)/1000	GCal	46016.69
11	Heat from Coal	J = H-I	GCal	3051986.77
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	(A) Indigenous coal	X1	%	69.70%
15	(B) Washed Coal	X2	%	28.76%
16	(C) Imported Coal	X3	%	1.54%
17	Actual oil consumption	L= A x E	Kl	4407.73
18	Actual Coal consumption	M= (J x 1000)/F	MT	841587.56
19	(A) Indigenous coal	Q1=M* x X1/(1-K)	MT	591306.29
20	(B) Washed Coal	Q2=M* x X2 / (1-K)	MT	244013.03
21	(C) Imported Coal	Q3=M* X X3	MT	12950.79
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	5201.95
24	(B) Washed Coal	P2	Rs./MT	5671.86
25	(C) Imported Coal	P3	Rs./MT	18432.93
26	Price of oil	P4	Rs./Kl	58499.62
27	Coal Cost			
28	(A) Indigenous coal	N1=Q1 X P1/10 <sup>7</sup>	Rs. Crore	307.59
29	(B) Washed Coal	N2=Q2 X P2/10 <sup>7</sup>	Rs. Crore	138.40
30	(C) Imported Coal	N3=Q3 X P3/10 <sup>7</sup>	Rs. Crore	23.87
31	Total coal cost	N4= N1+N2+N3	Rs. Crore	469.87
32	Oil Cost	N5=P4 x L/10 <sup>7</sup>	Rs. Crore	25.79
33	Total fuel cost	O= N4+N5	Rs. Crore	495.65
34	Fuel cost/Unit (Gross)	P= O/(A*10)	Rs./kWh	3.94
35	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.35
36	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1599.91
37	Actual net generation	S	MUs	1114.04
38	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	484.49

**A-4: Wanakbori 1-6 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	5,429.16
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	488.62
4	Net Generation	Y=A-B	MUs	4940.54
5	Station Heat Rate	D	kcal/kWh	2575.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross calorific value of coal	F	kcal/Kg	3492.54
8	Calorific value of oil	G	kcal/l	10381.00
9	Overall Heat	H= A x D	GCal	13980089.58
10	Heat from Oil	I= (A x E x G)/1000	GCal	56360.12
11	Heat from Coal	J = H-I	GCal	13923729.45
12	Transit losses	K	%	0.80%
13	Coal Blend			
14	(A) Indigenous coal	X1	%	55.55%
15	(B) Washed Coal	X2	%	43.26%
16	(C) Imported Coal	X3	%	1.19%
17	Actual oil consumption	L= A x E	Kl	5429.16
18	Actual Coal consumption	M= (J x 1000)/F	MT	3986709.54
19	(A) Indigenous coal	Q1=M* x X1/(1-K)	MT	2232609.96
20	(B) Washed Coal	Q2=M* x X2 / (1-K)	MT	1738478.05
21	(C) Imported Coal	Q3=M* X X3	MT	47390.23
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	5217.92
24	(B) Washed Coal	P2	Rs./MT	5450.80
25	(C) Imported Coal	P3	Rs./MT	17761.34
26	Price of oil	P4	Rs./Kl	57623.60
27	Coal Cost			
28	(A) Indigenous coal	N1=Q1 X P1/10 <sup>7</sup>	Rs. Crore	1164.96
29	(B) Washed Coal	N2=Q2 X P2/10 <sup>7</sup>	Rs. Crore	947.61
30	(C) Imported Coal	N3=Q3 X P3/10 <sup>7</sup>	Rs. Crore	84.17
31	Total coal cost	N4= N1+N2+N3	Rs. Crore	2196.74
32	Oil Cost	N5=P4 x L/10 <sup>7</sup>	Rs. Crore	31.28
33	Total fuel cost	O= N4+N5	Rs. Crore	2228.02
34	Fuel cost/Unit (Gross)	P= O/(A*10)	Rs./kWh	4.10
35	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.51
36	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1593.71
37	Actual net generation	S	MUs	4859.38
38	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	2191.42

**A-5: Wanakbori 7 - Approved Fuel Costs (Coal, Lignite & Secondary Oil) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	1,269.18
2	Auxiliary Consumption	C	%	9.50%
3	Auxiliary Consumption	B	MUs	120.57
4	Net Generation	$Y=A-B$	MUs	1148.60
5	Station Heat Rate	D	kcal/kWh	2460.00
6	Sp. Oil Consumption	E	ml/kWh	3.50
7	Gross calorific value of coal	F	kcal/Kg	3513.36
8	Calorific value of oil	G	kcal/l	10382.00
9	Overall Heat	$H= A \times D$	GCal	3122170.50
10	Heat from Oil	$I= (A \times E \times G)/1000$	GCal	46118.01
11	Heat from Coal	$J = H-I$	GCal	3076052.49
12	Transit losses	K	%	0.80%
13	Coal Blend			
114	(A) Indigenous coal	X1	%	56.20%
15	(B) Washed Coal	X2	%	42.41%
16	(C) Imported Coal	X3	%	1.39%
17	Actual oil consumption	$L= A \times E$	Kl	4442.11
18	Actual Coal consumption	$M= (J \times 1000)/F$	MT	875529.88
19	(A) Indigenous coal	$Q1=M^* \times X1/(1-K)$	MT	496021.50
20	(B) Washed Coal	$Q2=M^* \times X2 / (1-K)$	MT	374307.31
21	(C) Imported Coal	$Q3=M^* \times X3$	MT	12163.70
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	5150.61
24	(B) Washed Coal	P2	Rs./MT	5423.02
25	(C) Imported Coal	P3	Rs./MT	17543.78
26	Price of oil	P4	Rs./Kl	56501.90
27	Coal Cost			
28	(A) Indigenous coal	$N1=Q1 \times P1/10^7$	Rs. Crore	255.48
29	(B) Washed Coal	$N2=Q2 \times P2/10^7$	Rs. Crore	202.99
30	(C) Imported Coal	$N3=Q3 \times P3/10^7$	Rs. Crore	21.34
31	Total coal cost	$N4= N1+N2+N3$	Rs. Crore	479.81
32	Oil Cost	$N5=P4 \times L/10^7$	Rs. Crore	25.10
33	Total fuel cost	$O= N4+N5$	Rs. Crore	504.91
34	Fuel cost/Unit (Gross)	$P= O/(A^*10)$	Rs./kWh	3.98
35	Fuel cost/Unit (Net)	$Q=O/(Y^*10)$	Rs./kWh	4.40
36	Cost of fuel/GCal	$R=(O/H)^*10^7$	Rs./GCal	1617.17
37	Actual net generation	S	MUs	1135.76
38	Normative Fuel Cost for actual Net Generation	$T=S^*Q/10$	Rs. Crore	499.26



