

**BEFORE THE GUJARAT ELECTRICITY REGULATORY COMMISSION  
GANDHINAGAR**



**CASE NO. \_\_\_\_\_**

**Filing of Petition for True Up of FY 2021-22 and Determination of ARR &  
Tariff for FY 2023-24**

**Under  
GERC MYT Regulations, 2016 and  
Section 62 of the Electricity Act, 2003.**

**Filed by:**

**Gujarat State Electricity Corporation Limited**

**Regd. Office: Vidyut Bhavan, Race Course Circle, Vadodara – 390 007**



**BEFORE THE GUJARAT ELECTRICITY REGULATORY COMMISSION  
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<b>IN THE MATTER OF</b>	Filing of Petition for True Up of FY 2021-22 and Determination of ARR & Tariff for FY 2023-24 under GERC MYT Regulations, 2016 and Section 62 of the Electricity Act, 2003.
<b>AND</b>	
<b>IN THE MATTER OF</b>	Gujarat State Electricity Corporation Limited, Vidyut Bhavan, Race Course, Vadodara 390007 Phone No. :0265 6612003; Fax: 0265 2344537 E-mail: <a href="mailto:gmf.gsecl@gebmail.com">gmf.gsecl@gebmail.com</a> , <a href="mailto:coacommerce.gsecl@gebmail.com">coacommerce.gsecl@gebmail.com</a> <b>PETITIONER</b>
<b>AND</b>	
<b>IN THE MATTER OF</b>	Gujarat Urja Vikas Nigam Limited, Sardar Patel Vidyut Bhavan, Racecourse, Vadodara 390007 E-mail: <a href="mailto:coacom@gebmail.com">coacom@gebmail.com</a> , <a href="mailto:gmipp.guvnl@gebmail.com">gmipp.guvnl@gebmail.com</a> <b>RESPONDENT</b>

**THE PETITIONER ABOVE NAMED RESPECTFULLY SUBMITS**



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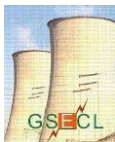


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**ABBREVIATIONS**

1.	AOH	Annual Over Hauling
2.	ARR	Aggregate Revenue Requirement
3.	CEA	Central Electricity Authority
4.	FY	Financial Year
5.	GEB	Gujarat Electricity Board
6.	GERC	Gujarat Electricity Regulatory Commission
7.	GoG	Government of Gujarat
8.	GSECL	Gujarat State Electricity Corporation Limited
9.	GUVNL	Gujarat Urja Vikas Nigam Limited
10.	kV	Kilo Volt
11.	kWh	Kilo Watt Hour
12.	MW	Mega Watt
13.	MYT	Multi Year Tariff
14.	O&M	Operation & Maintenance
15.	PAF	Plant Availability Factor
16.	PLF	Plant Load Factor
17.	R&M	Renovation & Modernization
18.	SHR	Station Heat Rate



## SECTION 1. INTRODUCTION

### 1.1. PREAMBLE

1.1.1. This section presents the background and reasons for filing this Petition.

### 1.2. INTRODUCTION

1.2.1. The Government of Gujarat (hereinafter referred to as “GoG”) notified the Gujarat Electricity Industry (Reorganization and Regulation) Act 2003 in May 2003 for the reorganization of the entire power sector in the State of Gujarat.

1.2.2. Pursuant to the above, Gujarat Electricity Board (the Board) has been unbundled into functional entities with effect from 1<sup>st</sup> April, 2005 with assets of the GEB disaggregated into seven companies, and all power stations of erstwhile GEB transferred to GSECL.

1.2.3. Gujarat State Electricity Corporation Limited (GSECL) was registered in 1993 under the Companies Act 1956 for the generation of electricity.

1.2.4. The Gujarat Electricity Regulatory Commission (hereinafter referred to as “GERC” or “the Commission”), an independent statutory body constituted under the provisions of the Electricity Regulatory Commissions (ERC) Act, 1998 and is currently under purview of the Electricity Act, 2003. GERC is vested with the authority of regulating the power sector in the State inter alia including determination of Tariff for electricity consumers.

1.2.5. Determination of Tariff for supply of electricity is one of the important functions of the State Electricity Regulatory Commission as provided in the Section 86 of the Electricity Act, 2003. The Act provides that:

*“Section 86 (Functions of State Commission): --- (1) The State Commission shall discharge the following functions, namely: -*

*(a) Determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:*

*Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers; “*

1.2.6. Further, the Electricity Act, 2003 also provides that-

*“Section 61 (Tariff regulations):*

*The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the ....”*

1.2.7. The Hon’ble Commission notified the Gujarat Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2016 (“GERC MYT Regulations, 2016”). Based on the petition filed by GSECL, the Hon’ble Commission issued MYT order on 31<sup>st</sup> March, 2017 for determining the ARR for the Third Control Period i.e. FY 2016-17 to FY 2020-21 in line with provisions outlined in the GERC MYT Regulations, 2016. The





GERC MYT Regulations, 2016 notified on 29<sup>th</sup> March, 2016 were in force till 31<sup>st</sup> March, 2021.

- 1.2.8. The Hon'ble Commission had initiated the process of framing the new MYT Regulations for the Fourth Control Period of FY 2021-22 to FY 2025-26 by issuing Public Notice dated 10<sup>th</sup> August, 2020 and invited comments/suggestions on the draft MYT Regulations from the stakeholders. However, subsequently the Commission vide its Suo-Motu Order No. 07 of 2020 dated 22<sup>nd</sup> December, 2020 deferred the notification of the Regulations by one year and directed the Licensees / utilities to file the tariff application for the FY 2021-22 based on the principles and methodologies as provided in the GERC MYT Regulations, 2016.
- 1.2.9. Similarly, the Hon'ble Commission vide its Order in Suo Motu Petition No. 1995 of 2021 dated 24<sup>th</sup> September, 2021 directed generating companies, licensees and utilities to file their tariff applications for approval of true-up for FY 2020-21 and for determination of Annual ARR and Tariff for FY 2022-23 on or before 30<sup>th</sup> November, 2021 based on the principles and methodologies as provided in the GERC MYT Regulations, 2016.
- 1.2.10. The Hon'ble Commission in its Suo-moto order in Petition No. 2140 of 2022 directed the generating companies, SLDC, licensees and utilities to file their tariff applications for approval of true-up for FY 2021-22 and for determination of Annual ARR and Tariff for FY 2023-24 on or before 15<sup>th</sup> December, 2022 based on the principles and methodologies as provided in the GERC (MYT) Regulations, 2016.
- 1.2.11. Further, as FY 2021-22 is over and annual accounts of GSECL are also audited, GSECL is required to file its Petition for True-up of FY 2021-22 in accordance with GERC MYT Regulations, 2016, to the Hon'ble Commission for its approval.
- 1.2.12. Accordingly, GSECL is filing the present Petition for determination of the True up for FY 2021-22 and Aggregate Revenue Requirement & Tariff for FY 2023-24 to the Hon'ble Commission.



## **SECTION 2. EXECUTIVE SUMMARY**

### **2.1. PREAMBLE**

2.1.1. This section highlights the summary of Petition for True Up for FY 2021-22 and Determination of Aggregate Revenue Requirement & Tariff for FY 2023-24.

### **2.2. TRUE UP OF FY 2021-22**

2.2.1. GSECL has worked out its True up for FY 2021-22 based on the audited accounts and the principles adopted by the Hon'ble Commission in its previous Orders.

2.2.2. The table below summarize the results of True up of FY 2021-22 of GSECL Stations. For True Up, GSECL compared the actual cost for FY 2021-22 with the cost approved by the Hon'ble Commission in the Tariff Order in Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021 for all power plants.

2.2.3. The actual fixed cost of GSECL based on audited accounts is as shown in table below.



**Table 1 : Fixed Cost for GSECL for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	Depreciation (Actual)	Interest & Finance charges (Actual)	Return on Equity (Actual)	O&M expenses (Actual)	Water Charges (Actual)	SLDC charges (Actual)	MAT (Actual)	Interest on working capital (Actual)	Total fixed cost (Actual)	Non tariff income (Actual)	Net fixed charges
1	Ukai (3-5)	47.80	-	23.99	245.98	-	0.30	3.99	37.41	359.46	15.46	<b>344.00</b>
2	Gandhinagar (3-4)	37.17	-	24.99	150.97	68.96	0.20	3.27	26.85	312.40	31.55	<b>280.85</b>
3	Gandhinagar 5*	2.16	-	28.67	75.40	34.48	0.10	2.75	12.84	156.40	0.07	<b>156.32</b>
4	Wanakbori 1-6 TPS	102.69	15.84	92.85	259.50	73.76	0.61	1.37	80.30	626.92	24.62	<b>602.30</b>
5	Wanakbori 7 TPS*	2.15	-	26.16	17.24	15.23	0.10	8.24	12.73	81.85	0.07	<b>81.77</b>
6	Sikka Extn. (3-4)*	177.36	107.35	130.33	167.16	4.86	0.24	1.37	35.25	623.93	3.81	<b>620.12</b>
7	KLTPS 3	30.80	-	54.59	96.24	0.25	0.04	5.23	5.85	193.00	4.46	<b>188.54</b>
8	KLTPS 4	17.89	5.62	29.65	26.60	-	0.04	3.27	4.64	87.71	0.10	<b>87.61</b>
9	BLTPS*	239.23	116.46	151.84	101.02	17.48	0.24	0.49	28.20	654.96	2.83	<b>652.14</b>
10	Dhuvaran CCPP 1*	10.04	-	10.54	48.71	0.89	0.05	0.49	11.92	82.64	16.99	<b>65.65</b>
11	Dhuvaran CCPP 2	13.10	2.00	14.54	39.58	0.89	0.05	3.27	9.78	83.20	3.65	<b>79.55</b>
12	Dhuvaran CCPP 3*	78.84	51.90	67.06	10.70	-	0.18	0.70	32.88	242.26	1.09	<b>241.16</b>
13	Utran Extension*	37.76	22.52	57.59	122.85	2.32	0.18	0.74	36.69	280.65	3.22	<b>277.42</b>
14	Ukai 6*	155.87	72.19	125.74	50.92	-	0.24	2.46	30.81	438.22	0.18	<b>438.04</b>
15	Wanakbori 8 TPS*	221.06	212.68	181.92	55.23	45.51	0.39	2.45	50.37	769.61	0.29	<b>769.32</b>
16	Ukai Hydro	2.31	1.70	10.64	17.36	-	0.15	1.99	0.56	34.72	0.11	<b>34.61</b>
17	Kadana Hydro	5.52	-	28.88	25.42	-	0.12	1.58	1.04	62.57	0.68	<b>61.89</b>
<b>Total</b>		<b>1,181.73</b>	<b>608.26</b>	<b>1,059.98</b>	<b>1,510.87</b>	<b>264.62</b>	<b>3.24</b>	<b>43.65</b>	<b>418.13</b>	<b>5,090.49</b>	<b>109.17</b>	<b>4,981.32</b>

\* PPA governed stations



2.2.4. Based on actual operating & fuel related parameters during FY 2021-22, table below indicates actual audited energy charges for GSECL's stations for FY 2021-22 along with the approved ones:

**Table 2 : Energy Charges for GSECL's Plants for FY 2021-22 (In Rs/kWh)**

Sr.No.	Power Station	Approved	Actual
1	Ukai (3-5)	3.91	4.21
2	Gandhinagar (3-4)	4.14	4.06
3	Gandhinagar 5*	3.86	3.89
4	Wanakbori 1-6 TPS	4.22	4.31
5	Wanakbori 7 TPS*	4.10	4.10
6	Sikka Extn. (3-4)*	3.91	4.03
7	KLTPS 3	3.60	3.90
8	KLTPS 4	3.06	5.16
9	BLTPS*	2.84	3.63
10	Dhuvaran CCPP 1*	8.31	10.08
11	Dhuvaran CCPP 2	6.14	7.86
12	Dhuvaran CCPP 3*	6.70	7.51
13	Utran Extension*	7.68	7.87
14	Ukai 6*	3.49	3.58
15	Wanakbori 8 TPS*	3.53	3.52

\* PPA governed stations

2.2.5. The detailed comparison of various cost components with the values approved by the Hon'ble Commission vide Tariff Order in Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021 for all power plants is considered for True up has been worked out in Section 4 of the Petition. Table below summarizes plant wise gains/ (losses) incurred by GSECL on account of controllable/ uncontrollable factors, which need to be shared with the Consumers as per the mechanism prescribed by the Hon'ble Commission in the GERC MYT Regulations, 2016.

**Table 3 : Gains / (Losses) on account of Controllable Factors for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	O&M expense	Fuel cost	Total gains/(losses) due to controllable factors	Total gains/(losses) to be passed through (1/3rd of gains/(losses))
1	Ukai (3-5)	34.82	(72.23)	(37.41)	(12.47)
2	Gandhinagar (3-4)	15.24	15.83	31.07	10.36
3	Gandhinagar 5*	-	-	-	-
4	Wanakbori 1-6 TPS	42.81	(42.26)	0.55	0.18
5	Wanakbori 7 TPS*	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-
7	KLTPS 3	(40.71)	(12.20)	(52.91)	(17.64)
8	KLTPS 4	(5.59)	(6.25)	(11.84)	(3.95)
9	BLTPS*	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-
11	Dhuvaran CCPP 2	15.08	(8.84)	6.24	2.08
12	Dhuvaran CCPP 3*	-	-	-	-
13	Utran Extension*	-	-	-	-
14	Ukai 6*	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-
16	Ukai Hydro	(0.53)	-	(0.53)	(0.18)
17	Kadana Hydro	8.13	-	8.13	2.71
	<b>Total</b>	<b>69.24</b>	<b>(125.95)</b>	<b>(56.71)</b>	<b>(18.90)</b>

\* PPA governed stations



**Table 4 : Gains/(Losses) on account of uncontrollable Factors for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	O&M expense	Depreciation	Interest & Finance charges	Return on Equity	Water Charges	SLDC charges	MAT	Interest on working capital	Non tariff income	Total gain/(losses) to be passed through
1	Ukai (3-5)	(32.40)	(2.54)	-	1.37	-	0.08	(0.57)	(0.37)	(18.00)	(52.42)
2	Gandhinagar (3-4)	(22.34)	(3.33)	-	(0.56)	(26.86)	0.06	(0.92)	2.23	21.37	(30.34)
3	Gandhinagar 5*	-	-	-	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	(36.03)	(5.81)	4.06	3.88	(35.30)	0.17	5.69	0.36	(18.40)	(81.38)
5	Wanakbori 7 TPS*	-	-	-	-	-	-	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-	-	-	-	-	-	-
7	KLTPS 3	(6.63)	(1.38)	-	(17.36)	(0.16)	0.01	(4.81)	(0.92)	1.98	(29.28)
8	KLTPS 4	(1.17)	18.61	(0.54)	0.12	0.15	0.01	(2.85)	(0.48)	(4.41)	9.44
9	BLTPS*	-	-	-	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	(5.15)	1.44	2.71	2.08	(0.69)	0.02	(2.64)	(3.65)	2.92	(2.95)
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-	-	-	-	-	-	-
16	Ukai Hydro	(2.22)	0.05	0.44	0.17	-	0.04	(0.28)	0.03	(0.04)	(1.82)
17	Kadana Hydro	(3.90)	0.00	-	0.16	-	0.03	(0.22)	0.13	0.29	(3.52)
	<b>Total</b>	<b>(109.83)</b>	<b>7.04</b>	<b>6.67</b>	<b>(10.14)</b>	<b>(62.86)</b>	<b>0.43</b>	<b>(6.60)</b>	<b>(2.67)</b>	<b>(14.31)</b>	<b>(192.27)</b>

\* PPA governed stations



2.2.6. Based on the above estimated gains / (losses) on account of controllable and uncontrollable factors, the Revenue (Gap) / Surplus of GSECL for FY 2021-22 has been worked out as given below:

**Table 5 : Net entitlement for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	Gains/(losses) due to controllable factors (Fixed Charges)	Gains/(losses) due to uncontrollable factors (Fixed Charges)	Total gains/(losses) to be passed through (Fixed Charges)	Total gains/(losses) to be passed through at actual PAF (Fixed Charges)	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)	34.82	(52.42)	(40.81)	(36.14)	(72.23)	(24.08)	(60.22)
2	Gandhinagar (3-4)	15.24	(30.34)	(25.26)	(25.26)	15.83	5.28	(19.98)
3	Gandhinagar 5*	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	42.81	(81.38)	(67.11)	(55.91)	(42.26)	(14.09)	(69.99)
5	Wanakbori 7 TPS*	-	-	-	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-	-	-	-
7	KLTPS 3	(40.71)	(29.28)	(42.85)	(39.82)	(12.20)	(4.07)	(43.89)
8	KLTPS 4	(5.59)	9.44	7.57	0.62	(6.25)	(2.08)	(1.46)
9	BLTPS*	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	15.08	(2.95)	2.08	1.88	(8.84)	(2.95)	(1.06)
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-	-	-	-
16	Ukai Hydro	(0.53)	(1.82)	(2.00)	(2.00)	-	-	(2.00)
17	Kadana Hydro	8.13	(3.52)	(0.81)	(0.81)	-	-	(0.81)
	<b>Total</b>	<b>69.24</b>	<b>(192.27)</b>	<b>(169.19)</b>	<b>(157.43)</b>	<b>(125.95)</b>	<b>(41.98)</b>	<b>(199.41)</b>

\* PPA governed stations



**2.3. DETERMINATION OF ARR & TARIFF FOR FY 2023-24**

2.3.1. As directed by the Hon'ble Commission, GSECL has projected the Fixed and variable cost for FY 2023-24 on the basis of GERC MYT Regulations, 2016. The basis of such projections has been dealt with in detail in subsequent sections of the petition.