**A-6: Sikka Extension 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	1,563.80
2	Auxiliary Consumption	C	%	9.00%
3	Auxiliary Consumption	B	MUs	140.74
4	Net Generation	Y=A-B	MUs	1,423.06
5	Station Heat Rate	D	kcal/kWh	2398.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Gross calorific value of coal	F	kcal/Kg	5000.44
8	Calorific value of oil	G	kcal/l	10365.60
9	Overall Heat	H= A x D	GCal	3749999.59
10	Heat from Oil	I= (A x E x G)/1000	GCal	16209.75
11	Heat from Coal	J = H-I	GCal	3733789.84
12	Transit losses	K	%	0.00%
13	Coal Blend			
14	(A) Indigenous coal	X1	%	0.00%
15	(B) Washed Coal	X2	%	0.00%
16	(C) Imported Coal	X3	%	100.00%
17	Actual oil consumption	L= A x E	Kl	1563.80
18	Actual Coal consumption	M= (J x 1000)/F	MT	746692.01
19	(A) Indigenous coal	Q1=M* x X1/(1-K)	MT	0.00
20	(B) Washed Coal	Q2=M* x X2 / (1-K)	MT	0.00
21	(C) Imported Coal	Q3=M* X X3	MT	746692.01
22	Price of coal			
23	(A) Indigenous coal	P1	Rs./MT	0.00
24	(B) Washed Coal	P2	Rs./MT	0.00
25	(C) Imported Coal	P3	Rs./MT	16396.74
26	Price of oil	P4	Rs./Kl	65368.90
27	Coal Cost			
28	(A) Indigenous coal	N1=Q1 X P1/10 <sup>7</sup>	Rs. Crore	0.00
29	(B) Washed Coal	N2=Q2 X P2/10 <sup>7</sup>	Rs. Crore	0.00
30	(C) Imported Coal	N3=Q3 X P3/10 <sup>7</sup>	Rs. Crore	1224.33
31	Total coal cost	N4= N1+N2+N3	Rs. Crore	1224.33
32	Oil Cost	N5=P4 x L/10 <sup>7</sup>	Rs. Crore	10.22
33	Total fuel cost	O= N4+N5	Rs. Crore	1234.55
34	Fuel cost/Unit (Gross)	P= O/(A*10)	Rs./kWh	7.89
35	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	8.68
36	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	3292.14
37	Actual net generation	S	MUs	1395.05
38	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	1210.25



**A-7: KLTPS 3 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	FY 2022-23
1	Gross Generation	A	MUs	360.00
2	Auxiliary Consumption	C	%	12.00%
3	Auxiliary Consumption	B	MUs	43.20
4	Net Generation	$Y=A-B$	MUs	316.80
5	Station Heat Rate	D	kcal/kWh	3231.00
6	Sp. Oil Consumption	E	ml/kWh	3.00
7	Gross calorific value of Lignite	F	kcal/Kg	2246.97
8	Calorific value of oil	G	kcal/l	10426.47
9	Overall Heat	$H= A \times D$	GCal	1163156.77
10	Heat from Oil	$I= (A \times E \times G)/1000$	GCal	11260.55
11	Heat from Lignite	$J = H-I$	GCal	1151896.21
12	Transit losses	K	%	0.20%
13	Actual Oil consumption	$L= A \times E$	Kl	1,080
14	Actual lignite consumption incl. transit losses	$M= (J \times 1000)/F/(1-K)$	MT	513671.24
16	Price of Lignite	P1	Rs./MT	2612.98
17	Price of Oil	P2	Rs./Kl	75119.06
18	Cost of Lignite	$N1= M \times P1/10^7$	Rs Crores	134.22
19	Oil cost	$N2=P2 \times L/10^7$	Rs Crores	8.11
20	Total Fuel Cost	$O= N1 + N2$	Rs Crores	142.33
21	Fuel cost/Unit (Gross)	$P=O/(A \times 10)$	Rs./kWh	3.95
22	Fuel cost/Unit (Net)	$Q=O/(Y \times 10)$	Rs./kWh	4.49
23	Cost of fuel/GCal	$R=(O/H) \times 10^7$	Rs./GCal	1223.69
24	Actual net generation	S	MUs	309.34
25	Normative Fuel Cost for actual Net Generation	$T=S \times Q/10$	Rs. Crore	138.98

**A-8: KLTPS 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	2022-23
1	Gross Generation	A	MUs	299.66
2	Auxiliary Consumption	C	%	12.00%
3	Auxiliary Consumption	B	MUs	35.96
4	Net Generation	Y=A-B	MUs	263.70
5	Station Heat Rate	D	kcal/kWh	3000.00
6	Sp. Oil Consumption	E	ml/kWh	3.00
7	Sp. Consumption of Limestone	LM1	kg/kWh	0.26
8	Gross calorific value of Lignite	F	kcal/Kg	2293.18
9	Calorific value of oil	G	kcal/l	10676.47
10	Overall Heat	H= A x D	GCal	898977.00
11	Heat from Oil	I= (A x E x G)/1000	GCal	9597.90
12	Heat from Lignite	J = H-I	GCal	889379.10
13	Transit losses	K	%	0.20%
14	Actual Oil consumption	L= A x E	K	898.98
15	Actual lignite consumption incl. transit losses	M= (J x 1000)/F/(1-K)	MT	388613.77
16	Actual Lime Consumption	LM2 = LM1*A*1000	MT	77911.34
17	Price of Lignite	P1	Rs./MT	2,585
18	Price of Oil	P2	Rs./Kl	91,277
19	Price of Limestone	P3	Rs./MT	217
20	Cost of Lignite	N1= M x P1/10 <sup>7</sup>	Rs Crores	100.47
21	Oil cost	N2=P2 x L/10 <sup>7</sup>	Rs Crores	8.21
22	Cost of Limestone	N3=LM2*P3/10 <sup>5</sup>	Rs. Crore	1.69
23	Total Fuel Cost	O= N1 + N2 + N3	Rs Crores	110.37
24	Fuel cost/Unit (Gross)	P=O/(A*10)	Rs./kWh	3.68
25	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.19
26	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1227.69
27	Actual net generation	S	MUs	229.18
28	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	95.92



**A-9: BLTPS - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

Sl. No.	Item	Derivation	Unit	2022-23
1	Gross Generation	A	MUs	1340.42
2	Auxiliary Consumption	C	%	11.00%
3	Auxiliary Consumption	B	MUs	147.45
4	Net Generation	Y=A-B	MUs	1192.97
5	Station Heat Rate	D	kcal/kWh	2623.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Sp. Consumption of Limestone	LM1	kg/kWh	0.26
8	Gross calorific value of Lignite	F	kcal/Kg	2766.51
9	Calorific value of oil	G	kcal/l	10215.85
10	Overall Heat	H= A x D	GCal	3515911.17
11	Heat from Oil	I= (A x E x G)/1000	GCal	13693.49
12	Heat from Lignite	J = H-I	GCal	3502217.68
13	Transit losses	K	%	0.20%
14	Actual Oil consumption	L= A x E	K	1340.42
15	Actual lignite consumption incl. transit losses	M= (J x 1000)/F/(1-K)	MT	1268472.22
16	Actual Lime Consumption	LM2 = LM1*A*1000	MT	348508.16
17	Price of Lignite	P1	Rs./MT	2,988
18	Price of Oil	P2	Rs./Kl	1,03,146
19	Price of Limestone	P3	Rs./MT	1,097
20	Cost of Lignite	N1= M x P1/10 <sup>7</sup>	Rs Crores	379.03
21	Oil cost	N2=P2 x L/10 <sup>7</sup>	Rs Crores	13.83
22	Cost of Limestone	N3=LM2*P3/10 <sup>5</sup>	Rs. Crore	38.22
23	Total Fuel Cost	O= N1 + N2 + N3	Rs Crores	431.08
24	Fuel cost/Unit (Gross)	P=O/(A*10)	Rs./kWh	3.22
25	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	3.61
26	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1226.07
27	Actual net generation	S	MUs	1065.87
28	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	385.15

**A-10: Dhuvaran CCPP 1 - Approved Fuel Costs (Gas) for FY 2022-23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1	GROSS GENERATION	A	MUS	0.00
2	AUXILIARY CONSUMPTION	C	%	4.00%
3	AUXILIARY CONSUMPTION	B	MUS	0.00
4	NET GENERATION	$Y=A-B$	MUS	0.00
5	STATION HEAT RATE	D	KCAL/KWH	1950.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9233.00
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	0.00
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	0.00
9	PRICE OF GAS	P1	RS./SCM	49.73
10	COST OF GAS	$N5=P1 \times M/10^7$	RS CRORES	0.00
11	TOTAL FUEL COST	N5	RS CRORES	0.00
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	0.00
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	0.00
14	COST OF FUEL/GCAL	$R=(N5/H)*10^7$	RS./GCAL	0.00
15	ACTUAL NET GENERATION	S	MUS	0.00
16	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	$T=S*Q/10$	RS. CRORE	0.00

**A-11: Dhuvaran CCPP 2 - Approved Fuel Costs (Gas) for FY 2022.23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1.	GROSS GENERATION	A	MUs	0.00
2.	AUXILIARY CONSUMPTION	C	%	3.00%
3.	AUXILIARY CONSUMPTION	B	MUs	0.00
4.	NET GENERATION	$Y=A-B$	MUs	0.00
5.	STATION HEAT RATE	D	KCAL/KWH	1950.00
6.	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9286.00
7.	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	0.00
8.	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	0.00
9.	PRICE OF GAS	P1	RS./SCM	49.73
10.	COST OF GAS	$N5=P1 \times M/10^7$	RS CRORES	0.00
11.	TOTAL FUEL COST	N5	RS CRORES	0.00
12.	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	0.00
13.	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	0.00
14.	COST OF FUEL/GCAL	$R=(N5/H)*10^7$	RS./GCAL	0.00
15.	ACTUAL NET GENERATION	S	MUS	0.00
16.	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	$T=S*Q/10$	RS. CRORE	0.00

**A-12: Dhuvaran CCPP 3 - Approved Fuel Costs (Gas) for FY 2022-23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1.	GROSS GENERATION	A	MUs	1.63
2.	AUXILIARY CONSUMPTION	C	%	3.00%
3.	AUXILIARY CONSUMPTION	B	MUs	0.05
4.	NET GENERATION	$Y=A-B$	MUs	1.58
5.	STATION HEAT RATE	D	KCAL/KWH	1850.00
6.	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9250.00
7.	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	3021.05
8.	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	0.33
9.	PRICE OF GAS	P1	RS./SCM	49.73
10.	COST OF GAS	$N5=P1 \times M/10^7$	RS CRORES	1.62
11.	TOTAL FUEL COST	N5	RS CRORES	1.62
12.	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.95
13.	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	10.25
14.	COST OF FUEL/GCAL	$R=(N5/H)*10^7$	RS./GCAL	5376.62
15.	ACTUAL NET GENERATION	S	MUS	1.47
16.	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	$T=S*Q/10$	RS. CRORE	1.50