2.3.2. The Fixed and Variable cost of GSECL's Generating Plants for FY 2023-24 is estimated as under:

**Table 6 : Proposed fixed cost of GSECL plants for FY 2023-24 (Rs. Crore)**

Sr. No.	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Tax	SLDC Fees & Charges	Water charges	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1	Ukai (3-5)	49.41	0.05	25.91	36.82	277.63	3.99	0.30	-	394.10	15.46	378.64
2	Gandhinagar (3-4)	38.19	-	26.45	28.18	160.80	3.27	0.20	68.96	326.04	31.55	294.49
3	Gandhinagar 5*	2.16	-	28.67	13.30	65.19	2.75	0.10	34.48	146.64	0.07	146.57
4	Wanakbori 1-6 TPS	110.08	9.36	100.29	81.48	297.61	1.37	0.61	73.76	674.56	24.62	649.94
5	Wanakbori 7 TPS*	2.15	-	26.16	12.99	22.54	8.24	0.10	15.23	87.40	0.07	87.33
6	Sikka Extn. (3-4)*	166.95	82.55	132.81	70.96	155.12	1.37	0.24	4.86	614.86	3.81	611.05
7	KLTPS 3	31.48	-	55.47	5.63	54.66	5.23	0.04	0.25	152.76	4.46	148.30
8	KLTPS 4	17.89	1.17	29.65	4.31	22.17	3.27	0.04	-	78.50	0.10	78.40
9	BLTPS*	191.34	84.64	152.20	28.66	199.22	0.49	0.24	17.48	674.27	2.83	671.44
10	Dhuvaran CCPP 1*	10.11	0.04	10.65	11.36	54.56	0.49	0.05	0.89	88.15	16.99	71.17
11	Dhuvaran CCPP 2	13.12	0.15	14.57	9.44	55.33	3.27	0.05	0.89	96.83	3.65	93.18
12	Dhuvaran CCPP 3*	78.92	39.10	67.13	31.98	5.50	0.70	0.18	-	223.51	1.09	222.41
13	Utran Extension*	37.86	14.05	57.73	36.08	58.05	0.74	0.18	2.32	207.01	3.22	203.79
14	Ukai 6*	157.41	48.31	126.98	30.80	60.83	2.46	0.24	-	427.04	0.18	426.86
15	Wanakbori 8 TPS*	225.52	182.64	185.59	51.90	181.42	2.45	0.39	45.51	875.42	0.29	875.13
16	Ukai Hydro	2.31	1.32	10.64	0.56	16.33	1.99	0.15	-	33.31	0.11	33.20
17	Kadana Hydro	5.53	-	28.91	1.13	33.14	1.58	0.12	-	70.42	0.68	69.74
	<b>Total</b>	<b>1,140.42</b>	<b>463.39</b>	<b>1,079.81</b>	<b>455.58</b>	<b>1,720.11</b>	<b>43.65</b>	<b>3.24</b>	<b>264.62</b>	<b>5,170.81</b>	<b>109.17</b>	<b>5,061.64</b>



## 2.4. ENERGY CHARGES FOR FY 2023-24

2.4.1. GSECL has determined Station wise per unit charges for the FY 2023-24 as mentioned below table:

**Table 7 : Station wise Energy charges for FY 2023-24**

Sl. No:	Power Station	FY 2023-24
		Rs./kWh
1	Ukai (3-5)	3.95
2	Gandhinagar (3-4)	4.21
3	Gandhinagar 5*	3.92
4	Wanakbori 1-6 TPS	4.25
5	Wanakbori 7 TPS*	4.10
6	Sikka Extn. (3-4)*	9.29
7	KLTPS 3	3.60
8	KLTPS 4	3.12
9	BLTPS*	3.20
10	Dhuvaran CCPP 1*	8.31
11	Dhuvaran CCPP 2	6.14
12	Dhuvaran CCPP 3*	6.70
13	Utran Extension*	7.68
14	Ukai 6*	3.49
15	Wanakbori 8 TPS*	3.54
16	Ukai Hydro	0.00
17	Kadana Hydro	0.00

\* PPA governed stations

2.4.2. GSECL requests the Hon'ble Commission to approve ARR & Energy charges for the FY 2023-24. Further, GSECL requests Hon'ble Commission to approve the Tariff for FY 2023-24 & Energy Charges as mentioned above and detailed in subsequent sections.





## SECTION 3. GSECL'S PERFORMANCE & FUEL RELATED PARAMETERS

### 3.1. PREAMBLE

3.1.1. This section outlines the performance & fuel related parameters for GSECL Power plants. For the above purpose, GSECL is indicating actual performance and fuel related parameters achieved in FY 2021-22 vis-à-vis parameters approved in the Tariff Order in Case No. 1098 of 2020 dated 30<sup>th</sup> March, 2021 for all power plants is considered. In this section, GSECL has also provided reasons for deviation in the parameters from the approved figures, if any. GSECL has projected the performance & fuel related parameters for GSECL Power plants for FY 2023-24.

3.1.2. The parameters for the PPA governed stations are only indicative, and it may be noted that the parameters for these stations will be governed by terms & conditions of the Power Purchase Agreements.

3.1.3. The following table gives the details of the generating stations along with their capacity and the date of Commissioning:

**Table 8 : Capacity, COD & Age of GSECL's 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	<b>7 - Gas</b>	106.617	28/01/2004
	<b>8 - Gas</b>	112.45	01/11/2007



Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
	<b>Sub Total</b>	<b>219.067</b>	
Utran Extension	<b>GT -1</b>	<b>374.571</b>	08/11/2009
Sikka TPS 3&4	<b>3</b>	250	14/09/2015
	<b>4</b>	250	28/12/2015
	<b>Sub Total</b>	<b>500</b>	
BLTPS	<b>1</b>	250	16/05/2016
	<b>2</b>	250	27/03/2017
	<b>Sub Total</b>	<b>500</b>	
Ukai TPS	6	<b>500</b>	08/06/2013
Dhuvaran (Gas)	3	376.10	01/02/2016
Wanakbori	8	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	22/04/1975
	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>	
Wind Mill	Layza	10	04/01/2009
Solar	Plant at GTPS (Ash Dyke)	1	27/03/2012
	Plant at Sanand branch Canal	1	29/03/2012
	Charanka	10	23/03/2015
	KLTPS	1	02/05/2016
	Sikka TPS	1	02/05/2016
	Dhuvaran I	75	05/02/2019
	Chandarva	30	28/08/2021



Name of Station	Unit No.	Capacity of the Unit (MW)	Date of Commissioning
	Dhuvaran II	75	15/04/2021
<b>Total</b>		<b>6881</b>	

### 3.2. OPERATING PARAMETERS FOR GSECL FOR FY 2021-22

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

1. Station heat rate
2. Plant Availability factor
3. Plant load factor
4. Specific fuel oil consumption
5. Auxiliary consumption

3.2.2. 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.

3.2.3. **Low PLF:** The performance of generating stations depends on the generation level on the units as well as the plant load factor. In Gujarat, the Intra State ABT / Merit order Dispatch System is followed. Gujarat, being a power surplus State, the dispatch instructions for a generating station depend upon the merit order (Low-cost generation are given first priority) as per the Indian Electricity Grid Code. Accordingly, the GSECL stations are advised to back down or put under Reserve Shut Down depending upon system conditions. This results in a lower plant load factor (PLF) of GSECL stations which is beyond the control of GSECL.

3.2.4. **Effects of low load operation/back down:** Partial load / low load operation results in deterioration in overall performance of the units and lower efficiency of power stations following performance issues can be attributed to the low load operation of generating stations.

- Increase in Station Heat Rate (SHR)
- Increase in fuel consumption
- Increase in specific fuel oil consumption (Increase no. of hot / cold startups increases the fuel oil consumption)
- Increase in auxiliary consumption

3.2.5. These factors are beyond the control of GSECL and the Hon'ble Commission is requested to approve the actual performance related factors of GSECL Stations. Even after considering these uncontrollable issues, some of the GSECL power stations have performed up to the benchmark levels. Details of individual plants and their reasons for under-performance are explained in subsequent sections.

3.2.6. GSECL submits that all the above parameters are beyond the control of GSECL.



3.2.7. GSECL also submits that various R&M projects are taken up to improve the automatic control systems and instrumentation of the old plants for replacing obsolete system to sustain performance, improvement in efficiency and to meet the targeted environmental emission norms.

**3.3. TARGET AVAILABILITY FOR RECOVERY OF FULL CAPACITY (FIXED) CHARGES FOR FY 2021-22**

3.3.1. The plant availability factor achieved by the GSECL station during FY 2021-22 is shown as per the table below.

**Table 9 : Plant availability factor (In %) for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	Actuals
1	Ukai (3-5)	80.00%	70.85%
2	Gandhinagar (3-4)	84.00%	88.58%
3	Gandhinagar 5*	85.00%	72.45%
4	Wanakbori 1-6 TPS	85.00%	70.81%
5	Wanakbori 7 TPS*	85.00%	87.03%
6	Sikka Extn. (3-4)*	85.00%	40.04%
7	KLTPS 3	75.00%	69.70%
8	KLTPS 4	80.00%	6.59%
9	BLTPS*	80.00%	34.84%
10	Dhuvaran CAPP 1*	85.00%	78.35%
11	Dhuvaran CAPP 2	85.00%	77.01%
12	Dhuvaran CAPP 3*	85.00%	38.24%
13	Utran Extension*	85.00%	84.91%
14	Ukai 6*	85.00%	58.29%
15	Wanakbori 8 TPS*	85.00%	71.49%
16	Ukai Hydro	80.00%	86.10%
17	Kadana Hydro	80.00%	79.99%

\* PPA governed stations

3.3.2. For true-up, the factors impacting availability of GSECL stations & reasons for deviation from norms are elaborated below:

- **Ukai (3-5):** Ukai TPS unit no. 3 remained under forced outage for 55 days due to turbine bearing replacement and LP rotor repairing work. (4.941%) Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (12.24%).
- **Ukai 6:**
  - COH of unit was extended by 59 days to repair IP turbine Rotor blades at BHEL Haridwar works. (16.16%)
  - Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (8.97%)
- **Gandhinagar 5:**
  - The forced outages/COH of Gandhinagar TPS unit no. 5 for 91 days (Extended 46 days) due to generator stator earth fault. (12.60%)
- **Wanakbori 1-6:**
  - Wanakbori TPS unit no. 6 - R&M activity of ESP Retrofitting has been extended by 120 days. (5.48%)



- Partial Operations (DC revisions) in all units Due to Poor Coal Quality and coal handling (13.75%)
- **Wanakbori 8:**
  - Unit experienced forced outages due to frequent BTL. (8.78%). This was due to exorbitant extension of Annual overhauling schedule due to high System Demand and to maintain Gujarat grid stability
- **Sikka 3 & 4:**
  - Both units of Sikka TPS remained under FSD for more than 06 months due to non-availability of imported coal. (55.34%)
- **KLTPS 3:**
  - Annual overhauling schedule was not approved due to high system demand and to maintain Gujarat grid stability. Led to partial operation (15.38%) and outage of unit (13.94%).
- **KLTPS 4:**
  - Remained under forced outage for 286 days for LHS Cyclone outlet Duct work. It was an unforeseen incident involving a huge amount of MS structure work. (80.69%)
- **BLTPS 1-2:**
  - Partial Operation due to Coal feeding as single stream was commissioned. (37.04%).
  - Forced Outage due to BTL, fire in Feeding system and other. (21.58%)
- **Dhuvaran 1:** Partial Operation (DC revisions) due to unit constraints.
- **Dhuvaran 2:** Partial Operation (DC revisions) due to unit constraints.
- **Dhuvaran 3:**
  - The forced outage of Dhuvaran Unit no.3 for 220 KV GCB R & B -Phase major flash over. (61.17%)
- **Utran Extension:** Non-availability of Gas (6.09%)
- **Kadana – Hydro:** Unit no.1 TG guide bearing replacement work.

### 3.4. PLANT LOAD FACTOR FOR FY 2021-22

- 3.4.1. The actual Plant Load Factor achieved by the GSECL during FY 2021-22 along with approved values is tabulated below.

**Table 10 : Plant load factor (In %) for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	Actuals
1	Ukai (3-5)	58.00%	49.59%
2	Gandhinagar (3-4)	45.00%	60.07%
3	Gandhinagar 5*	77.00%	59.96%
4	Wanakbori 1-6 TPS	50.00%	48.37%
5	Wanakbori 7 TPS*	70.00%	64.81%
6	Sikka Extn. (3-4)*	70.00%	21.97%
7	KLTPS 3	75.00%	70.02%
8	KLTPS 4	75.00%	7.47%
9	BLTPS*	80.00%	37.82%
10	Dhuvaran CCPP 1*	25.00%	7.41%
11	Dhuvaran CCPP 2	25.00%	6.05%
12	Dhuvaran CCPP 3*	25.00%	4.45%
13	Utran Extension*	25.00%	8.53%
14	Ukai 6*	77.00%	54.29%
15	Wanakbori 8 TPS*	85.00%	65.11%
16	Ukai Hydro	13.00%	24.60%
17	Kadana Hydro	6.00%	10.56%

\* PPA governed stations

### 3.5. AUXILIARY CONSUMPTION FOR FY 2021-22

- 3.5.1. The actual Auxiliary consumption recorded by GSECL during FY 2021-22 along with approved parameters has been mentioned below. The old stations of GSECL, when operated at part load capacities under the constraints as shown, consume more auxiliary power resulting in higher auxiliary consumption.
- 3.5.2. The actual auxiliary consumption achieved by the GSECL during FY 2021-22 along with approved values is tabulated below.

**Table 11 : Auxiliary consumption (In %) for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	Actuals
1	Ukai (3-5)	9.00%	10.24%
2	Gandhinagar (3-4)	9.00%	10.32%
3	Gandhinagar 5*	9.50%	10.41%
4	Wanakbori 1-6 TPS	9.00%	9.94%
5	Wanakbori 7 TPS*	9.50%	10.08%
6	Sikka Extn. (3-4)*	9.00%	10.53%
7	KLTPS 3	12.00%	13.53%
8	KLTPS 4	12.00%	39.36%
9	BLTPS*	11.00%	19.04%
10	Dhuvaran CCPP 1*	4.00%	10.60%
11	Dhuvaran CCPP 2	3.00%	13.82%
12	Dhuvaran CCPP 3*	3.00%	7.67%
13	Utran Extension*	3.00%	5.70%
14	Ukai 6*	6.00%	7.23%
15	Wanakbori 8 TPS*	5.25%	5.22%
16	Ukai Hydro	0.60%	0.77%
17	Kadana Hydro	1.00%	0.76%

\* PPA governed stations

- 3.5.3. For true-up, the factors impacting auxiliary consumption of GSECL stations & reasons for deviation from norms are as below:



- **Ukai 3-5:**
  - Partial Operation due to backing down (Partial Operation-27.55 %) & APC cons during RSD -0.23%.
  - Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (12.24%)
  
- **Ukai 6:**
  - Partial Operation due to backing down (Partial Operation-31.72 %).
  - Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (8.97%)"
  
- **Gandhinagar 3-4:**
  - Partial Operation due to backing down (Partial Operation-48.72 %)
  - APC cons during RSD - 0.30%
  
- **Gandhinagar 5:**
  - Partial Operation due to backing down (Partial Operation-46.29 %)
  - APC cons during RSD -0.10%
  
- **Wanakbori 1-6:**
  - Partial Operation due to backing down (Partial Operation-39.84 %)
  - APC cons during RSD - 0.58%
  
- **Wanakbori 7:**
  - Partial Operation due to backing down (Partial Operation-44.50 %)
  - APC cons during RSD - 0.55%.
  - Partial Operations (DC revisions) in all units Due to Poor Coal Quality and coal handling (13.75%).
  
- **Sikka 3 & 4:**
  - Partial Operation due to backing down (Partial Operation-48.55 %)
  - APC cons during RSD - 0.50%
  
- **KLTPS 3:** Partial Operation due to Unit constrains (Partial Operation)
  
- **KLTPS 4:**
  - Remained under forced outage for 286 days for LHS Cyclone outlet Duct work. It was an unforeseen incident involving huge amount of MS structure work. (80.69%)
  
- **BLTPS 1-2:** Partial Operation due to unit constrains (Partial Operation - 100%)
  
- **Dhuvaran 1:** Partial Operation due to backing down (Partial Operation-55.05 %) APC cons during RSD - 4.84%
  
- **Dhuvaran 2:** Partial Operation due to backing down (Partial Operation-56.94 %) APC cons during RSD - 7.66%



- **Dhuvaran 3:** Partial Operation due to backing down (Partial Operation-79.13 %) APC cons during RSD - 2.51%
- **Utran Extension:** Partial Operation due to backing down (Partial Operation-66.93 %) APC cons during RSD - 2.68%
- **Kadana Hydro:** Irrigation Dependent - low reservoir level
- **Ukai Hydro:** Irrigation Dependent - low reservoir level

3.5.4. Over and above backing down, some of the units have frequently undergone in reserve shut down and during the same, minimum auxiliaries were required to be run to keep the units available so that the same can be taken back as & when required by SLDC / system.

### 3.6. STATION HEAT RATE FOR FY 2021-22

3.6.1. The actual Station Heat Rate attained by the generating stations of GSECL during FY 2021-22 along with approved parameters has been mentioned in the table below.

**Table 12 : Station Heat Rate (in Kcal/kWh) for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	Actuals
1	Ukai (3-5)	2625	2618
2	Gandhinagar (3-4)	2625	2545
3	Gandhinagar 5*	2460	2516
4	Wanakbori 1-6 TPS	2575	2579
5	Wanakbori 7 TPS*	2460	2488
6	Sikka Extn. (3-4)*	2398	2419
7	KLTPS 3	3231	3254
8	KLTPS 4	3000	3154
9	BLTPS*	2623	2969
10	Dhuvaran CCPP 1*	1950	2202
11	Dhuvaran CCPP 2	1950	2217
12	Dhuvaran CCPP 3*	1850	1974
13	Utran Extension*	1850	1843
14	Ukai 6*	2385	2402
15	Wanakbori 8 TPS*	2248	2226

\* PPA governed stations

3.6.2. It may be noted that for any generation plant, the SHR always deteriorates with time. Hence, the old stations of GSECL are not expected to achieve the SHR comparable to the norms prescribed by the Hon'ble 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.

3.6.3. For true-up, the factors impacting SHR of GSECL stations & reasons for deviation from norms are as below:

- Ukai 6:
  - Partial Operation due to backing down (Partial Operation-31.72 %).
  - Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (8.97%).





- **Gandhinagar 5:**
  - Partial Operation due to backing down & start stop due to RSD (04 Nos.)
  
- **Wanakbori 7:**
  - Partial Operation due to backing down & start stop due to RSD (10 Nos.)
  
- **Sikka 3 & 4:**
  - Partial Operation due to backing down & start stop due to RSD (09 Nos.)
  
- **KLTPS 3:**
  - Annual overhauling schedule was not approved due to high system demand and to maintain Gujarat grid stability. Leads to Partial operation (15.38%) and Outage of unit (13.94%).
  
- **KLPTS 4:**
  - Remained under forced outage for 286 days for LHS Cyclone outlet Duct work. It was an unforeseen incident involving a huge amount of MS structure work. (80.69%)
  
- **BLTPS 1-2:** Partial Operation due to unit constraints and frequent start stop due to forced outages (45 Nos.)
  
- **Dhuvaran gas 1:** Partial Operation due to backing down and frequent start stop due to RSD (59 Nos.)
  
- **Dhuvaran gas 2:** Partial Operation due to backing down and frequent start stop due to RSD (56 Nos.)
  
- **Dhuvaran gas 3:** Partial Operation due to backing down and frequent start stop due to RSD (28 Nos.).

### **3.7. SPECIFIC FUEL OIL CONSUMPTION FOR FY 2021-22**

3.7.1. The actual Specific Oil Consumption recorded by GSECL during FY 2021-22 along with approved values are mentioned below:

**Table 13 : Specific oil consumption (In ml/kWh) for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	GSECL (Actuals)
1	Ukai (3-5)	1.00	8.07
2	Gandhinagar (3-4)	1.00	1.23
3	Gandhinagar 5*	3.50	0.84
4	Wanakbori 1-6 TPS	1.00	2.15
5	Wanakbori 7 TPS*	3.50	1.30
6	Sikka Extn. (3-4)*	1.00	1.80
7	KLTPS 3	3.00	7.55
8	KLTPS 4	3.00	9.39
9	BLTPS*	1.00	2.98
10	Ukai 6*	1.00	1.87
11	Wanakbori 8 TPS*	0.50	1.42

\* PPA governed stations

3.7.2. It may be noted that the Specific Oil Consumption is calculated in terms of percentage of total calorific requirement of the power generating unit and has relation with the size of the generating unit. For the lower size units, the Specific Oil Consumption remains higher as compared to larger size power generating units, because certain amount of Specific Oil consumption remains fixed irrespective of the size of the generating unit. As most of the units of GSECL power stations are smaller in size and the Specific Oil Consumption of these plants is generally high.

3.7.3. For true-up, the factors impacting SFC consumption of GSECL stations & reasons for deviation from norms are as below:

- **Ukai 3-5:** Start stop due to RSD (19 nos.; 0.31 ml/kwh) and Partial Operation due to coal feeding issue
- **Ukai 6:** Partial Operations (DC revisions) due to Poor Coal Quality and coal handling (8.97%)
- **Gandhinagar 3-4:** Start stop due to RSD (13 nos.; 0.34 ml/kWh)
- **Wanakbori 1-6:** Start stop due to RSD (44 nos.; 0.27 ml/kWh)
- **Wanakbori 8:** higher forced outages (15 Nos.; 1.28 ml/kWh) due to exorbitant extension of Annual overhauling schedule due to high System Demand
- **Sikka 3-4:** Start stop due to RSD (09 nos. and 0.69 ml/kwh) and forced Outages (09 nos.; 0.36 ml/kWh)
- **KLTPS 3:** higher forced outages (39 Nos.; 2.63 ml/kWh); Partial Operation due to Unit constrains
- **KLTPS 4:** higher forced outages (5 Nos; 5.21 ml/kWh); Less PLF of Unit
- **BLTPS 1-2:** higher forced outages (45 Nos.; 1.25 ml/kWh) and partial operation due to unit constraints.



**3.8. TRANSIT LOSS FOR FY 2021-22**

3.8.1. Approved Transit loss for FY 2021-22 and Actual Transit loss for FY 2021-22 has been mentioned below:

**Table 14 : Transit loss for FY 2021-22**

Sl.No.	Power Station	FY 2021-22	
		Approved	GSECL (Actuals)
1	Ukai (3-5)	0.80%	0.32%
2	Gandhinagar (3-4)	0.80%	0.28%
3	Gandhinagar 5*	0.80%	0.28%
4	Wanakbori 1-6 TPS	0.80%	0.78%
5	Wanakbori 7 TPS*	0.80%	0.78%
6	Sikka Extn. (3-4)*	0.00%	0.00%
7	KLTPS 3	0.20%	0.20%
8	KLTPS 4	0.20%	0.20%
9	BLTPS*	0.80%	0.20%
10	Ukai 6*	0.80%	0.32%
11	Wanakbori 8 TPS*	0.80%	0.78%

\* PPA governed stations

**3.9. NET GENERATION FOR FY 2021-22**

3.9.1. Based on plant load factor and auxiliary consumption discussed in aforesaid sections, the Gross generation & net generation for GSECL stations for FY 2021-22 has been mentioned below:

**Table 15 : Station wise net generation for FY 2021-22**

Sl.No.	Power Station	Gross Generation (MU)	Auxiliary Consumption (%)	Auxiliary Consumption (MU)	Net Generation (MU)
1	Ukai (3-5)	2650.09	10.24%	271.27	2378.82
2	Gandhinagar (3-4)	2210.25	10.32%	227.99	1982.26
3	Gandhinagar 5*	1103.02	10.41%	114.86	988.16
4	Wanakbori 1-6 TPS	5338.88	9.94%	530.48	4808.40
5	Wanakbori 7 TPS*	1192.25	10.08%	120.20	1072.05
6	Sikka Extn. (3-4)*	962.11	10.53%	101.27	860.84
7	KLTPS 3	460.02	13.53%	62.24	397.78
8	KLTPS 4	49.06	39.36%	19.31	29.74
9	BLTPS*	1656.67	19.04%	315.50	1341.18
10	Dhuvaran CCPP 1*	69.16	10.60%	7.33	61.83
11	Dhuvaran CCPP 2	59.63	13.82%	8.24	51.39
12	Dhuvaran CCPP 3*	146.56	7.67%	11.24	135.32
13	Utran Extension*	279.94	5.70%	15.97	263.97
14	Ukai 6*	2377.83	7.23%	171.90	2205.93
15	Wanakbori 8 TPS*	4562.71	5.22%	238.14	4324.57
16	Ukai Hydro	657.36	0.77%	5.05	652.31
17	Kadana Hydro	223.77	0.76%	1.69	222.08

\* PPA governed stations



**3.10. FUEL RELATED PARAMETERS FOR FY 2021-22**

3.10.1. The table below summaries actual value of weighted average Gross Calorific Value of primary fuels and secondary fuel recorded by GSECL along with approved GCV for primary & secondary fuel, coal mix for FY 2021-22 is mentioned below:

**Table 16 : Summary of fuel related parameters for FY 2021-22**

Sl. No.	Power Station	Indigenuos Coal (%)	Washed Coal (%)	Imported Coal (%)	Weighted average GCV of Lignite Kcal/Kg	Weighted average GCV of coal Kcal/Kg	Weighted average GCV of gas Kcal/SCM	BLANK	Weighted average GCV of Oil Kcal/litre
1	Ukai (3-5)	51.44%	48.56%	0.00%		3,594			10,353
2	Gandhinagar (3-4)	67.00%	33.00%	0.00%		3,722			10,452
3	Gandhinagar 5*	58.49%	41.51%	0.00%		3,871			10,468
4	Wanakbori 1-6 TPS	47.59%	52.41%	0.00%		3,507			10,324
5	Wanakbori 7 TPS*	41.01%	58.99%	0.00%		3,570			10,316
6	Sikka Extn. (3-4)*	0.00%	0.00%	100.00%		4,944			10,424
7	KLTPS 3				2,413				10,461
8	KLTPS 4				2,413				10,666
9	BLTPS*				2,733				10,376
10	Dhuvaran CCPP 1*						9,711		-
11	Dhuvaran CCPP 2						9,723		-
12	Dhuvaran CCPP 3*						9,754		-
13	Utran Extension*						9,181		-
14	Ukai 6*	39.85%	60.15%	0.00%		3,632			10,378
15	Wanakbori 8 TPS*	42.28%	57.72%	0.00%		3,526			10,356

\* PPA governed stations

3.10.2. The Fuel related parameters mentioned above have been used for computation of variable cost for GSECL stations.

3.10.3. The summary of actual coal prices for FY 2021-22 along with mix of coal for the year is shown in following table:

**Table 17 : Summary of fuel prices for FY 2021-22**

Sl. No.	Power Station	Weighted Av. Cost of indigenous coal (Rs./MT)	Weighted Av. Cost of Washed Coal (Rs./MT)	Weighted Av. Cost of Imported Coal (Rs./MT)	Weighted Av. Cost of Coal (Rs./MT)	Weighted Av. Cost of Gas (Rs./SCM)	Weighted Av. Cost of Oil (Rs./KI)
1	Ukai (3-5)	4,557	5,021	-	4,782		49,311
2	Gandhinagar (3-4)	5,145	5,495	-	5,261		41,858
3	Gandhinagar 5*	5,124	5,573	-	5,310		41,341
4	Wanakbori 1-6 TPS	4,945	5,343	-	5,154		45,906
5	Wanakbori 7 TPS*	4,828	5,461	-	5,201		42,859
6	Sikka Extn. (3-4)*	-	-	7,275	7,275		41,946
7	KLTPS 3	-	-	-	2,266		51,339
8	KLTPS 4	-	-	-	2,043		57,087
9	BLTPS*	-	-	-	2,564		58,369
10	Dhuvaran CCPP 1*	-	-	-		39.74	-
11	Dhuvaran CCPP 2	-	-	-		29.71	-
12	Dhuvaran CCPP 3*	-	-	-		34.26	-
13	Utran Extension*	-	-	-		36.97	-
14	Ukai 6*	4,485	5,182	-	4,905		48,128
15	Wanakbori 8 TPS*	4,804	5,463	-	5,184		44,586

\* PPA governed stations

3.10.4. The GSECL requests the Hon'ble Commission to approve the variable cost parameters as outlined above and any variation in the fuel mix, quality and rate will affect the variable cost accordingly.



**3.11. OPERATING PARAMETERS FOR GSECL FOR FY 2023-24**

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

1. Station heat rate
2. Plant Availability factor
3. Plant load factor
4. Specific fuel oil consumption
5. Auxiliary consumption

3.11.2. 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.

**3.12. TARGET AVAILABILITY FOR RECOVERY OF FULL CAPACITY (FIXED) CHARGES FOR FY 2023-24**

3.12.1. For FY 2023-24, the plant availability factor is considered the same as the approved plant availability factor of FY 2022-23 in Tariff Order of 30<sup>th</sup> March 2022 for all power plants.

3.12.2. The plant availability factor of the GSECL station in FY 2023-24 for recovery of fixed charges is shown as per the table below.

**Table 18 : Plant availability factor for FY 2023-24**

Sr.No	Plant	Projections
		FY 2023-24
1	Ukai (3-5)	80.00%
2	Gandhinagar (3-4)	84.00%
3	Gandhinagar 5*	85.00%
4	Wanakbori 1-6 TPS	85.00%
5	Wanakbori 7 TPS*	85.00%
6	Sikka Extn. (3-4)*	85.00%
7	KLTPS 3	75.00%
8	KLTPS 4	80.00%
9	BLTPS*	80.00%
10	Dhuvaran CCPP 1*	85.00%
11	Dhuvaran CCPP 2	85.00%
12	Dhuvaran CCPP 3*	85.00%
13	Utran Extension*	85.00%
14	Ukai 6*	85.00%
15	Wanakbori 8 TPS*	85.00%
16	Ukai Hydro	80.00%
17	Kadana Hydro	80.00%

\* PPA governed stations

**3.13. PLANT LOAD FACTOR FOR FY 2023-24**

3.13.1. For FY 2023-24, the plant load factor is considered on the basis of available resources to achieve optimum generation from different units



3.13.2. The Plant Load Factor of the GSECL station in FY 2023-24 is shown as per the table below.

**Table 19 : Plant load factor for FY 2023-24**

Sr.No	Plant	Projections
		FY 2023-24
1	Ukai (3-5)	54.59%
2	Gandhinagar (3-4)	54.89%
3	Gandhinagar 5*	65.05%
4	Wanakbori 1-6 TPS	53.53%
5	Wanakbori 7 TPS*	62.34%
6	Sikka Extn. (3-4)*	37.00%
7	KLTPS 3	75.90%
8	KLTPS 4	60.72%
9	BLTPS*	48.38%
10	Dhuvaran CCPP 1*	5.13%
11	Dhuvaran CCPP 2	5.06%
12	Dhuvaran CCPP 3*	4.99%
13	Utran Extension*	4.86%
14	Ukai 6*	76.84%
15	Wanakbori 8 TPS*	75.42%
16	Ukai Hydro	21.46%
17	Kadana Hydro	10.58%

\* PPA governed stations

**3.14. AUXILIARY CONSUMPTION FOR FY 2023-24**

3.14.1. For FY 2023-24, the auxiliary consumption is considered the same as the approved auxiliary consumption of FY 2022-23 in Tariff Order of 30<sup>th</sup> March 2022 for all power plants.

3.14.2. The auxiliary consumption of the GSECL station in FY 2023-24 is shown as per the table below.

**Table 20 : Auxiliary consumption for FY 2023-24**

Sr.No	Plant	Projections
		FY 2023-24
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 TPS*	9.50%
6	Sikka Extn. (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 governed stations



**3.15. STATION HEAT RATE FOR FY 2023-24**

3.15.1. For FY 2023-24, the station heat rate is considered same as the approved station heat rate of FY 2022-23 in Tariff Order of 30<sup>th</sup> March 2022 for all power plants.