**A-13: Utran Extension - Approved Fuel Costs (Gas) for FY 2022-23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1	GROSS GENERATION	A	MUs	4.64
2	AUXILIARY CONSUMPTION	C	%	3.00%
3	AUXILIARY CONSUMPTION	B	MUs	0.14
4	NET GENERATION	$Y=A-B$	MUs	4.50
5	STATION HEAT RATE	D	KCAL/KWH	1850.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9331.00
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	8587.70
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	0.92
9	PRICE OF GAS	P1	RS./SCM	49.26
10	COST OF GAS	$N5=P1 \times M$	RS CRORES	4.53
11	TOTAL FUEL COST	N5	RS CRORES	4.53
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.77
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	10.07
14	COST OF FUEL/GCAL	$R=(N5/H)*10^7$	RS./GCAL	5279.27
15	ACTUAL NET GENERATION	S	MUS	4.37
16	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	$T=S*Q/10$	RS. CRORE	4.40

**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**A-14: Ukai Extension 6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1	GROSS GENERATION	A	MUS	2,658.11
2	AUXILIARY CONSUMPTION	C	%	6.00%
3	AUXILIARY CONSUMPTION	B	MUS	159.49
4	NET GENERATION	Y=A-B	MUS	2498.62
5	STATION HEAT RATE	D	KCAL/KWH	2385.00
6	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3552.33
8	CALORIFIC VALUE OF OIL	G	KCAL/L	10276.74
9	OVERALL HEAT	H= A x D	GCAL	6339592.35
10	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	27316.69
11	HEAT FROM COAL	J = H-I	GCAL	6312275.66
12	TRANSIT LOSSES	K	%	0.80%
13	COAL BLEND			
14	(A) INDIGENOUS COAL	X1	%	52.90%
15	(B) WASHED COAL	X2	%	45.59%
16	(C) IMPORTED COAL	X3	%	1.51%
17	ACTUAL OIL CONSUMPTION	L= A x E	KL	2658.11
18	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	1776939.92
19	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	947567.84
20	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	816611.36
21	(C) IMPORTED COAL	Q3=M* X X3	MT	26874.15
22	PRICE OF COAL			
23	(A) INDIGENOUS COAL	P1	Rs./MT	4976.85
24	(B) WASHED COAL	P2	Rs./MT	5199.37
25	(C) IMPORTED COAL	P3	Rs./MT	17576.75
26	PRICE OF OIL	P4	Rs./KL	62197.70
27	COAL COST			
28	(A) INDIGENOUS COAL	N1=Q1 X P1/10^7	Rs CRORES	471.59
29	(B) WASHED COAL	N2=Q2 X P2/10^7	Rs CRORES	424.59
30	(C) IMPORTED COAL	N3=Q3 X P3/10^7	Rs CRORES	47.24
31	TOTAL COAL COST	N4= N1+N2+N3	Rs CRORES	943.41
32	OIL COST	N5=P4 x L/10^7	Rs CRORES	16.53
33	TOTAL FUEL COST	O= N4+N5	Rs CRORES	959.95
34	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./KWH	3.61
35	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./KWH	3.84
36	COST OF FUEL/GCAL	R=(O/H)*10^7	Rs./GCAL	1514.21
37	ACTUAL NET GENERATION	S	MUS	2465.20
38	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	T=S*Q/10	Rs. CRORE	947.11



**A-15: Wanakbori 8 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2022-23**

SL. No.	ITEM	DERIVATION	UNIT	FY 2022-23
1	GROSS GENERATION	A	MUS	4,148.65
2	AUXILIARY CONSUMPTION	C	%	5.25%
3	AUXILIARY CONSUMPTION	B	MUS	217.80
4	NET GENERATION	Y=A-B	MUS	3930.85
5	STATION HEAT RATE	D	KCAL/KWH	2248.00
6	SP. OIL CONSUMPTION	E	ML/KWH	0.50
7	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3463.00
8	CALORIFIC VALUE OF OIL	G	KCAL/L	10403.00
9	OVERALL HEAT	H= A x D	GCAL	9326169.70
10	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	21579.21
11	HEAT FROM COAL	J = H-I	GCAL	9304590.48
12	TRANSIT LOSSES	K	%	0.80%
13	COAL BLEND			
14	(A) INDIGENOUS COAL	X1	%	50.50%
15	(B) WASHED COAL	X2	%	49.13%
16	(C) IMPORTED COAL	X3	%	0.38%
17	ACTUAL OIL CONSUMPTION	L= A x E	KL	2074.33
18	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	2686858.35
19	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	1367763.99
20	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	1330589.59
21	(C) IMPORTED COAL	Q3=M* X X3	MT	10091.60
22	PRICE OF COAL			
23	(A) INDIGENOUS COAL	P1	Rs./MT	5176.30
24	(B) WASHED COAL	P2	Rs./MT	5475.46
25	(C) IMPORTED COAL	P3	Rs./MT	17642.50
26	PRICE OF OIL	P4	Rs./KL	60617.66
27	COAL COST			
28	(A) INDIGENOUS COAL	N1=Q1 X P1/10^7	Rs CRORES	708.00
29	(B) WASHED COAL	N2=Q2 X P2/10^7	Rs CRORES	728.56
30	(C) IMPORTED COAL	N3=Q3 X P3/10^7	Rs CRORES	17.80
31	TOTAL COAL COST	N4= N1+N2+N3	Rs CRORES	1454.36
32	OIL COST	N5=P4 x L/10^7	Rs CRORES	12.57
33	TOTAL FUEL COST	O= N4+N5	Rs CRORES	1466.93
34	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./KWH	3.54
35	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./KWH	3.73
36	COST OF FUEL/GCAL	R=(O/H)*10^7	Rs./GCAL	1572.92
37	ACTUAL NET GENERATION	S	MUS	3934.67
38	NORMATIVE FUEL COST FOR ACTUAL NET GENERATION	T=S*Q/10	Rs. CRORE	1468.36