3.15.2. The Station Heat Rate of the GSECL station in FY 2023-24 is shown as per the table below.

**Table 21 : Station heat rate for FY 2023-24**

Sr.No	Plant	In Kcal/kWh
		Projections FY 2023-24
1	Ukai (3-5)	2625
2	Gandhinagar (3-4)	2625
3	Gandhinagar 5*	2460
4	Wanakbori 1-6 TPS	2575
5	Wanakbori 7 TPS*	2460
6	Sikka Extn. (3-4)*	2398
7	KLTPS 3	3231
8	KLTPS 4	3000
9	BLTPS*	2623
10	Dhuvaran CCPP 1*	1950
11	Dhuvaran CCPP 2	1950
12	Dhuvaran CCPP 3*	1850
13	Utran Extension*	1850
14	Ukai 6*	2385
15	Wanakbori 8 TPS*	2248

\* PPA governed stations

**3.16. SPECIFIC FUEL OIL CONSUMPTION FOR FY 2023-24**

3.16.1. For FY 2023-24, the specific oil consumption is considered the same as the approved specific oil consumption of FY 2022-23 in Tariff Order of 30<sup>th</sup> March 2022 for all power plants.

3.16.2. The specific oil consumption of the GSECL station in FY 2023-24 is shown as per the table below.

**Table 22 : Specific oil consumption for FY 2023-24**

Sr.No	Plant	In ml/kWh
		Projections FY 2023-24
1	Ukai (3-5)	1.0
2	Gandhinagar (3-4)	1.0
3	Gandhinagar 5*	3.5
4	Wanakbori 1-6 TPS	1.0
5	Wanakbori 7 TPS*	3.5
6	Sikka Extn. (3-4)*	1.0
7	KLTPS 3	3.0
8	KLTPS 4	3.0
9	BLTPS*	1.0
10	Dhuvaran CCPP 1*	0.0
11	Dhuvaran CCPP 2	0.0
12	Dhuvaran CCPP 3*	0.0
13	Utran Extension*	0.0
14	Ukai 6*	1.0
15	Wanakbori 8 TPS*	0.5

\* PPA governed stations





**3.17. TRANSIT LOSS FOR FY 2023-24**

3.17.1. For FY 2023-24, the transit loss is considered the same as the approved transit loss of FY 2022-23 in Tariff Order of 30<sup>th</sup> March 2022 for all power plants. For BLTPS, Transit loss is considered at 0.20% as it is pit-head plant.

3.17.2. The Transit loss of the GSECL station in FY 2023-24 for recovery of fixed charges is shown as per the table below.

**Table 23 : Transit loss for FY 2023-24**

Sr.No	Plant	Projections
		FY 2023-24
1	Ukai (3-5)	0.80%
2	Gandhinagar (3-4)	0.80%
3	Gandhinagar 5*	0.80%
4	Wanakbori 1-6 TPS	0.80%
5	Wanakbori 7 TPS*	0.80%
6	Sikka Extn. (3-4)*	0.00%
7	KLTPS 3	0.20%
8	KLTPS 4	0.20%
9	BLTPS*	0.20%
10	Dhuvaran CCPP 1*	0.00%
11	Dhuvaran CCPP 2	0.00%
12	Dhuvaran CCPP 3*	0.00%
13	Utran Extension*	0.00%
14	Ukai 6*	0.80%
15	Wanakbori 8 TPS*	0.80%

\* PPA governed stations

**3.18. NET GENERATION FOR FY 2023-24**

3.18.1. Based on plant load factor and auxiliary consumption discussed in aforesaid sections, the Gross generation & net generation for GSECL stations for FY 2023-24 has been mentioned below:

**Table 24 : Station wise net generation for FY 2023-24**

Sr.No.	Power Station	Gross Generation (MU)	Auxiliary Consumption (MU)	Net Generation (MU)
		FY 2023-24		
1	Ukai (3-5)	2925.00	263.25	2661.75
2	Gandhinagar (3-4)	2025.00	182.25	1842.75
3	Gandhinagar 5*	1200.00	114.00	1086.00
4	Wanakbori 1-6 TPS	5925.00	533.25	5391.75
5	Wanakbori 7 TPS*	1150.00	109.25	1040.75
6	Sikka Extn. (3-4)*	1625.00	146.25	1478.75
7	KLTPS 3	500.00	60.00	440.00
8	KLTPS 4	400.00	48.00	352.00
9	BLTPS*	2125.00	233.75	1891.25
10	Dhuvaran CCPP 1*	48.00	1.92	46.08
11	Dhuvaran CCPP 2	50.00	1.50	48.50
12	Dhuvaran CCPP 3*	165.00	4.95	160.05
13	Utran Extension*	160.00	4.80	155.20
14	Ukai 6*	3375.00	202.50	3172.50
15	Wanakbori 8 TPS*	5300.00	278.25	5021.75
16	Ukai Hydro	575.00	3.45	571.55
17	Kadana Hydro	225.00	2.25	222.75

\* PPA governed stations



**3.19. FUEL RELATED PARAMETERS FOR FY 2023-24**

- 3.19.1. Weighted average Gross Calorific Value of primary fuel & secondary fuel for FY 2023-24 is considered same as actual value of weighted average Gross Calorific Value of primary fuels & secondary fuel of FY 2021-22 except for Sikka 3-4 which runs on imported coal. The GCV of imported coal has been considered based on the average GCV of past 3 months (Sept. 2022 to Nov. 2022) in accordance with the Regulation 58.8 of the MYT Regulation 2016. Similarly, the cost of imported coal is also based on the average cost of imported coal of the past 3 months (Sept. 2022 to Nov. 2022) as the cost of imported coal has significantly risen in the recent past owing to geopolitical conditions prevailing internationally and indigenous coal shortages in the country which has led to the significant rise in coal prices.
- 3.19.2. Considering the latest scenario of fuel availability, and as approved by the hon'ble Commission for FY 2022-23, GSECL has considered a blending ratio of 40% indigenous coal and 60% washed coal for all its coal-based power plants except for Sikka 3-4 which fully operate on imported coal, KLTPS 3 & 4 and BLTPS which run on lignite.
- 3.19.3. The table below summaries value of weighted average Gross Calorific Value of primary fuels and secondary fuel considered by GSECL and the coal mix for FY 2023-24 is mentioned below:



Table 25 : Summary of fuel related parameters for FY 2023-24

Sr.No.	Power Plant	Particulars	Mix of Coal			Weighted average GCV of Lignite	Weighted average GCV of coal	Weighted average GCV of gas	Weighted average GCV of Oil
			Indigenous	Washed	Imported	Kcal/Kg	Kcal/Kg	Kcal/SCM	Kcal/litre
1	Ukai (3-5)	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,594	-	10,353
2	Gandhinagar (3-4)	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,722	-	10,452
3	Gandhinagar 5*	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,871	-	10,468
4	Wanakbori 1-6 TPS	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,507	-	10,324
5	Wanakbori 7 TPS*	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,570	-	10,316
6	Sikka Extn. (3-4)*	FY 2023-24 (Projection)	0.00%	0.00%	100.00%	-	4,992	-	10,424
7	KLTPS 3	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	2,413	-	-	10,461
8	KLTPS 4	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	2,413	-	-	10,666
9	BLTPS*	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	2,733	-	-	10,376
10	Dhuvaran CCPP 1*	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	-	-	9,711	-
11	Dhuvaran CCPP 2	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	-	-	9,723	-
12	Dhuvaran CCPP 3*	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	-	-	9,754	-
13	Utran Extension*	FY 2023-24 (Projection)	0.00%	0.00%	0.00%	-	-	9,181	-
14	Ukai 6*	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,632	-	10,378
15	Wanakbori 8 TPS*	FY 2023-24 (Projection)	40.00%	60.00%	0.00%	-	3,526	-	10,356

\* PPA governed stations

3.19.4. The Fuel related parameters mentioned above have been used for computation of variable cost for GSECL stations.



3.19.5. The actual coal prices along with the mix of coal of FY 2023-24 are considered same as of FY 2021-22 except Sikka TPS. For Sikka TPS, coal price is considered as the weighted average coal price for the period of September 2022 to November 2022 due to exorbitant price hike in import coal price during last one year. The summary of coal prices for FY 2023-24 along with price of gas and oil is shown in following table.

**Table 26 : Summary of fuel prices for FY 2023-24**

Sr.No.	Power Plant	Particulars	Cost of indigenous coal (Rs./MT)	Cost of Washed Coal (Rs./MT)	Cost of Imported Coal (Rs./MT)	Weighted average Cost of Coal/lignite (Rs./MT)	Cost of Gas (Rs./SCM)	Cost of Oil (Rs./KI)
1	Ukai (3-5)	FY 2023-24 (Projection)	4,557	5,021	-	4,836	-	49,311
2	Gandhinagar (3-4)	FY 2023-24 (Projection)	5,145	5,495	-	5,355	-	41,858
3	Gandhinagar 5*	FY 2023-24 (Projection)	5,124	5,573	-	5,393	-	41,341
4	Wanakbori 1-6 TPS	FY 2023-24 (Projection)	4,945	5,343	-	5,184	-	45,906
5	Wanakbori 7 TPS*	FY 2023-24 (Projection)	4,828	5,461	-	5,208	-	42,859
6	Sikka Extn. (3-4)*	FY 2023-24 (Projection)	-	-	17,580	17,580	-	41,946
7	KLTPS 3	FY 2023-24 (Projection)	-	-	-	2,266	-	51,339
8	KLTPS 4	FY 2023-24 (Projection)	-	-	-	2,043	-	57,087
9	BLTPS*	FY 2023-24 (Projection)	-	-	-	2,564	-	58,369
10	Dhuvaran CCPP 1*	FY 2023-24 (Projection)	-	-	-	-	39.74	-
11	Dhuvaran CCPP 2	FY 2023-24 (Projection)	-	-	-	-	29.71	-
12	Dhuvaran CCPP 3*	FY 2023-24 (Projection)	-	-	-	-	34.26	-
13	Utran Extension*	FY 2023-24 (Projection)	-	-	-	-	36.97	-
14	Ukai 6*	FY 2023-24 (Projection)	4,485	5,182	-	4,904	-	48,128
15	Wanakbori 8 TPS*	FY 2023-24 (Projection)	4,804	5,463	-	5,199	-	44,586

\* PPA governed stations

3.19.6. The GSECL requests the Hon'ble Commission to approve the variable cost parameters as outlined above and any variation in the fuel mix, quality and rate will affect the variable cost accordingly.

**SECTION 4. TRUE UP OF FY 2021-22****4.1. PREAMBLE**

- 4.1.1. This section outlines the actual performance of GSECL for FY 2021-22. In line with the provisions of the GERC MYT Regulations, 2016, GSECL hereby submits a detailed Actual Performance for 2021-22 comparing with the figures approved by the Hon'ble Commission vide Tariff Order in Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021 for all power plants.
- 4.1.2. In line with the provisions under GERC MYT Regulations, 2016, GSECL has filed this True Up Petition for the FY 2021-22, wherein, GSECL is submitting comparison of actual performance for FY 2021-22 vis-à-vis the parameters for FY 2021-22 approved by the Hon'ble Commission.
- 4.1.3. For the purpose of True-Up all the expense heads have been categorized into Controllable and Uncontrollable factors as outlined in the following sections. A head wise comparison has been made between the values approved by the Hon'ble Commission vide Tariff Order Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021 and the actual values for various expenditures for FY 2021-22.
- 4.1.4. GSECL has worked out its Aggregate Revenue Requirement (ARR) for FY 2021-22 as a part of the True Up for FY 2021-22. GSECL has presented the actual cost components based on audited annual accounts for FY 2021-22.

**4.2. COMPUTATION OF FUEL EXPENSES FOR FY 2021-22**

- 4.2.1. Based on operating and fuel related parameters estimated by GSECL during FY 2021-22, plant wise fuel expenses arrived are tabulated below.

**Table 27 : Fuel expenses for FY 2021-22**

Sr.No.	Power Station	Net Generation (Actual) (MU)	Fuel Cost (Approved) Rs. Crores)	Fuel Cost (Actual) (Rs. Crores)
1	Ukai (3-5)	2,378.82	929.65	1,001.88
2	Gandhinagar (3-4)	1,982.26	820.62	804.78
3	Gandhinagar 5*	988.16	381.74	384.26
4	Wanakbori 1-6 TPS	4,808.40	2,031.52	2,073.78
5	Wanakbori 7 TPS*	1,072.05	439.47	439.77
6	Sikka Extn. (3-4)*	860.84	336.29	347.12
7	KLTPS 3	397.78	143.05	155.26
8	KLTPS 4	29.74	9.09	15.34
9	BLTPS*	1,341.18	381.21	486.78
10	Dhuvaran CCPP 1*	61.83	51.39	62.33
11	Dhuvaran CCPP 2	51.39	31.57	40.41
12	Dhuvaran CCPP 3*	135.32	90.65	101.61
13	Utran Extension*	263.97	202.70	207.72
14	Ukai 6*	2,205.93	769.79	788.85
15	Wanakbori 8 TPS*	4,324.57	1,527.46	1,523.98
16	Ukai Hydro	652.31		-
17	Kadana Hydro	222.08		-

\* PPA governed stations



**4.3. ENERGY CHARGES FOR FY 2021-22**

4.3.1. Based on operating parameters and actual fuel cost, Energy Charges for FY 2021-22 for GSECL’s power stations are mentioned below:

**Table 28 : Energy charges for FY 2021-22 (In Rs/kWh)**

Sr.No.	Power Station	Approved	Actual
1	Ukai (3-5)	3.91	4.21
2	Gandhinagar (3-4)	4.14	4.06
3	Gandhinagar 5*	3.86	3.89
4	Wanakbori 1-6 TPS	4.22	4.31
5	Wanakbori 7 TPS*	4.10	4.10
6	Sikka Extn. (3-4)*	3.91	4.03
7	KLTPS 3	3.60	3.90
8	KLTPS 4	3.06	5.16
9	BLTPS*	2.84	3.63
10	Dhuvaran CCPP 1*	8.31	10.08
11	Dhuvaran CCPP 2	6.14	7.86
12	Dhuvaran CCPP 3*	6.70	7.51
13	Utran Extension*	7.68	7.87
14	Ukai 6*	3.49	3.58
15	Wanakbori 8 TPS*	3.53	3.52

\* PPA governed stations

**4.4. GAINS/ (LOSSES) FROM FUEL EXPENSES ON ACCOUNT OF EFFICIENCY**

4.4.1. For the purpose of True Up and for determination of gains or losses on account of operational performance of the generating stations, GSECL has derived fuel expenses considering performance parameters such as auxiliary consumption, station heat rate, specific oil consumption and transit loss as approved by the Hon’ble Commission in Tariff Order Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021 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 gains/ losses on account of efficiency of these performance parameters. Thus, based on the same, GSECL’s gain/ (losses) is Rs. (125.95) Crores in fuel expenses on account of operational efficiencies during FY 2021-22. The same would be treated appropriately in line with the provisions of the GERC MYT Regulations, 2016.



**Table 29 : Gains/ (losses) from fuel efficiency (Rs. Crore)**

Sr.No.	Power Station	Fuel Cost with Approved operational parameters	Fuel cost incurred by GSECL	Gain/(Loss) due to controllable parameter	Gain/(Loss) due to uncontrollable parameter
1	Ukai (3-5)	929.65	1,001.88	(72.23)	
2	Gandhinagar (3-4)	820.62	804.78	15.83	
3	Gandhinagar 5*	381.74	384.26		
4	Wanakbori 1-6 TPS	2,031.52	2,073.78	(42.26)	
5	Wanakbori 7 TPS*	439.47	439.77		
6	Sikka Extn. (3-4)*	336.29	347.12		
7	KLTPS 3	143.05	155.26	(12.20)	
8	KLTPS 4	9.09	15.34	(6.25)	
9	BLTPS*	381.21	486.78		
10	Dhuvaran CCPP 1*	51.39	62.33		
11	Dhuvaran CCPP 2	31.57	40.41	(8.84)	
12	Dhuvaran CCPP 3*	90.65	101.61		
13	Utran Extension*	202.70	207.72		
14	Ukai 6*	769.79	788.85		
15	Wanakbori 8 TPS*	1,527.46	1,523.98		
16	Ukai Hydro	-	-	-	
17	Kadana Hydro	-	-	-	
	<b>Total</b>	<b>8,146.19</b>	<b>8,433.87</b>	<b>(125.95)</b>	

**4.5. CAPITAL EXPENDITURE**

4.5.1. The actual capitalization for FY 2021-22 is as given below:

**Table 30 : Actual capitalization for FY 2021-22 (Rs. Crore)**

Sr. No.	Station	Particulars	Capitalization for FY 2021-22 (Actuals)
1	Ukai (3-5)	Debt	16.31
		Equity	6.99
		<b>Total</b>	<b>23.30</b>
2	Gandhinagar (3-4)	Debt	11.23
		Equity	4.81
		<b>Total</b>	<b>16.04</b>
3	Gandhinagar 5*	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
4	Wanakbori 1-6 TPS	Debt	20.72
		Equity	8.88
		<b>Total</b>	<b>29.59</b>
5	Wanakbori 7 TPS*	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
6	Sikka Extn. (3-4)*	Debt	14.55
		Equity	6.24
		<b>Total</b>	<b>20.79</b>
7	KLTPS 3	Debt	6.85
		Equity	2.94
		<b>Total</b>	<b>9.78</b>
8	KLTPS 4	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
9	BLTPS	Debt	13.47
		Equity	5.77
		<b>Total</b>	<b>19.24</b>

Sr. No.	Station	Particulars	Capitalization for FY 2021-22 (Actuals)
10	Dhuvaran CCPP 1*	Debt	0.95
		Equity	0.41
		<b>Total</b>	<b>1.36</b>
11	Dhuvaran CCPP 2	Debt	0.30
		Equity	0.13
		<b>Total</b>	<b>0.42</b>
12	Dhuvaran CCPP 3*	Debt	0.83
		Equity	0.36
		<b>Total</b>	<b>1.19</b>
13	Utran Extension*	Debt	2.01
		Equity	0.86
		<b>Total</b>	<b>2.87</b>
14	Ukai 6	Debt	9.62
		Equity	4.12
		<b>Total</b>	<b>13.74</b>
15	Wanakbori 8 TPS	Debt	25.06
		Equity	10.74
		<b>Total</b>	<b>35.80</b>
16	Ukai Hydro	Debt	-
		Equity	-
		<b>Total</b>	-
17	Kadana Hydro	Debt	0.35
		Equity	0.15
		<b>Total</b>	<b>0.50</b>
	<b>Total</b>	Debt	122.24
		Equity	52.39
		<b>Total</b>	<b>174.63</b>

\* PPA governed stations

#### 4.6. FIXED COST FOR FY 2021-22

4.6.1. Based on the Capital Cost and the consequent Capitalized Expenditure, the funding of the capitalization through debt & Equity, etc. the actual figures for fixed cost of GSECL for FY 2021-22 have been outlined thereof. As outlined under the regulations, the fixed cost for GSECL has been categorized under the following heads:

- Depreciation
- Interest and Finance Charges
- Return on Equity
- Operation and Maintenance Expenses
- Interest on Working Capital
- Water Charges
- SLDC Charges
- Income Tax
- Non-Tariff Income

4.6.2. For FY 2021-22, GSECL has determined actual fixed cost for its generating station based on the provisions of the GERC MYT Regulations, 2016, and annual audited accounts for FY 2021-22.