**ANNEXURE B**

**B-1: Ukai 3-5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	2,671.80
2.	AUXILIARY CONSUMPTION	C	%	9.00%
3.	AUXILIARY CONSUMPTION	B	MUS	240.46
4.	NET GENERATION	Y=A-B	MUS	2,431.34
5.	STATION HEAT RATE	D	KCAL/KWH	2625.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3341.20
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10306.36
9.	OVERALL HEAT	H= A x D	GCAL	7013475.00
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	27536.52
11.	HEAT FROM COAL	J = H-I	GCAL	6985938.48
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	48.00%
15.	(B) WASHED COAL	X2	%	46.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	2671.80
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	2090844.80
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	1011699.10
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	969544.97
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	125450.69
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5,066
24.	(B) WASHED COAL	P2	Rs./MT	5,083
25.	(C) IMPORTED COAL	P3	Rs./MT	17,627
26.	PRICE OF OIL	P4	Rs./KL	57,701
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1/10^5	Rs. CRORE	512.51
29.	(B) WASHED COAL	N2=Q2 X P2/10^5	Rs. CRORE	492.86
30.	(C) IMPORTED COAL	N3=Q3 X P3/10^5	Rs. CRORE	221.13
31.	TOTAL COAL COST	N4= N1+N2+N3	Rs. CRORE	1226.51
32.	OIL COST	N5=P4 x L/10^5	Rs. CRORE	15.42
33.	TOTAL FUEL COST	O= N4+N5	Rs. CRORE	1241.93
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./KWH	4.65
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./KWH	5.11
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	1770.77



**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**B-2: Gandhinagar 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	2,023.56
2.	AUXILIARY CONSUMPTION	C	%	9.00%
3.	AUXILIARY CONSUMPTION	B	MUS	182.12
4.	NET GENERATION	Y=A-B	MUS	1,841.44
5.	STATION HEAT RATE	D	KCAL/KWH	2625.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3512.77
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10471.18
9.	OVERALL HEAT	H= A x D	GCAL	5311845.00
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	21189.06
11.	HEAT FROM COAL	J = H-I	GCAL	5290655.94
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	38.00%
15.	(B) WASHED COAL	X2	%	56.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	2023.56
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	1506119.85
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	576941.07
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	850228.95
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	90367.19
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5835.24
24.	(B) WASHED COAL	P2	Rs./MT	5574.97
25.	(C) IMPORTED COAL	P3	Rs./MT	17545.78
26.	PRICE OF OIL	P4	Rs./KL	56026.91
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1/10^5	RS. CRORE	336.66
29.	(B) WASHED COAL	N2=Q2 X P2/10^5	RS. CRORE	474.00
30.	(C) IMPORTED COAL	N3=Q3 X P3/10^5	RS. CRORE	158.56
31.	TOTAL COAL COST	N4= N1+N2+N3	RS. CRORE	969.22
32.	OIL COST	N5=P4 x L/10^5	RS. CRORE	11.34
33.	TOTAL FUEL COST	O= N4+N5	RS. CRORE	980.55
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	RS./KWH	4.85
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	RS./KWH	5.32
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	RS./GCAL	1845.97





**B-3: Gandhinagar 5 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	1,287.72
2.	AUXILIARY CONSUMPTION	C	%	9.50%
3.	AUXILIARY CONSUMPTION	B	MUS	122.33
4.	NET GENERATION	Y=A-B	MUS	1,165.39
5.	STATION HEAT RATE	D	KCAL/KWH	2460.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	3.50
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3512.77
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10471.18
9.	OVERALL HEAT	H= A x D	GCAL	3167791.20
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	47193.82
11.	HEAT FROM COAL	J = H-I	GCAL	3120597.38
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	38.00%
15.	(B) WASHED COAL	X2	%	56.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	4507.02
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	888357.46
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	340298.22
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	501492.11
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	53301.45
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5835.24
24.	(B) WASHED COAL	P2	Rs./MT	5574.97
25.	(C) IMPORTED COAL	P3	Rs./MT	17545.78
26.	PRICE OF OIL	P4	Rs./KL	56026.91
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1/10^5	RS. CRORE	198.57
29.	(B) WASHED COAL	N2=Q2 X P2/10^5	RS. CRORE	279.58
30.	(C) IMPORTED COAL	N3=Q3 X P3/10^5	RS. CRORE	93.52
31.	TOTAL COAL COST	N4= N1+N2+N3	RS. CRORE	571.67
32.	OIL COST	N5=P4 x L/10^5	RS. CRORE	25.25
33.	TOTAL FUEL COST	O= N4+N5	RS. CRORE	596.93
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	RS./KWH	4.64
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	RS./KWH	5.12
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	RS./GCAL	1884.36

**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**B-4: Wanakbori 1-6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	5,298.05
2.	AUXILIARY CONSUMPTION	C	%	9.00%
3.	AUXILIARY CONSUMPTION	B	MUS	476.82
4.	NET GENERATION	Y=A-B	MUS	4821.22
5.	STATION HEAT RATE	D	KCAL/KWH	2575.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3483.36
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10584.15
9.	OVERALL HEAT	H= A x D	GCAL	13642473.60
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	56075.33
11.	HEAT FROM COAL	J = H-I	GCAL	13586398.27
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	36.00%
15.	(B) WASHED COAL	X2	%	58.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	5298.05
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	3900375.83
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	1415458.97
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	2280461.68
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	234022.55
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5392.79
24.	(B) WASHED COAL	P2	Rs./MT	5261.63
25.	(C) IMPORTED COAL	P3	Rs./MT	17224.34
26.	PRICE OF OIL	P4	Rs./KL	57445.67
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1	Rs. CRORE	763.33
29.	(B) WASHED COAL	N2=Q2 X P2	Rs. CRORE	1199.89
30.	(C) IMPORTED COAL	N3=Q3 X P3	Rs. CRORE	403.09
31.	TOTAL COAL COST	N4= N1+N2+N3	Rs. CRORE	2366.31
32.	OIL COST	N5=P4 x L/10^5	Rs. CRORE	30.43
33.	TOTAL FUEL COST	O= N4+N5	Rs. CRORE	2396.74
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./KWH	4.52
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./KWH	4.97
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	1756.83