Table 31 : Actual fixed cost for GSECL for FY 2021-22 (Rs. Crore)

Sr.No.	Power Station	Depreciation (Actual)	Interest & Finance charges (Actual)	Return on Equity (Actual)	O&M expenses (Actual)	Water Charges (Actual)	SLDC charges (Actual)	MAT (Actual)	Interest on working capital (Actual)	Total fixed cost (Actual)	Non tariff income (Actual)	Net fixed charges
1	Ukai (3-5)	47.80	-	23.99	245.98	-	0.30	3.99	37.41	359.46	15.46	344.00
2	Gandhinagar (3-4)	37.17	-	24.99	150.97	68.96	0.20	3.27	26.85	312.40	31.55	280.85
3	Gandhinagar 5*	2.16	-	28.67	75.40	34.48	0.10	2.75	12.84	156.40	0.07	156.33
4	Wanakbori 1-6 TPS	102.69	15.84	92.85	259.50	73.76	0.61	1.37	80.30	626.92	24.62	602.30
5	Wanakbori 7 TPS*	2.15	-	26.16	17.24	15.23	0.10	8.24	12.73	81.85	0.07	81.77
6	Sikka Extn. (3-4)*	177.36	107.35	130.33	167.16	4.86	0.24	1.37	35.25	623.93	3.81	620.12
7	KLTPS 3	30.80	-	54.59	96.24	0.25	0.04	5.23	5.85	193.00	4.46	188.54
8	KLTPS 4	17.89	5.62	29.65	26.60	-	0.04	3.27	4.64	87.71	0.10	87.61
9	BLTPS*	239.23	116.46	151.84	101.02	17.48	0.24	0.49	28.20	654.96	2.83	652.14
10	Dhuvaran CAPP 1*	10.04	-	10.54	48.71	0.89	0.05	0.49	11.92	82.64	16.99	65.65
11	Dhuvaran CAPP 2	13.10	2.00	14.54	39.58	0.89	0.05	3.27	9.78	83.20	3.65	79.55
12	Dhuvaran CAPP 3*	78.84	51.90	67.06	10.70	-	0.18	0.70	32.88	242.26	1.09	241.16
13	Utran Extension*	37.76	22.52	57.59	122.85	2.32	0.18	0.74	36.69	280.65	3.22	277.42
14	Ukai 6*	155.87	72.19	125.74	50.92	-	0.24	2.46	30.81	438.22	0.18	438.04
15	Wanakbori 8 TPS*	221.06	212.68	181.92	55.23	45.51	0.39	2.45	50.37	769.61	0.29	769.32
16	Ukai Hydro	2.31	1.70	10.64	17.36	-	0.15	1.99	0.56	34.72	0.11	34.61
17	Kadana Hydro	5.52	-	28.88	25.42	-	0.12	1.58	1.04	62.57	0.68	61.89
<b>Total</b>		<b>1,181.73</b>	<b>608.26</b>	<b>1,059.98</b>	<b>1,510.87</b>	<b>264.62</b>	<b>3.24</b>	<b>43.65</b>	<b>418.13</b>	<b>5,090.49</b>	<b>109.17</b>	<b>4,981.32</b>

\* PPA governed stations

4.6.3. As regards to other income of Rs. 96.98 crores booked in FY 2021-22, it is to submit that, said amount has been realized on account of encashment of the bank guarantee submitted by M/s PT Bara towards the security deposit for the contract awarded to them for supply of imported coal to Sikka TPS. M/s PT Bara was given order to supply imported coal vide order no. GSECL/Fuel/Imp Coal/Sikka/FOR/PTB/997 dated 30.06.2021 for Sikka TPS. However, the imported coal supply was not commenced by the agency.



As the vessels were not supplied on schedule as per the order, GSECL had requested M/s PT Bara to arrange alternative coal. Accordingly only two rakes were supplied to Sikka TPS on 29.08.2021 and 01.09.2021 by the party. However, the quality of the supplied coal was found having parameters beyond acceptable limits. Thereafter M/s PT Bara did not supply any coal to Sikka TPS.

Hence, the work order was terminated by GSECL vide letter dated 08.10.2021 as the party had failed in its performance to supply the coal under the order, and its bank guarantee of USD 1,31,62,229.90 i.e. Rs. 96,97,94,572.63 was encashed by GSECL. This amount was booked as other income.

However, it is to submit that due to non-availability of imported coal, Sikka TPS could not declare any availability during September 2021 to March 2022 which resulted into loss of fixed cost to Rs. 313.11 crores. Moreover, after termination of the contract of M/s PT Bara, a new tender was invited, and the new order was placed on M/s Adani Enterprises at higher rates which also resulted into extra cost of Rs. 57.72 crores for the quantity of M/s PT Bara. Thus, the total loss to GSECL worked out to Rs. 370.00 crores. However, on account of encashment of Bank Guarantee amounting to Rs. 96.98 crores, net loss of Rs. 273.85 crores was worked out.

In view of above, it is humbly submitted that, since the amount of Rs. 96.98 crores was towards compensation, same may not be considered under the head of non-tariff income.

4.6.4. In the Tariff Order in Case No. 1908 of 2020 dated 30<sup>th</sup> March, 2021, the Hon'ble Commission had approved fixed cost for GSECL's power stations for FY 2021-22 as mentioned below.



Table 32 : Approved fixed cost for GSECL for FY 2021-22 (Rs. Crore)

Sr.No.	Power Station	Depreciation	Interest & Finance charges	Return on Equity	O&M expenses	Water Charges	SLDC charges	Tax	Interest on working capital	Total fixed cost	Non- tariff income	Net fixed charges
1	Ukai (3-5)	45.26	-	25.36	248.40	-	0.38	3.42	37.04	359.86	33.46	326.40
2	Gandhinagar (3-4)	33.84	-	24.43	143.87	42.10	0.26	2.35	29.08	275.93	10.18	265.75
3	Gandhinagar 5*	-	-	28.67	58.32	21.05	0.13	1.18	13.94	123.29	9.96	113.33
4	Wanakbori 1-6 TPS	96.88	19.90	96.73	266.28	38.46	0.78	7.06	80.66	606.75	43.02	563.73
5	Wanakbori 7 TPS*	-	0.14	26.25	20.17	10.17	0.13	1.18	12.73	70.77	14.44	56.33
6	Sikka Extn. (3-4)*	172.26	105.64	137.03	138.79	5.11	0.31	2.80	35.25	597.19	5.17	592.02
7	KLTPS 3	29.42	-	37.23	48.90	0.09	0.05	0.42	4.93	121.04	2.48	118.56
8	KLTPS 4	36.50	5.08	29.77	19.84	0.15	0.05	0.42	4.16	95.97	4.51	91.46
9	BLTPS*	193.27	120.82	153.74	178.24	6.32	0.32	-	29.98	682.69	14.84	667.85
10	Dhuvaran CCPP 1*	9.74	-	10.46	48.82	0.19	0.07	0.60	5.38	75.26	0.73	74.53
11	Dhuvaran CCPP 2	14.54	4.71	16.62	49.51	0.20	0.07	0.63	6.13	92.41	0.73	91.68
12	Dhuvaran CCPP 3*	78.77	52.55	67.01	4.92	0.66	0.23	2.11	20.06	226.31	0.95	225.36
13	Utran Extension*	68.23	21.19	57.51	51.94	2.40	0.23	2.10	20.44	224.04	0.47	223.57
14	Ukai 6*	155.98	71.69	125.88	54.43	-	0.31	2.80	31.27	442.36	15.43	426.93
15	Wanakbori 8 TPS*	205.16	212.89	179.30	162.32	5.95	0.03	-	52.93	818.58	0.40	818.18
16	Ukai Hydro	2.36	2.14	10.81	14.61	-	0.19	1.71	0.59	32.41	0.15	32.26
17	Kadana Hydro	5.52	-	29.04	29.65	-	0.15	1.36	1.17	66.89	0.39	66.50
	<b>Total</b>	<b>1,147.74</b>	<b>616.74</b>	<b>1,055.85</b>	<b>1,539.02</b>	<b>132.84</b>	<b>3.69</b>	<b>30.13</b>	<b>385.74</b>	<b>4,911.75</b>	<b>157.32</b>	<b>4,754.43</b>

\* PPA governed stations



**4.7. GAINS/ (LOSSES) FROM FIXED COST COMPONENTS**

4.7.1. GSECL has indicated the actual performance for FY 2021-22 for various cost components. The comparison of the actual value for fixed cost components for FY 2021-22 and the cost approved by the Hon’ble Commission has been done to arrive at the gains or losses for each of the element of the fixed cost of GSECL, which has been discussed in detail in subsequent paragraphs.

**4.8. GAIN/ LOSSES FROM DEPRECIATION**

4.8.1. Based on closing gross fixed assets for FY 2020-21 as approved by the Hon’ble Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 which is considered as the opening GFA for FY 2021-22 and considering capital additions during the year, the actual depreciation for FY 2021-22 is Rs 1181.73 Crores as against Rs. 1147.74 Crores approved by the Hon’ble Commission. Accordingly, based on the above classification of cost elements into controllable and uncontrollable elements in line with the provisions of the GERC MYT Regulations, 2016, GSECL has incurred a gain/ (loss) of Rs. 7.04 Crores due to variation in actual value of depreciation against the cost approved by the Hon’ble Commission.

4.8.2. Overall, the depreciation of GSECL stations (except PPA governed stations) for the FY 2021-22 is within the values approved by the Hon’ble Commission and request the Hon’ble Commission to approve the same.

4.8.3. The comparison of the actual value for depreciation during FY 2021-22 with the value approved by the Hon’ble Commission is as outlined below.

**Table 33 : Gain/ (losses) from depreciation for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Depreciation (approved)	Depreciation (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	45.26	47.80		(2.54)
2	Gandhinagar (3-4)	33.84	37.17		(3.33)
3	Gandhinagar 5*	-	2.16		
4	Wanakbori 1-6 TPS	96.88	102.69		(5.81)
5	Wanakbori 7 TPS*	-	2.15		
6	Sikka Extn. (3-4)*	172.26	177.36		
7	KLTPS 3	29.42	30.80		(1.38)
8	KLTPS 4	36.50	17.89		18.61
9	BLTPS*	193.27	239.23		
10	Dhuvaran CCPP 1*	9.74	10.04		
11	Dhuvaran CCPP 2	14.54	13.10		1.44
12	Dhuvaran CCPP 3*	78.77	78.84		
13	Utran Extension*	68.23	37.76		
14	Ukai 6*	155.98	155.87		
15	Wanakbori 8 TPS*	205.16	221.06		
16	Ukai Hydro	2.36	2.31		0.05
17	Kadana Hydro	5.52	5.52		0.00
	<b>Total</b>	<b>1147.74</b>	<b>1181.73</b>	-	<b>7.04</b>

\* PPA governed stations



**4.9. GAIN/ LOSSES FROM INTEREST & FINANCE CHARGES**

4.9.1. The Hon'ble Commission has classified the Interest and finance charges as "uncontrollable" expenses in the true up for previous years. Taking the above into consideration, GSECL has considered the gains/losses on account in Interest and Finance Charges into "Uncontrollable" factors.

4.9.2. The actual interest rate of GSECL for FY 2021-22 works out to 15.38% as per the methodology prescribed in the GERC MYT Regulations, 2016 and also as adopted by the Hon'ble Commission in the past as against approved interest rate of 8.26%. It is submitted that all the actual outstanding loans of GSECL are repaid in the early part of the year and hence, the weighted average rate of interest for the actual loan portfolio works out to be very high i.e. 15.38%. Accordingly, it is submitted that there were no actual loans during most of the part of FY 2021-22. Further, the Regulation 38.5 of the GERC MYT Regulation, 2016 states the following:

*"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:***

*....."*

4.9.3. As evident from the second proviso of Regulation 38.5, in case there is no actual loan for a particular year (FY 2021-22 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 last available weighted average rate of interest for actual loan is 8.18% which is weighted average rate of interest approved by the Hon'ble Commission for FY 2020-21 in its Order in Case No. 2025 of 2021 dated 30<sup>th</sup> March, 2021. Considering circumstances highlighted by GSECL, the Hon'ble Commission is requested to approve the rate of interest as 8.18% for the truing up of FY 2021-22.

4.9.4. GSECL has incurred total Interest & finance charges for FY 2021-22 as Rs. 608.26 Crores computed on basis of the closing loan for FY 2020-21 as approved by the Hon'ble Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 which is considered as the opening loan for FY 2021-22 and additions to debt during the year on account of funding of capitalization in comparison to the approved costs of Rs. 616.74 Crores leading to an uncontrollable gain/ (loss) of Rs. 6.67 Crores.

4.9.5. The comparison of the actual value for Interest and Finance Charges during FY 2021-22 is mentioned in the table below.

**Table 34 : Gain/ (losses) from Interest & finance charges for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Interest & Finance Charges (approved)	Interest & Finance Charges (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	-	-		-
2	Gandhinagar (3-4)	-	-		-
3	Gandhinagar 5*	-	-		
4	Wanakbori 1-6 TPS	19.90	15.84		4.06
5	Wanakbori 7 TPS*	0.14	-		
6	Sikka Extn. (3-4)*	105.64	107.35		
7	KLTPS 3	-	-		-
8	KLTPS 4	5.08	5.62		(0.54)
9	BLTPS*	120.82	116.46		
10	Dhuvaran CCPP 1*	-	-		
11	Dhuvaran CCPP 2	4.71	2.00		2.71
12	Dhuvaran CCPP 3*	52.55	51.90		
13	Utran Extension*	21.19	22.52		
14	Ukai 6*	71.69	72.19		
15	Wanakbori 8 TPS*	212.89	212.68		
16	Ukai Hydro	2.14	1.70		0.44
17	Kadana Hydro	-	-		-
	<b>Total</b>	<b>616.74</b>	<b>608.26</b>	<b>-</b>	<b>6.67</b>

\* PPA governed stations

#### 4.10. GAIN/ LOSSES FROM RETURN ON EQUITY

4.10.1. The comparison of the actual value for Return on Equity (RoE) computed on basis of the closing equity for FY 2020-21 as approved by the Hon'ble Commission in the Tariff Order dated 30<sup>th</sup> March, 2022 which is considered as the opening equity for FY 2021-22 and net additions to equity during the year after considering the additions to equity attributable to funding of capitalization and reductions in equity pertaining to retirement of GFA (considered at 30% of retirement of GFA as per the approach adopted by the Hon'ble Commission in its Order in Case No. 2025 of 2021 dated 30<sup>th</sup> March, 2022) vis-à-vis the RoE approved by the Hon'ble Commission resulted in uncontrollable gain/ (loss) of Rs. (10.14) Crore to GSECL as mentioned in the table below.

**Table 35 : Gain/ (losses) from Return on Equity for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Return on Equity (approved)	Return on Equity (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	25.36	23.99		1.37
2	Gandhinagar (3-4)	24.43	24.99		(0.56)
3	Gandhinagar 5*	28.67	28.67		
4	Wanakbori 1-6 TPS	96.73	92.85		3.88
5	Wanakbori 7 TPS*	26.25	26.16		
6	Sikka Extn. (3-4)*	137.03	130.33		
7	KLTPS 3	37.23	54.59		(17.36)
8	KLTPS 4	29.77	29.65		0.12
9	BLTPS*	153.74	151.84		
10	Dhuvaran CCPP 1*	10.46	10.54		
11	Dhuvaran CCPP 2	16.62	14.54		2.08
12	Dhuvaran CCPP 3*	67.01	67.06		
13	Utran Extension*	57.51	57.59		
14	Ukai 6*	125.88	125.74		
15	Wanakbori 8 TPS*	179.30	181.92		
16	Ukai Hydro	10.81	10.64		0.17
17	Kadana Hydro	29.04	28.88		0.16
<b>Total</b>		<b>1,055.85</b>	<b>1,059.98</b>	-	<b>(10.14)</b>

\* PPA governed stations

4.10.2. The above variation is treated on account of uncontrollable factors in line with the provisions of the GERC MYT Regulations, 2016 and accordingly the treatment for sharing of gains/ (losses) has been proposed.

#### 4.11. GAIN/ LOSSES FROM O&M EXPENSES

4.11.1. The Operation and Maintenance expenses have been classified as “controllable” in the true up for previous years. In the present Petition, GSECL has categorized Employee expenses, R&M expenses, and A & G expenses as controllable as well as uncontrollable. Wage revision arrears paid on account of 7<sup>th</sup> pay have been considered as uncontrollable expenses in line with the approach adopted by the Hon’ble Commission for approval of expenses for GSECL and other utilities as well. Further, GSECL has also incurred certain expenditure relating to payments made towards COVID-19 related expenses during the FY 2021-22. The Covid-19 pandemic was an unforeseen event and hence, the associated expenses were also not incurred in the past and neither they were part of the expenses approved by the Hon’ble Commission for FY 2021-22. Hence, these expenses have also been considered as uncontrollable expenses.

**Table 36 : Gain/ (losses) from O&M expenses for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	O&M expenses (approved)	O&M expenses (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	248.40	245.98	34.82	(32.40)
2	Gandhinagar (3-4)	143.87	150.97	15.24	(22.34)
3	Gandhinagar 5*	58.32	75.40		
4	Wanakbori 1-6 TPS	266.28	259.50	42.81	(36.03)
5	Wanakbori 7 TPS*	20.17	17.24		
6	Sikka Extn. (3-4)*	138.79	167.16		
7	KLTPS 3	48.90	96.24	(40.71)	(6.63)
8	KLTPS 4	19.84	26.60	(5.59)	(1.17)
9	BLTPS*	178.24	101.02		
10	Dhuvaran CCPP 1*	48.82	48.71		
11	Dhuvaran CCPP 2	49.51	39.58	15.08	(5.15)
12	Dhuvaran CCPP 3*	4.92	10.70		
13	Utran Extension*	51.94	122.85		
14	Ukai 6*	54.43	50.92		
15	Wanakbori 8 TPS*	162.32	55.23		
16	Ukai Hydro	14.61	17.36	(0.53)	(2.22)
17	Kadana Hydro	29.65	25.42	8.13	(3.90)
	<b>Total</b>	<b>1539.02</b>	<b>1510.87</b>	<b>69.24</b>	<b>(109.83)</b>

\* PPA governed stations

#### 4.12. GAIN/ LOSSES FROM INTEREST ON WORKING CAPITAL

- 4.12.1. The Hon'ble Commission has considered the gains/losses arising from Interest on Working Capital as Uncontrollable in the previous year true ups.
- 4.12.2. The interest rate has been considered at the rate of 9.50% as per SBI MCLR applicable during the year + 250 basis points for FY 2021-22 in line with the regulations.
- 4.12.3. The Working Capital has been computed as per provisions of GERC MYT Regulations, 2016. Proposed sharing of gains/losses from IWC are as follows:

**Table 37 : Gain/ (losses) from Interest on working capital for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Interest on Working Capital (approved)	Interest on Working Capital (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	37.04	37.41		(0.37)
2	Gandhinagar (3-4)	29.08	26.85		2.23
3	Gandhinagar 5*	13.94	12.84		
4	Wanakbori 1-6 TPS	80.66	80.30		0.36
5	Wanakbori 7 TPS*	12.73	12.73		
6	Sikka Extn. (3-4)*	35.25	35.25		
7	KLTPS 3	4.93	5.85		(0.92)
8	KLTPS 4	4.16	4.64		(0.48)
9	BLTPS*	29.98	28.20		
10	Dhuvaran CCPP 1*	5.38	11.92		
11	Dhuvaran CCPP 2	6.13	9.78		(3.65)
12	Dhuvaran CCPP 3*	20.06	32.88		
13	Utran Extension*	20.44	36.69		
14	Ukai 6*	31.27	30.81		
15	Wanakbori 8 TPS*	52.93	50.37		
16	Ukai Hydro	0.59	0.56		0.03
17	Kadana Hydro	1.17	1.04		0.13
	<b>Total</b>	<b>385.74</b>	<b>418.13</b>	<b>-</b>	<b>(2.67)</b>





**4.13. GAIN/ LOSSES FROM SLDC CHARGES**

4.13.1. The Hon’ble Commission has considered the gains/losses arising from SLDC Charges as Uncontrollable in its previous year true ups. Proposed sharing of gains/losses from SLDC Charges are as follows:

**Table 38 : Gain/ (losses) from SLDC charges for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	SLDC (approved)	SLDC (Actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	0.38	0.30		0.08
2	Gandhinagar (3-4)	0.26	0.20		0.06
3	Gandhinagar 5*	0.13	0.10		
4	Wanakbori 1-6 TPS	0.78	0.61		0.17
5	Wanakbori 7 TPS*	0.13	0.10		
6	Sikka Extn. (3-4)*	0.31	0.24		
7	KLTPS 3	0.05	0.04		0.01
8	KLTPS 4	0.05	0.04		0.01
9	BLTPS*	0.32	0.24		
10	Dhuvaran CCPP 1*	0.07	0.05		
11	Dhuvaran CCPP 2	0.07	0.05		0.02
12	Dhuvaran CCPP 3*	0.23	0.18		
13	Utran Extension*	0.23	0.18		
14	Ukai 6*	0.31	0.24		
15	Wanakbori 8 TPS*	0.03	0.39		
16	Ukai Hydro	0.19	0.15		0.04
17	Kadana Hydro	0.15	0.12		0.03
	<b>Total</b>	<b>3.69</b>	<b>3.24</b>	<b>-</b>	<b>0.43</b>

\* PPA governed stations

**4.14. GAIN/ LOSS FROM WATER CHARGES**

4.14.1. The Hon’ble Commission has considered the gains/losses arising from Water Charges as Uncontrollable in its previous year’s true ups. Proposed sharing of gains/losses from Water Charges are as follows:

**Table 39 : Gain/ (losses) from Water charges for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Water Charges (approved)	Water Charges (actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	-	-		-
2	Gandhinagar (3-4)	42.10	68.96		(26.86)
3	Gandhinagar 5*	21.05	34.48		
4	Wanakbori 1-6 TPS	38.46	73.76		(35.30)
5	Wanakbori 7 TPS*	10.17	15.23		
6	Sikka Extn. (3-4)*	5.11	4.86		
7	KLTPS 3	0.09	0.25		(0.16)
8	KLTPS 4	0.15	-		0.15
9	BLTPS*	6.32	17.48		
10	Dhuvaran CCPP 1*	0.19	0.89		
11	Dhuvaran CCPP 2	0.20	0.89		(0.69)
12	Dhuvaran CCPP 3*	0.66	-		
13	Utran Extension*	2.40	2.32		
14	Ukai 6*	-	-		
15	Wanakbori 8 TPS*	5.95	45.51		
16	Ukai Hydro	-	-		-
17	Kadana Hydro	-	-		-
	<b>Total</b>	<b>132.84</b>	<b>264.62</b>	<b>-</b>	<b>(62.86)</b>

\* PPA governed stations

#### 4.15. GAIN/ LOSS FROM TAXES

4.15.1. The Hon'ble Commission has considered the gains/losses arising from Taxes as Uncontrollable in its previous year true ups. Proposed sharing of gains/losses from Taxes are as follows:

**Table 40 : Gain/ (losses) from Taxes for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Income Tax (approved)	Income Tax (actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	3.42	3.99		(0.57)
2	Gandhinagar (3-4)	2.35	3.27		(0.92)
3	Gandhinagar 5*	1.18	2.75		
4	Wanakbori 1-6 TPS	7.06	1.37		5.69
5	Wanakbori 7 TPS*	1.18	8.24		
6	Sikka Extn. (3-4)*	2.80	1.37		
7	KLTPS 3	0.42	5.23		(4.81)
8	KLTPS 4	0.42	3.27		(2.85)
9	BLTPS*	-	0.49		
10	Dhuvaran CCPP 1*	0.60	0.49		
11	Dhuvaran CCPP 2	0.63	3.27		(2.64)
12	Dhuvaran CCPP 3*	2.11	0.70		
13	Utran Extension*	2.10	0.74		
14	Ukai 6*	2.80	2.46		
15	Wanakbori 8 TPS*	-	2.45		
16	Ukai Hydro	1.71	1.99		(0.28)
17	Kadana Hydro	1.36	1.58		(0.22)
	<b>Total</b>	<b>30.13</b>	<b>43.65</b>	<b>-</b>	<b>(6.60)</b>

\* PPA governed stations

#### 4.16. GAIN/ LOSS FROM NON-TARIFF INCOME

4.16.1. The Hon'ble Commission has considered the gains/losses arising from Non-Tariff Income as Uncontrollable in its previous year true ups. Proposed sharing of gains/losses from non-tariff income is as mentioned below.

**Table 41 : Gain/ (losses) from non-tariff income for FY 2021-22 (Rs. Crore)**

Sl. No.	Power Station	Non tariff Income (approved)	Non tariff Income (actual)	Gain/(Losses) due to controllable factors	Gain/(Losses) due to Uncontrollable factors
1	Ukai (3-5)	33.46	15.46		(18.00)
2	Gandhinagar (3-4)	10.18	31.55		21.37
3	Gandhinagar 5*	9.96	0.07		
4	Wanakbori 1-6 TPS	43.02	24.62		(18.40)
5	Wanakbori 7 TPS*	14.44	0.07		
6	Sikka Extn. (3-4)*	5.17	3.81		
7	KLTPS 3	2.48	4.46		1.98
8	KLTPS 4	4.51	0.10		(4.41)
9	BLTPS*	14.84	2.83		
10	Dhuvaran CCPP 1*	0.73	16.99		
11	Dhuvaran CCPP 2	0.73	3.65		2.92
12	Dhuvaran CCPP 3*	0.95	1.09		
13	Utran Extension*	0.47	3.22		
14	Ukai 6*	15.43	0.18		
15	Wanakbori 8 TPS*	0.40	0.29		
16	Ukai Hydro	0.15	0.11		(0.04)
17	Kadana Hydro	0.39	0.68		0.29
	<b>Total</b>	<b>157.32</b>	<b>109.17</b>	<b>-</b>	<b>(14.31)</b>

\* PPA governed stations



**4.17. SHARING OF GAINS/ (LOSSES)**

4.17.1. GERC MYT Regulations, 2016, specifies the mechanism for treatment of Gains and Losses on account of Uncontrollable and Controllable expenses. The methodology approved by the Hon'ble Commission for sharing of such gains/ losses is as follows.

*"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 the figures approved by the Commission, in the prescribed format to the Commission, along with the detailed computations and supporting documents as may be required for verification by the Commission."*

*"23.3 Nothing contained in this Regulation 23 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."*

*"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 stipulated 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. "*

*"25.2 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 stipulated in the Order of the Commission under Regulation 21.6; and*

*(b) The balance amount of loss, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company or Transmission Licensee or Distribution Licensee. "*



4.17.2. Based on the above methodology, the Petitioner has determined plant wise Gains/ losses incurred by the GSECL due to variation in the value of the actual cost parameters in comparison with those approved by the Hon'ble Commission. The table below summarizes plant wise total gains / (losses) incurred by GSECL on account of various controllable and uncontrollable expenses.

4.17.3. **Controllable Gain/ (Losses) on account of Efficiency Parameters:** Due to the difference between the actual efficiency parameters and the approved efficiency parameters, GSECL has achieved gain/ (losses) of Rs. (56.71) Crores. Based on the mechanism specified as per GERC MYT Regulations, 2016, gains/ losses of Rs. (18.90) Crores shall be passed to the consumers.

**Table 42 : Plant wise Controllable Gains/ Losses of GSECL for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	O&M expense	Fuel cost	Total gains/(losses) due to controllable factors	Total gains/(losses) to be passed through (1/3rd of gains/(losses))
1	Ukai (3-5)	34.82	(72.23)	(37.41)	(12.47)
2	Gandhinagar (3-4)	15.24	15.83	31.07	10.36
3	Gandhinagar 5*	-	-	-	-
4	Wanakbori 1-6 TPS	42.81	(42.26)	0.55	0.18
5	Wanakbori 7 TPS*	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-
7	KLTPS 3	(40.71)	(12.20)	(52.91)	(17.64)
8	KLTPS 4	(5.59)	(6.25)	(11.84)	(3.95)
9	BLTPS*	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-
11	Dhuvaran CCPP 2	15.08	(8.84)	6.24	2.08
12	Dhuvaran CCPP 3*	-	-	-	-
13	Utran Extension*	-	-	-	-
14	Ukai 6*	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-
16	Ukai Hydro	(0.53)	-	(0.53)	(0.18)
17	Kadana Hydro	8.13	-	8.13	2.71
	<b>Total</b>	<b>69.24</b>	<b>(125.95)</b>	<b>(56.71)</b>	<b>(18.90)</b>

\* PPA governed stations

4.17.4. **Uncontrollable Gain/ (Losses):** GSECL has achieved gain/ (losses) of Rs. (192.27) Crores.



**Table 43 : Plant wise Uncontrollable Gains/ Losses of GSECL for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	O&M expense	Depreciation	Interest & Finance charges	Return on Equity	Water Charges	SLDC charges	MAT	Interest on working capital	Non tariff income	Total gain/(losses) to be passed through
1	Ukai (3-5)	(32.40)	(2.54)	-	1.37	-	0.08	(0.57)	(0.37)	(18.00)	(52.42)
2	Gandhinagar (3-4)	(22.34)	(3.33)	-	(0.56)	(26.86)	0.06	(0.92)	2.23	21.37	(30.34)
3	Gandhinagar 5*	-	-	-	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	(36.03)	(5.81)	4.06	3.88	(35.30)	0.17	5.69	0.36	(18.40)	(81.38)
5	Wanakbori 7 TPS*	-	-	-	-	-	-	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-	-	-	-	-	-	-
7	KLTPS 3	(6.63)	(1.38)	-	(17.36)	(0.16)	0.01	(4.81)	(0.92)	1.98	(29.28)
8	KLTPS 4	(1.17)	18.61	(0.54)	0.12	0.15	0.01	(2.85)	(0.48)	(4.41)	9.44
9	BLTPS*	-	-	-	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	(5.15)	1.44	2.71	2.08	(0.69)	0.02	(2.64)	(3.65)	2.92	(2.95)
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-	-	-	-	-	-	-
16	Ukai Hydro	(2.22)	0.05	0.44	0.17	-	0.04	(0.28)	0.03	(0.04)	(1.82)
17	Kadana Hydro	(3.90)	0.00	-	0.16	-	0.03	(0.22)	0.13	0.29	(3.52)
	<b>Total</b>	<b>(109.83)</b>	<b>7.04</b>	<b>6.67</b>	<b>(10.14)</b>	<b>(62.86)</b>	<b>0.43</b>	<b>(6.60)</b>	<b>(2.67)</b>	<b>(14.31)</b>	<b>(192.27)</b>

\* PPA governed stations



**4.18. NET ENTITLEMENT FOR FY 2021-22**

4.18.1. GSECL proposes to pass on total entitlement to the fixed cost of the next Financial Year. GSECL request the Hon'ble Commission to allow plant wise gap to be passed on to the fixed charges in the FY 2023-24 for recovery.