**B-5: Wanakbori 7 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	1,379.70
2.	AUXILIARY CONSUMPTION	C	%	9.50%
3.	AUXILIARY CONSUMPTION	B	MUS	131.07
4.	NET GENERATION	Y=A-B	MUS	1248.63
5.	STATION HEAT RATE	D	KCAL/KWH	2460.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	3.50
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3483.36
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10584.15
9.	OVERALL HEAT	H= A x D	GCAL	3394062.00
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	51110.33
11.	HEAT FROM COAL	J = H-I	GCAL	3342951.67
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	36.00%
15.	(B) WASHED COAL	X2	%	58.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	4828.95
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	959692.75
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	348275.59
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	561110.68
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	57581.56
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5392.79
24.	(B) WASHED COAL	P2	Rs./MT	5261.63
25.	(C) IMPORTED COAL	P3	Rs./MT	17224.34
26.	PRICE OF OIL	P4	Rs./KL	57445.67
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1	RS. CRORE	187.82
29.	(B) WASHED COAL	N2=Q2 X P2	RS. CRORE	295.24
30.	(C) IMPORTED COAL	N3=Q3 X P3	RS. CRORE	99.18
31.	TOTAL COAL COST	N4= N1+N2+N3	RS. CRORE	582.23
32.	OIL COST	N5=P4 x L/10^5	RS. CRORE	27.74
33.	TOTAL FUEL COST	O= N4+N5	RS. CRORE	609.97
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./kWH	4.42
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./kWH	4.89
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	1797.18

**Gujarat State Electricity Corporation Limited**  
**Truing Up for FY 2022-23 and Determination of ARR and Tariff for FY 2024-25**

**B-6: Sikka Extension 3 & 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	964.91
2.	AUXILIARY CONSUMPTION	C	%	9.00%
3.	AUXILIARY CONSUMPTION	B	MUS	86.84
4.	NET GENERATION	Y=A-B	MUS	878.07
5.	STATION HEAT RATE	D	KCAL/KWH	2398.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	5146.13
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10414.42
9.	OVERALL HEAT	H= A x D	GCAL	2313863.77
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	10049.02
11.	HEAT FROM COAL	J = H-I	GCAL	2303814.75
12.	TRANSIT LOSSES	K	%	0.00%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	0.00%
15.	(B) WASHED COAL	X2	%	0.00%
16.	(C) IMPORTED COAL	X3	%	100.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	964.91
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	447679.00
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	0.00
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	0.00
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	447679.00
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	0.00
24.	(B) WASHED COAL	P2	Rs./MT	0.00
25.	(C) IMPORTED COAL	P3	Rs./MT	12733.28
26.	PRICE OF OIL	P4	Rs./KL	61988.40
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1	Rs. CRORE	0.00
29.	(B) WASHED COAL	N2=Q2 X P2	Rs. CRORE	0.00
30.	(C) IMPORTED COAL	N3=Q3 X P3	Rs. CRORE	570.04
31.	TOTAL COAL COST	N4= N1+N2+N3	Rs. CRORE	570.04
32.	OIL COST	N5=P4 x L/10^5	Rs. CRORE	5.98
33.	TOTAL FUEL COST	O= N4+N5	Rs. CRORE	576.02
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./kWH	5.97
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./kWH	6.56
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	2489.44



**B-7: KLTPS 3 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1	GROSS GENERATION	A	MUs	492.75
2	AUXILIARY CONSUMPTION	C	%	12.00%
3	AUXILIARY CONSUMPTION	B	MUs	59.13
4	NET GENERATION	Y=A-B	MUs	433.62
5	STATION HEAT RATE	D	KCAL/KWH	3231.00
6	SP. OIL CONSUMPTION	E	ML/KWH	3.00
7	GROSS CALORIFIC VALUE OF LIGNITE	F	KCAL/KG	2405.93
8	CALORIFIC VALUE OF OIL	G	KCAL/L	10414.42
9	OVERALL HEAT	H= A x D	GCAL	1592075.25
10	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	15395.12
11	HEAT FROM LIGNITE	J = H-I	GCAL	1576680.13
12	TRANSIT LOSSES	K	%	0.20%
13	ACTUAL OIL CONSUMPTION	L= A x E	KL	1,478
15	LIGNITE CONSUMPTION INCL. TRANSIT LOSSES	M= (J x 1000)/F/ (1-K)	MT	656643.01
16	PRICE OF LIGNITE	P1	Rs./MT	2915.31
17	PRICE OF OIL	P2	Rs./KL	68655.55
18	COST OF LIGNITE	N1= M x P1	RS. CRORE	191.43
19	OIL COST	N2=P2 x L/10^5	RS. CRORE	10.15
20	TOTAL FUEL COST	O= N1 + N2	RS. CRORE	201.58
21	FUEL COST/UNIT (GROSS)	P=O/(A*10)	RS./KWH	4.09
22	FUEL COST/UNIT (NET)	Q=O/(Y*10)	RS./KWH	4.65
23	COST OF FUEL/GCAL	R=(O/H)*10^5	RS./GCAL	1266.15