**Table 44 : Net entitlement/ (gap) for FY 2021-22 (Rs. Crore)**

Sr.No.	Power Station	Gains/(losses) due to controllable factors	Gains/(losses) due to uncontrollable factors	Total gains/(losses) to be passed through
a	b	c	d	e= c/3 + d
1	Ukai (3-5)	(37.41)	(52.42)	(64.89)
2	Gandhinagar (3-4)	31.07	(30.34)	(19.98)
3	Gandhinagar 5*	-	-	-
4	Wanakbori 1-6 TPS	0.55	(81.38)	(81.20)
5	Wanakbori 7 TPS*	-	-	-
6	Sikka Extn. (3-4)*	-	-	-
7	KLTPS 3	(52.91)	(29.28)	(46.91)
8	KLTPS 4	(11.84)	9.44	5.49
9	BLTPS*	-	-	-
10	Dhuvaran CCPP 1*	-	-	-
11	Dhuvaran CCPP 2	6.24	(2.95)	(0.87)
12	Dhuvaran CCPP 3*	-	-	-
13	Utran Extension*	-	-	-
14	Ukai 6*	-	-	-
15	Wanakbori 8 TPS*	-	-	-
16	Ukai Hydro	(0.53)	(1.82)	(2.00)
17	Kadana Hydro	8.13	(3.52)	(0.81)
	<b>Total</b>	<b>(56.71)</b>	<b>(192.27)</b>	<b>(211.17)</b>

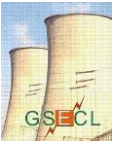
\* PPA governed stations

4.18.2. 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 45: Total Consolidated (Fixed and Fuel Cost) Gains / (Losses) for FY 2021-22**

Sr.No.	Power Station	Gains/(losses) due to controllable factors (Fixed Charges)	Gains/(losses) due to uncontrollable factors (Fixed Charges)	Total gains/(losses) to be passed through (Fixed Charges)	Total gains/(losses) to be passed through at actual PAF (Fixed Charges)	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)	34.82	(52.42)	(40.81)	(36.14)	(72.23)	(24.08)	(60.22)
2	Gandhinagar (3-4)	15.24	(30.34)	(25.26)	(25.26)	15.83	5.28	(19.98)
3	Gandhinagar 5*	-	-	-	-	-	-	-
4	Wanakbori 1-6 TPS	42.81	(81.38)	(67.11)	(55.91)	(42.26)	(14.09)	(69.99)
5	Wanakbori 7 TPS*	-	-	-	-	-	-	-
6	Sikka Extn. (3-4)*	-	-	-	-	-	-	-
7	KLTPS 3	(40.71)	(29.28)	(42.85)	(39.82)	(12.20)	(4.07)	(43.89)
8	KLTPS 4	(5.59)	9.44	7.57	0.62	(6.25)	(2.08)	(1.46)
9	BLTPS*	-	-	-	-	-	-	-
10	Dhuvaran CCPP 1*	-	-	-	-	-	-	-
11	Dhuvaran CCPP 2	15.08	(2.95)	2.08	1.88	(8.84)	(2.95)	(1.06)
12	Dhuvaran CCPP 3*	-	-	-	-	-	-	-
13	Utran Extension*	-	-	-	-	-	-	-
14	Ukai 6*	-	-	-	-	-	-	-
15	Wanakbori 8 TPS*	-	-	-	-	-	-	-
16	Ukai Hydro	(0.53)	(1.82)	(2.00)	(2.00)	-	-	(2.00)
17	Kadana Hydro	8.13	(3.52)	(0.81)	(0.81)	-	-	(0.81)
	<b>Total</b>	<b>69.24</b>	<b>(192.27)</b>	<b>(169.19)</b>	<b>(157.43)</b>	<b>(125.95)</b>	<b>(41.98)</b>	<b>(199.41)</b>

\* PPA governed stations



- 4.18.3. The Hon'ble Commission is requested to approve the net gain/loss of Rs. (199.41) Crore to be recovered from four DISCOMs through GUVNL in twelve (12) equal monthly instalments during FY 2023-24.

## SECTION 5. CAPITAL EXPENDITURE FOR FY 2023-24

### 5.1. PREAMBLE

5.1.1. This section deals with projected capital expenditure for FY 2023-24.

### 5.2. CAPITAL EXPENDITURE FOR EXISTING PROJECTS

5.2.1. The capital expenditure proposed to be carried out on existing plants of GSECL during FY 2023-24 has been tabulated below. This expenditure includes major and minor R&M works proposed to be undertaken by GSECL during the year.

**Table 46 : Capital expenditure of GSECL (Rs. Crore)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	200.00
2	Gandhinagar (3-4)	25.83
3	Gandhinagar 5*	3.00
4	Wanakbori 1-6 TPS	172.00
5	Wanakbori 7 TPS*	3.00
6	Sikka Extn. (3-4)*	26.46
7	KLTPS 3	20.00
8	KLTPS 4	20.00
9	BLTPS*	56.48
10	Dhuvaran CCPP 1*	2.00
11	Dhuvaran CCPP 2	1.00
12	Dhuvaran CCPP 3*	2.00
13	Utran Extension*	4.00
14	Ukai 6*	200.00
15	Wanakbori 8 TPS*	328.00
16	Ukai Hydro	-
17	Kadana Hydro	100.00

\* PPA governed stations

5.2.2. The abovementioned capital expenditure includes expenditure towards various R&M activities like FGD installation, ESP retrofitting, Boiler Back-pass, turbine retrofitting. It also includes the capital expenditure that is likely to be incurred at different power stations towards certain capital civil works and procurement of capital spares. As can be seen from the above, GSECL has proposed a capital expenditure of Rs. 1,163.78 Crores in FY 2023-24 on existing projects. Hon'ble Commission is kindly requested to approve the same.

5.2.3. Proposed capital expenditure for R&M activities:

- **Various works to be undertaken at Ukai Units-3 &5:**

The works proposed to be undertaken include turbine retrofitting, boiler back pass & 40% load flexible Unit Operation, C&I upgradation and FGD Installation. The proposed capex is being undertaken for improving the efficiency of the units, improving the capability for flexible operations of the units even at low loading conditions of 40% and to meet the environmental requirements. The EPC Tender for efficiency improvement through Turbine Retrofitting of Unit No. 3 & 5 is under process and price bid is also opened. Similarly, the EPC Tender for Boiler Back-pass and 40% load flexible Unit Operation of Unit No. 3 & 5 has also





been issued. The EPC Tender for C&I upgradation Unit No. 3&5 is under finalization stage while the tender for FGD installation is under preparation.

- **ESP Retrofitting of units 4, 5 & 6 of Wanakbori TPS and Unit-3 &4 of KLTPS:**  
To meet the revised MoEF norms for PM, the Upgradation / retrofitting of existing ESPs is required for providing 01 additional field increase in volume of ESP. Accordingly the ESP retrofitting of Wanakbori TPS Unit no 4 & 5 and 75 MW Units of KLTPS. Contract already awarded for Wanakbori Unit No.4 &5 and the work is in progress. The work for Wanakbori Unit-6 is already completed. The work will be started in Wanakbori Unit No.4&5 during upcoming shutdown. EPC Tender for KLTPS units 3 & 4 ESP retrofitting work is under finalization.
- **Turbine Retrofitting of WTPS Unit-1 & 2:**  
In case of older units no. 1&2 of Wanakbori TPS, the operating unit heat rate of these units remain around 2600 kcal/kWh. This can be improved by retrofitting of old LMZ turbines. The Tender for awarding of EPC contract for turbine retrofitting is under preparation for efficiency improvement of Unit No. 1 & 2 of WTPS.
- **Installation of FGD System in Wanakbori-Unit-8, Ukai-6, Sikka- 3 & 4, Gandhinagar Units 3, 4 & 5, Wanakbori-Units- 1-6 &7, and KLTPS units 3 & 4:**  
The FGD system is required to be installed to meet revised environmental norms for SO<sub>x</sub>. Moreover, reduction in flue gas temperature improves the ESP performance and reduces stack emission as well. For installation of FGD system in Wanakbori-Unit-8, the tender has been re-invited. For FGD system of Ukai unit-6 & Sikka Units-3 &4 the tenders have been already processed and are in finalization stage. Moreover, for Gandhinagar Units 3, 4 & 5 and Wanakbori-Units- 1-6 &7 the tenders preparation work is under finalization stage. Tenders for Installation of FGD system in KLTPS-3 & 4 are also being finalized and shall be floated in nearby future.
- **Boiler back- pass and 40% load flexible Unit Operation Wanakbori units 1-2:**  
This capital expenditure is planned to improve the operational flexibility of the plants at low loading conditions (40% loading). EPC tender for Wanakbori units 1-2 is under preparation
- **SCR work in Wanakbori-8:**  
Consultancy work is under finalization and EPC likely to be finalized in FY 2022-23.
- **R&M of old units (Pump Mode Operation) of Kadana Hydro:**  
The process of approval for Pump Mode Operation of Kadana Hydro units is already initiated. The estimated expenditure shall be around Rs. 750.00 crores for all units of Kadana Hydro Project. On receipt of the approval, the tender for awarding of EPC contract shall be finalized. However, the capital expenditure of Rs. 100 crores has been proposed to be incurred during FY 2023-24.



In addition to above R&M activities, certain capital expenditure is proposed towards, civil works and procurement of capital spares for different power stations.

- 5.2.4. GSECL requests the Hon'ble Commission to approve the above capital expenditure to be incurred in FY 2023-24.
- 5.2.5. GSECL has proposed capitalization of Rs. 317.72 crores during F.Y. 2023-24. This projection is based on the actual capitalization during FY 2021-22 for all stations except Wanakbori TPS- 4, 5 & 6, Wanakbori-8, Ukai Unit-6 & BLTPS. Capitalisation of Rs. 112.5 crores which was expected to be completed in FY 2022-23 for Wanakbori TPS 4, 5 & 6 has been postponed to FY 2023-24 due to delay in getting permission for shutdown. However, the work of ESP Retrofitting of Unit-6 has already been completed but the work of Unit - 4 & 5 is still pending which is likely to be completed during FY 2023-24. Hence, same is proposed under capitalization. Moreover, in case of Wanakbori unit-8, Ukai TPS-Unit-6 and BLTPS Units-1 &2, some more spares related to coal/lignite plant and coal/lignite mills shall be required to be procured. Accordingly the capitalization in case of these units is projected more as compared to the actual capitalization during FY 2021-22. For all other stations the projected capitalization is same as actual of FY 2021-22. Hon'ble commission is kindly requested to approve the proposed capitalization considering the submission of petitioner. The capitalization will be funded through debt-equity ratio of 70:30 in accordance with GERC MYT Regulations, 2016.

**Table 47 : Capitalization and Funding details (Rs. Crore)**

Sr. No.	Station	Particulars	FY 2023-24
			Projections
1	Ukai (3-5)	Debt	16.21
		Equity	6.95
		<b>Total</b>	<b>23.16</b>
2	Gandhinagar (3-4)	Debt	11.16
		Equity	4.78
		<b>Total</b>	<b>15.95</b>
3	Gandhinagar 5*	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
4	Wanakbori 1-6 TPS	Debt	99.34
		Equity	42.58
		<b>Total</b>	<b>141.92</b>
5	Wanakbori 7 TPS*	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
6	Sikka Extn. (3-4)*	Debt	14.46
		Equity	6.20
		<b>Total</b>	<b>20.66</b>
7	KLTPS 3	Debt	6.81
		Equity	2.92
		<b>Total</b>	<b>9.73</b>
8	KLTPS 4	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
9	BLTPS*	Debt	21.00
		Equity	9.00
		<b>Total</b>	<b>30.00</b>
10	Dhuvaran CCPP 1*	Debt	0.95
		Equity	0.41
		<b>Total</b>	<b>1.35</b>
11	Dhuvaran CCPP 2	Debt	0.29
		Equity	0.13
		<b>Total</b>	<b>0.42</b>
12	Dhuvaran CCPP 3*	Debt	0.83
		Equity	0.35
		<b>Total</b>	<b>1.18</b>
13	Utran Extension*	Debt	2.00
		Equity	0.86
		<b>Total</b>	<b>2.86</b>
14	Ukai 6*	Debt	14.00
		Equity	6.00
		<b>Total</b>	<b>20.00</b>
15	Wanakbori 8 TPS*	Debt	35.00
		Equity	15.00
		<b>Total</b>	<b>50.00</b>
16	Ukai Hydro	Debt	-
		Equity	-
		<b>Total</b>	<b>-</b>
17	Kadana Hydro	Debt	0.35
		Equity	0.15
		<b>Total</b>	<b>0.49</b>
	<b>Total</b>	Debt	<b>222.40</b>
		Equity	<b>95.31</b>
		<b>Total</b>	<b>317.72</b>

\* PPA governed stations

5.2.6. GSECL requests the Hon'ble Commission to approve the above capitalization along with the funding pattern for the FY 2023-24.



## SECTION 6. DETERMINATION OF ARR FOR FY 2023-24

### 6.1. PREAMBLE

6.1.1. This section outlines details of fixed and variable cost components proposed by the GSECL for the period of FY 2023-24.

### 6.2. VARIABLE COST FOR PROPOSED OPERATIONAL PARAMETERS

6.2.1. The proposed variable cost for GSECL plants for the period of FY 2023-24 are based on the projected operational parameters, GCV and cost of different fuels for the given period as discussed in previous sections of this petition.

**Table 48 : Station wise variable cost for FY 2023-24**

Sl. No:	Power Station	FY 2023-24	
		Net Generation (MU)	Fuel cost (Rs Crore)
1	Ukai (3-5)	2661.75	1051.62
2	Gandhinagar (3-4)	1842.75	776.38
3	Gandhinagar 5*	1086.00	425.82
4	Wanakbori 1-6 TPS	5391.75	2291.19
5	Wanakbori 7 TPS*	1040.75	427.14
6	Sikka Extn. (3-4)*	1478.75	1373.14
7	KLTPS 3	440.00	158.24
8	KLTPS 4	352.00	109.81
9	BLTPS*	1891.25	605.03
10	Dhuvaran CCPP 1*	46.08	38.30
11	Dhuvaran CCPP 2	48.50	29.80
12	Dhuvaran CCPP 3*	160.05	107.22
13	Utran Extension*	155.20	119.18
14	Ukai 6*	3172.50	1106.86
15	Wanakbori 8 TPS*	5021.75	1778.81
16	Ukai Hydro	571.55	0.00
17	Kadana Hydro	222.75	0.00

\* PPA governed stations

### 6.3. ENERGY CHARGES

6.3.1. GSECL has determined Station wise per unit charges for the period FY 2023-24 as mentioned below table:

**Table 49 : Station wise Energy charges for FY 2023-24**

Sl. No:	Power Station	FY 2023-24
		Rs./kWh
1	Ukai (3-5)	3.95
2	Gandhinagar (3-4)	4.21
3	Gandhinagar 5*	3.92
4	Wanakbori 1-6 TPS	4.25
5	Wanakbori 7 TPS*	4.10
6	Sikka Extn. (3-4)*	9.29
7	KLTPS 3	3.60
8	KLTPS 4	3.12
9	BLTPS*	3.20
10	Dhuvaran CCPP 1*	8.31
11	Dhuvaran CCPP 2	6.14
12	Dhuvaran CCPP 3*	6.70
13	Utran Extension*	7.68
14	Ukai 6*	3.49
15	Wanakbori 8 TPS*	3.54
16	Ukai Hydro	0.00
17	Kadana Hydro	0.00

\* PPA governed stations

#### **6.4. DETAILS OF FIXED COST FOR THE PERIOD FY 2023-24**

6.4.1. This section deals with the approach adopted by GSECL for projecting the fixed cost for the GSECL Power plants for the period FY 2023-24. The Annual Revenue Requirement for the period FY 2023-24 is projected based on GERC MYT Regulations, 2016. The methodology for projections has been discussed in detail in subsequent paragraphs.

6.4.2. Total fixed cost for the period FY 2023-24 has been bifurcated into following elements:

1. Depreciation
2. Interest and Financing Charges
3. Return on Equity
4. O & M Expenses
5. Interest on Working Capital
6. Tax on Income
7. SLDC Charges
8. Water charges
9. Non-Tariff income

#### **6.5. DEPRECIATION FOR THE FY 2023-24**

6.5.1. The opening Gross Fixed Assets for FY 2023-24 has been arrived based on the closing gross block of FY 2021-22. The addition during the FY 2022-23 is considered same as approved by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2022. Accordingly, the closing balance of GFA for FY 2022-23 thus worked out is considered as opening balance of GFA for FY 2023-24. The capital addition to the fixed asset during the period FY 2023-24 has been considered based on the works



which are likely to be capitalized during the year as mentioned in Capital Expenditure section.

6.5.2. GSECL has considered depreciation rates equivalent to the actual rate of depreciation in FY 2021-22 or 5.28% whichever is lower.