**B-8: KLTPS 4 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

Sl. No.	Item	Derivation	Unit	2024-25
1	Gross Generation	A	Mus	131.40
2	Auxiliary Consumption	C	%	12.00%
3	Auxiliary Consumption	B	Mus	15.77
4	Net Generation	Y=A-B	Mus	115.63
5	Station Heat Rate	D	kcal/kWh	3000.00
6	Sp. Oil Consumption	E	ml/kWh	3.00
7	Sp. Consumption of Limestone	LM1	kg/kWh	0.05
8	Gross calorific value of Lignite	F	kcal/Kg	2405.93
9	Calorific value of oil	G	kcal/l	10732.98
10	Overall Heat	H= A x D	GCal	394200.00
11	Heat from Oil	I= (A x E x G)/1000	GCal	4230.94
12	Heat from Lignite	J = H-I	GCal	389969.06
13	Transit losses	K	%	0.20%
14	Actual Oil consumption	L= A x E	K	394.20
15	Actual lignite consumption incl. transit losses	M= (J x 1000)/F/(1-K)	MT	162411.17
16	Actual Lime Consumption	LM2 = LM1*A*1000	MT	6570.00
17	Price of Lignite	P1	Rs./MT	2,915
18	Price of Oil	P2	Rs./Kl	68,656
19	Price of Limestone	P3	Rs./MT	217
20	Cost of Lignite	N1= M x P1/10 <sup>7</sup>	Rs. Crore	47.35
21	Oil cost	N2=P2 x L/10 <sup>7</sup>	Rs. Crore	2.71
22	Cost of Limestone	N3=LM2*P3/10 <sup>5</sup>	Rs. Crore	0.14
23	Total Fuel Cost	O= N1 + N2 + N3	Rs. Crore	50.20
24	Fuel cost/Unit (Gross)	P=O/(A*10)	Rs./kWh	3.82
25	Fuel cost/Unit (Net)	Q=O/(Y*10)	Rs./kWh	4.34
26	Cost of fuel/GCal	R=(O/H)*10 <sup>7</sup>	Rs./GCal	1273.39

**B-9: BLTPS (erstwhile BECL) - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

Sl. No.	Item	Derivation	Unit	2024-25
1	Gross Generation	A	Mus	1315.31
2	Auxiliary Consumption	C	%	11.00%
3	Auxiliary Consumption	B	Mus	144.68
4	Net Generation	$Y=A-B$	Mus	1170.63
5	Station Heat Rate	D	kcal/kWh	2623.00
6	Sp. Oil Consumption	E	ml/kWh	1.00
7	Sp. Consumption of Limestone	LM1	kg/kWh	0.05
8	Gross calorific value of Lignite	F	kcal/Kg	2758.56
9	Calorific value of oil	G	kcal/l	10135.69
10	Overall Heat	$H= A \times D$	GCal	3450068.62
11	Heat from Oil	$I= (A \times E \times G)/1000$	GCal	13331.62
12	Heat from Lignite	$J = H-I$	GCal	3436737.01
13	Transit losses	K	%	0.00%
14	Actual Oil consumption	$L= A \times E$	K	1315.31
15	Actual lignite consumption incl. transit losses	$M= (J \times 1000)/F/(1-K)$	MT	1248339.75
16	Actual Lime Consumption	$LM2 = LM1 \times A \times 1000$	MT	65765.70
17	Price of Lignite	P1	Rs./MT	2,979
18	Price of Oil	P2	Rs./Kl	80,179
19	Price of Limestone	P3	Rs./MT	1,399
20	Cost of Lignite	$N1= M \times P1/10^7$	Rs. Crore	371.84
21	Oil cost	$N2=P2 \times L/10^7$	Rs. Crore	10.55
22	Cost of Limestone	$N3=LM2 \times P3/10^5$	Rs. Crore	9.20
23	Total Fuel Cost	$O= N1 + N2 + N3$	Rs. Crore	391.59
24	Fuel cost/Unit (Gross)	$P=O/(A \times 10)$	Rs./kWh	2.98
25	Fuel cost/Unit (Net)	$Q=O/(Y \times 10)$	Rs./kWh	3.35
26	Cost of fuel/Gcal	$R=(O/H) \times 10^7$	Rs./GCal	1135.03



**B-10: Dhuvaran CCPP 1 - Approved Fuel Costs (Gas) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1	GROSS GENERATION	A	MUs	9.34
2	AUXILIARY CONSUMPTION	C	%	4.00%
3	AUXILIARY CONSUMPTION	B	MUs	0.37
4	NET GENERATION	$Y=A-B$	MUs	8.97
5	STATION HEAT RATE	D	KCAL/KWH	1950.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9421.07
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	18212.32
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	1.93
9	PRICE OF GAS	P1	RS./SCM	47.55
10	COST OF GAS	$N5=P1 \times M$	RS. CRORE	9.19
11	TOTAL FUEL COST	N5	RS. CRORE	9.19
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.84
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	10.25
14	COST OF FUEL/GCAL	$R=(N5/H)*10^5$	RS./GCAL	5,047.26

**B-11: Dhuvaran CCPP 2 - Approved Fuel Costs (Gas) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1	GROSS GENERATION	A	MUs	9.85
2	AUXILIARY CONSUMPTION	C	%	3.00%
3	AUXILIARY CONSUMPTION	B	MUs	0.30
4	NET GENERATION	$Y=A-B$	MUs	9.56
5	STATION HEAT RATE	D	KCAL/KWH	1950.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9421.09
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	19208.71
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	2.04
9	PRICE OF GAS	P1	RS./SCM	47.55
10	COST OF GAS	$N5=P1 \times M$	RS. CRORE	9.70
11	TOTAL FUEL COST	N5	RS. CRORE	9.70
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.84
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	10.15
14	COST OF FUEL/GCAL	$R=(N5/H)*10^5$	RS./GCAL	5,047.26



**B-12: Dhuvaran CCPP 3 - Approved Fuel Costs (Gas) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1	GROSS GENERATION	A	MUS	32.95
2	AUXILIARY CONSUMPTION	C	%	3.00%
3	AUXILIARY CONSUMPTION	B	MUS	0.99
4	NET GENERATION	$Y=A-B$	MUS	31.96
5	STATION HEAT RATE	D	KCAL/KWH	1850.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9426.49
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	60950.77
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	6.47
9	PRICE OF GAS	P1	RS./SCM	47.58
10	COST OF GAS	$N5=P1 \times M$	RS. CRORE	30.76
11	TOTAL FUEL COST	N5	RS. CRORE	30.76
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.34
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	9.63
14	COST OF FUEL/GCAL	$R=(N5/H)*10^5$	RS./GCAL	5047.26

**B-13: Utran Extension - Approved Fuel Costs (Gas) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1	GROSS GENERATION	A	MUS	32.81
2	AUXILIARY CONSUMPTION	C	%	3.00%
3	AUXILIARY CONSUMPTION	B	MUS	0.98
4	NET GENERATION	$Y=A-B$	MUS	31.83
5	STATION HEAT RATE	D	KCAL/KWH	1850.00
6	CALORIFIC VALUE OF GAS	F	KCAL/SCM	9659.12
7	OVERALL HEAT FROM GAS	$H= A \times D$	GCAL	60702.98
8	ACTUAL GAS CONSUMPTION	$M= (H \times 1000)/F$	M. SCM	6.28
9	PRICE OF GAS	P1	RS./SCM	48.75
10	COST OF GAS	$N5=P1 \times M$	RS. CRORE	30.64
11	TOTAL FUEL COST	N5	RS. CRORE	30.64
12	FUEL COST/UNIT (GROSS)	$P=N5/(A*10)$	RS./KWH	9.34
13	FUEL COST/UNIT (NET)	$Q=N5/(Y*10)$	RS./KWH	9.63
14	COST OF FUEL/GCAL	$R=(N5/H)*10^5$	RS./GCAL	5047.27

**B-14: Ukai Extension 6 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUs	2,847.00
2.	AUXILIARY CONSUMPTION	C	%	6.00%
3.	AUXILIARY CONSUMPTION	B	MUs	170.82
4.	NET GENERATION	Y=A-B	MUs	2676.18
5.	STATION HEAT RATE	D	KCAL/KWH	2385.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	1.00
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3341.20
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10306.36
9.	OVERALL HEAT	H= A x D	GCAL	6790095.00
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	29342.19
11.	HEAT FROM COAL	J = H-I	GCAL	6760752.81
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	48.00%
15.	(B) WASHED COAL	X2	%	46.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	2847.00
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	2023448.23
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	979087.85
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	938292.52
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	121406.89
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5065.87
24.	(B) WASHED COAL	P2	Rs./MT	5083.44
25.	(C) IMPORTED COAL	P3	Rs./MT	17627.08
26.	PRICE OF OIL	P4	Rs./KL	57700.76
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1/10^5	Rs. CRORE	495.99
29.	(B) WASHED COAL	N2=Q2 X P2/10^5	Rs. CRORE	476.98
30.	(C) IMPORTED COAL	N3=Q3 X P3/10^5	Rs. CRORE	214.00
31.	TOTAL COAL COST	N4= N1+N2+N3	Rs. CRORE	1186.97
32.	OIL COST	N5=P4 x L/10^5	Rs. CRORE	16.43
33.	TOTAL FUEL COST	O= N4+N5	Rs. CRORE	1203.40
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./KWH	4.23
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./KWH	4.50
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	1772.29



**B-15: Wanakbori 8 - Approved Fuel Costs (Coal, Lignite & SFO) for FY 2024-25**

SL. No.	ITEM	DERIVATION	UNIT	FY 2024-25
1.	GROSS GENERATION	A	MUS	4,555.20
2.	AUXILIARY CONSUMPTION	C	%	5.25%
3.	AUXILIARY CONSUMPTION	B	MUS	239.15
4.	NET GENERATION	Y=A-B	MUS	4316.05
5.	STATION HEAT RATE	D	KCAL/KWH	2248.00
6.	SP. OIL CONSUMPTION	E	ML/KWH	0.50
7.	GROSS CALORIFIC VALUE OF COAL	F	KCAL/KG	3483.36
8.	CALORIFIC VALUE OF OIL	G	KCAL/L	10584.15
9.	OVERALL HEAT	H= A x D	GCAL	10240089.60
10.	HEAT FROM OIL	I= (A x E x G)/1000	GCAL	24106.46
11.	HEAT FROM COAL	J = H-I	GCAL	10215983.14
12.	TRANSIT LOSSES	K	%	0.80%
13.	COAL BLEND			
14.	(A) INDIGENOUS COAL	X1	%	36.00%
15.	(B) WASHED COAL	X2	%	58.00%
16.	(C) IMPORTED COAL	X3	%	6.00%
17.	ACTUAL OIL CONSUMPTION	L= A x E	KL	2277.60
18.	ACTUAL COAL CONSUMPTION	M= (J x 1000)/F	MT	2932798.89
19.	(A) INDIGENOUS COAL	Q1=M* x X1/(1-K)	MT	1064322.18
20.	(B) WASHED COAL	Q2=M* x X2 / (1-K)	MT	1714741.29
21.	(C) IMPORTED COAL	Q3=M* X X3	MT	175967.93
22.	PRICE OF COAL			
23.	(A) INDIGENOUS COAL	P1	Rs./MT	5392.79
24.	(B) WASHED COAL	P2	Rs./MT	5261.63
25.	(C) IMPORTED COAL	P3	Rs./MT	17224.34
26.	PRICE OF OIL	P4	Rs./KL	57445.67
27.	COAL COST			
28.	(A) INDIGENOUS COAL	N1=Q1 X P1	Rs. CRORE	573.97
29.	(B) WASHED COAL	N2=Q2 X P2	Rs. CRORE	902.23
30.	(C) IMPORTED COAL	N3=Q3 X P3	Rs. CRORE	303.09
31.	TOTAL COAL COST	N4= N1+N2+N3	Rs. CRORE	1779.29
32.	OIL COST	N5=P4 x L/10^5	Rs. CRORE	13.08
33.	TOTAL FUEL COST	O= N4+N5	Rs. CRORE	1792.38
34.	FUEL COST/UNIT (GROSS)	P= O/(A*10)	Rs./kWH	3.93
35.	FUEL COST/UNIT (NET)	Q=O/(Y*10)	Rs./kWH	4.15
36.	COST OF FUEL/GCAL	R=(O/H)*10^5	Rs./GCAL	1750.35