6.5.3. For Generating Stations under the transfer scheme, the depreciation has been calculated as per the GERC MYT Regulations, 2016. The relevant clause has been reproduced as under:

*“Provided further that for a Generating Company or a Transmission Licensee or SLDC or a Distribution Licensee formed as a result of a Transfer Scheme, the depreciation on assets transferred under the Transfer Scheme shall be charged as per rates specified in these Regulations for a period of 12 years from the date of the Transfer Scheme, and thereafter depreciation will be spread over the balance useful life of the asset”*

6.5.4. Table below indicates plant wise depreciation rates considered by GSECL.

**Table 50 : Depreciation rates for FY 2023-24**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	3.52%
2	Gandhinagar (3-4)	2.93%
3	Gandhinagar 5*	0.33%
4	Wanakbori 1-6 TPS	4.17%
5	Wanakbori 7 TPS*	0.34%
6	Sikka Extn. (3-4)*	5.28%
7	KLTPS 3	3.23%
8	KLTPS 4	2.53%
9	BLTPS*	5.28%
10	Dhuvaran CCPP 1*	2.45%
11	Dhuvaran CCPP 2	3.04%
12	Dhuvaran CCPP 3*	4.94%
13	Utran Extension*	2.77%
14	Ukai 6*	5.21%
15	Wanakbori 8 TPS*	5.10%
16	Ukai Hydro	1.28%
17	Kadana Hydro	1.65%

\* PPA governed stations

6.5.5. The table below indicates the GSECL’s plant wise depreciation for FY 2023-24 projected on the basis of revised estimates of FY 2023-24, proposed capitalization and above-mentioned depreciation rates.

**Table 51 : Depreciation for FY 2023-24**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	49.41
2	Gandhinagar (3-4)	38.19
3	Gandhinagar 5*	2.16
4	Wanakbori 1-6 TPS	110.08
5	Wanakbori 7 TPS*	2.15
6	Sikka Extn. (3-4)*	166.95
7	KLTPS 3	31.48
8	KLTPS 4	17.89
9	BLTPS*	191.34
10	Dhuvaran CCPP 1*	10.11
11	Dhuvaran CCPP 2	13.12
12	Dhuvaran CCPP 3*	78.92
13	Utran Extension*	37.86
14	Ukai 6*	157.41
15	Wanakbori 8 TPS*	225.52
16	Ukai Hydro	2.31
17	Kadana Hydro	5.53

\* PPA governed stations

6.5.6. GSECL requests the Hon'ble Commission to approve depreciation mentioned in above table for the FY 2023-24 for various stations of GSECL.

**6.6. INTEREST & FINANCE CHARGES FOR THE FY 2023-24**

6.6.1. The closing balance of loan portfolio for FY 2021-22 as calculated in this Petition is taken as opening balance of FY 2022-23. Addition and repayment during FY 2022-23 are considered same as approved by the Hon'ble Commission in its Tariff Order dated 30<sup>th</sup> March, 2022 to work out closing balance of FY 2022-23. Closing balance of FY 2022-23 thus work out has been considered as opening balance of normative loan for FY 2023-24.

6.6.2. The funding for new capital expenditure in the FY 2023-24 has been assumed to be undertaken at a normative debt: equity ratio of 70:30 in accordance with the GERC MYT Regulations, 2016 and accordingly the new loan additions during the year has been estimated.

6.6.3. Weighted average rate of interest has been considered for the computation of Interest on Loans. The interest rate of 8.18% is assumed on the basis of rate of interest considered for the truing up of FY 2021-22.

6.6.4. Based on the above interest rate, the interest & finance charges for FY 2023-24 are computed & shown below:



Table 52 : Interest &amp; finance charges for FY 2023-24 (Rs in Crores)

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	0.05
2	Gandhinagar (3-4)	-
3	Gandhinagar 5*	-
4	Wanakbori 1-6 TPS	9.36
5	Wanakbori 7 TPS*	-
6	Sikka Extn. (3-4)*	82.55
7	KLTPS 3	-
8	KLTPS 4	1.17
9	BLTPS*	84.64
10	Dhuvaran CCPP 1*	0.04
11	Dhuvaran CCPP 2	0.15
12	Dhuvaran CCPP 3*	39.10
13	Utran Extension*	14.05
14	Ukai 6*	48.31
15	Wanakbori 8 TPS*	182.64
16	Ukai Hydro	1.32
17	Kadana Hydro	-

\* PPA governed stations

6.6.5. GSECL requests the Hon'ble Commission to approve the Interest and Finance charges for the FY 2023-24 as proposed in the above table.

#### 6.7. RETURN ON EQUITY FOR THE FY 2023-24

6.7.1. The Return on Equity for FY 2023-24 has been computed on normative basis i.e., at 14% for all transferred stations (non-PPA based stations), in line with the GERC MYT Regulations, 2016. For projecting return on equity for FY 2023-24, GSECL has considered the closing balance of equity for FY 2021-22 as calculated in this Petition is taken as opening balance of FY 2022-23. Addition during FY 2022-23 is considered same as approved by the Hon'ble Commission in its Tariff Order dated 30<sup>th</sup> March, 2022 to work out closing balance of FY 2022-23. Closing balance of FY 2022-23 thus work out has been considered as opening balance of equity for FY 2023-24.

6.7.2. The addition to the equity expected during the year based on the normative equity contribution towards the projected capitalization in FY 2023-24.

6.7.3. Accordingly, the normative return on equity for FY 2023-24 is as shown below:



**Table 53 : Return on Equity for FY 2023-24 (Rs. in Crores)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	25.91
2	Gandhinagar (3-4)	26.45
3	Gandhinagar 5*	28.67
4	Wanakbori 1-6 TPS	100.29
5	Wanakbori 7 TPS*	26.16
6	Sikka Extn. (3-4)*	132.81
7	KLTPS 3	55.47
8	KLTPS 4	29.65
9	BLTPS*	152.20
10	Dhuvaran CCPP 1*	10.65
11	Dhuvaran CCPP 2	14.57
12	Dhuvaran CCPP 3*	67.13
13	Utran Extension*	57.73
14	Ukai 6*	126.98
15	Wanakbori 8 TPS*	185.59
16	Ukai Hydro	10.64
17	Kadana Hydro	28.91

\* PPA governed stations

6.7.4. GSECL requests the Hon'ble Commission to approve return on equity mentioned in above table for the FY 2023-24 for various stations of GSECL.

#### **6.8. O&M EXPENSES FOR THE FY 2023-24**

6.8.1. Under normal circumstances, the Commission would have revised the O&M norms based on analysis of actual O&M expenses of FY 2022-23, while framing the GERC MYT Regulations for the next Control Period and allowed escalation rate of 5.72% for future years including FY 2023-24. However, due to unavoidable circumstances, there is a delay in framing the GERC MYT Regulations, 2016 for the next Control Period, and hence, the applicability of the GERC MYT Regulations, 2016 has been extended to include FY 2023-24 also.

6.8.2. In the tariff order dated 30<sup>th</sup> March, 2021, for approving the O&M expenses for FY 2021-22, the Commission has already considered the average impact of last three years starting from FY 2017-18 to FY 2020-21 in respective Tariff Orders. The Commission has then considered the average of the O&M expenses for the three years to arrive at O&M expenses for mid-year, i.e., FY 2018-19 for these stations which is then escalated by 5.72% p.a. to arrive at the O&M expenses for FY 2021-22. Further, since the impact of the three-year average O&M expenses has been considered in the earlier tariff order dated 30<sup>th</sup> March, 2021 with normalising the impact of the 7<sup>th</sup> Pay commission, therefore the Commission felt that the normal escalation of 5.72% p.a. can be considered to arrive at O&M expenses for FY 2022-23 and accordingly, approved the O&M expenses for FY 2022-23.

6.8.3. Considering the same, the O&M expenses for FY 2023-24 have been computed by GSECL by applying escalation rate of 5.72% (as approved by the Hon'ble Commission in the GERC MYT Regulations, 2016) on the O&M expenses of FY 2022-23 as approved in Tariff Order dated 30<sup>th</sup> March, 2022.

6.8.4. In line with the above, the O&M expense for the FY 2023-24 is as mentioned below:

**Table 54 : O&M Expenses for FY 2023-24 (Rs. in Crore)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	277.63
2	Gandhinagar (3-4)	160.80
3	Gandhinagar 5*	65.19
4	Wanakbori 1-6 TPS	297.61
5	Wanakbori 7 TPS*	22.54
6	Sikka Extn. (3-4)*	155.12
7	KLTPS 3	54.66
8	KLTPS 4	22.17
9	BLTPS*	199.22
10	Dhuvaran CCPP 1*	54.56
11	Dhuvaran CCPP 2	55.33
12	Dhuvaran CCPP 3*	5.50
13	Utran Extension*	58.05
14	Ukai 6*	60.83
15	Wanakbori 8 TPS*	181.42
16	Ukai Hydro	16.33
17	Kadana Hydro	33.14

\* PPA governed stations

6.8.5. GSECL requests the Hon'ble Commission to approve O&M expenses mentioned in above table for the FY 2023-24 for various stations of GSECL.

**6.9. INTEREST ON WORKING CAPITAL FOR THE FY 2023-24**

6.9.1. The interest on working capital is worked out on normative basis and is based on norms specified under the GERC MYT Regulations, 2016 issued by the Hon'ble Commission.

6.9.2. Interest rate for computation of working capital has been considered in line with the GERC MYT Regulations, 2016. The interest rate for the period has been determined as 9.50%.

6.9.3. The proposed interest on working capital for the control period is as shown below.

**Table 55 : Interest on Working Capital for FY 2023-24 (Rs. in Crore)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	36.82
2	Gandhinagar (3-4)	28.18
3	Gandhinagar 5*	13.30
4	Wanakbori 1-6 TPS	81.48
5	Wanakbori 7 TPS*	12.99
6	Sikka Extn. (3-4)*	70.96
7	KLTPS 3	5.63
8	KLTPS 4	4.31
9	BLTPS*	28.66
10	Dhuvaran CCPP 1*	11.36
11	Dhuvaran CCPP 2	9.44
12	Dhuvaran CCPP 3*	31.98
13	Utran Extension*	36.08
14	Ukai 6*	30.80
15	Wanakbori 8 TPS*	51.90
16	Ukai Hydro	0.56
17	Kadana Hydro	1.13

\* PPA governed stations



6.9.4. GSECL request the Hon'ble Commission to approve Interest on Working Capital tabulated above.

**6.10. SLDC FEES & CHARGES FOR THE FY 2023-24**

6.10.1. GSECL has projected the SLDC fees & charges plant wise for the FY 2023-24 same as actual incurred in FY 2021-22.

6.10.2. The SLDC fees & charges for FY 2023-24 is as mentioned in the table below:

**Table 56 : SLDC fees & charges for FY 2023-24 (Rs. in Crore)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	0.30
2	Gandhinagar (3-4)	0.20
3	Gandhinagar 5*	0.10
4	Wanakbori 1-6 TPS	0.61
5	Wanakbori 7 TPS*	0.10
6	Sikka Extn. (3-4)*	0.24
7	KLTPS 3	0.04
8	KLTPS 4	0.04
9	BLTPS*	0.24
10	Dhuvaran CCPP 1*	0.05
11	Dhuvaran CCPP 2	0.05
12	Dhuvaran CCPP 3*	0.18
13	Utran Extension*	0.18
14	Ukai 6*	0.24
15	Wanakbori 8 TPS*	0.39
16	Ukai Hydro	0.15
17	Kadana Hydro	0.12

\* PPA governed stations

**6.11. TAX FOR THE FY 2023-24**

6.11.1. In line with the provisions of GERC MYT Regulations, 2016, GSECL has considered the tax for the period FY 2023-24 same as the tax expense incurred during the FY 2021-22.

**Table 57 : Tax for FY 2023-24 (Rs. Crores)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	3.99
2	Gandhinagar (3-4)	3.27
3	Gandhinagar 5*	2.75
4	Wanakbori 1-6 TPS	1.37
5	Wanakbori 7 TPS*	8.24
6	Sikka Extn. (3-4)*	1.37
7	KLTPS 3	5.23
8	KLTPS 4	3.27
9	BLTPS*	0.49
10	Dhuvaran CCPP 1*	0.49
11	Dhuvaran CCPP 2	3.27
12	Dhuvaran CCPP 3*	0.70
13	Utran Extension*	0.74
14	Ukai 6*	2.46
15	Wanakbori 8 TPS*	2.45
16	Ukai Hydro	1.99
17	Kadana Hydro	1.58

\* PPA governed stations

**6.12. INCENTIVE FOR THE FY 2023-24**

6.12.1. Incentives corresponding to the plant load factor exceeding the approved target plant load factor shall be billed separately at prevailing rate.

**6.13. NON-TARIFF INCOME FOR THE FY 2023-24**

6.13.1. Non-tariff income has been computed based on the indicative heads mentioned in the GERC MYT Regulations, 2016. Non-tariff has been considered same as of FY 2021-22.

6.13.2. The Non-Tariff income projection for the FY 2023-24 is mentioned below:

**Table 58 : Non-tariff Income for FY 2023-24 (Rs. Crore)**

Sr.No	Plant	FY 2023-24
1	Ukai (3-5)	15.46
2	Gandhinagar (3-4)	31.55
3	Gandhinagar 5*	0.07
4	Wanakbori 1-6 TPS	24.62
5	Wanakbori 7 TPS*	0.07
6	Sikka Extn. (3-4)*	3.81
7	KLTPS 3	4.46
8	KLTPS 4	0.10
9	BLTPS*	2.83
10	Dhuvaran CCPP 1*	16.99
11	Dhuvaran CCPP 2	3.65
12	Dhuvaran CCPP 3*	1.09
13	Utran Extension*	3.22
14	Ukai 6*	0.18
15	Wanakbori 8 TPS*	0.29
16	Ukai Hydro	0.11
17	Kadana Hydro	0.68

\* PPA governed stations

**6.14. WATER CHARGES FOR THE FY 2023-24**

6.14.1. In line with the approach adopted by the Hon'ble Commission in its order in Case No. 2025 of 2021 dated 30<sup>th</sup> March, 2022, GSECL has considered the water charges for the period FY 2023-24 same as the water charges actually incurred during the FY 2021-22.

6.14.2. Water charges proposed for the FY 2023-24 is as mentioned below:



**Table 59 : Water Charges for FY 2023-24 (Rs. Crore)**

Sr.No	Plant	FY 23-24
1	Ukai (3-5)	-
2	Gandhinagar (3-4)	68.96
3	Gandhinagar 5*	34.48
4	Wanakbori 1-6 TPS	73.76
5	Wanakbori 7 TPS*	15.23
6	Sikka Extn. (3-4)*	4.86
7	KLTPS 3	0.25
8	KLTPS 4	-
9	BLTPS*	17.48
10	Dhuvaran CCPP 1*	0.89
11	Dhuvaran CCPP 2	0.89
12	Dhuvaran CCPP 3*	-
13	Utran Extension*	2.32
14	Ukai 6*	-
15	Wanakbori 8 TPS*	45.51
16	Ukai Hydro	-
17	Kadana Hydro	-

\* PPA governed stations



**6.15. TOTAL FIXED COSTS FOR THE FY 2023-24**

6.15.1. Based on above discussed expenses, the tables given below summarize total fixed cost projected for FY 2023-24.

**Table 60 : Total fixed cost for FY 2023-24 (Rs. Crore)**

Sr. No.	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Tax	SLDC Fees & Charges	Water Charges	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1	Ukai (3-5)	49.41	0.05	25.91	36.82	277.63	3.99	0.30	-	394.10	15.46	378.64
2	Gandhinagar (3-4)	38.19	-	26.45	28.18	160.80	3.27	0.20	68.96	326.04	31.55	294.49
3	Gandhinagar 5*	2.16	-	28.67	13.30	65.19	2.75	0.10	34.48	146.64	0.07	146.57
4	Wanakbori 1-6 TPS	110.08	9.36	100.29	81.48	297.61	1.37	0.61	73.76	674.56	24.62	649.94
5	Wanakbori 7 TPS*	2.15	-	26.16	12.99	22.54	8.24	0.10	15.23	87.40	0.07	87.33
6	Sikka Extn. (3-4)*	166.95	82.55	132.81	70.96	155.12	1.37	0.24	4.86	614.86	3.81	611.05
7	KLTPS 3	31.48	-	55.47	5.63	54.66	5.23	0.04	0.25	152.76	4.46	148.30
8	KLTPS 4	17.89	1.17	29.65	4.31	22.17	3.27	0.04	-	78.50	0.10	78.40
9	BLTPS*	191.34	84.64	152.20	28.66	199.22	0.49	0.24	17.48	674.27	2.83	671.44
10	Dhuvaran CCPP 1*	10.11	0.04	10.65	11.36	54.56	0.49	0.05	0.89	88.15	16.99	71.17
11	Dhuvaran CCPP 2	13.12	0.15	14.57	9.44	55.33	3.27	0.05	0.89	96.83	3.65	93.18
12	Dhuvaran CCPP 3*	78.92	39.10	67.13	31.98	5.50	0.70	0.18	-	223.51	1.09	222.41
13	Utran Extension*	37.86	14.05	57.73	36.08	58.05	0.74	0.18	2.32	207.01	3.22	203.79
14	Ukai 6*	157.41	48.31	126.98	30.80	60.83	2.46	0.24	-	427.04	0.18	426.86
15	Wanakbori 8 TPS*	225.52	182.64	185.59	51.90	181.42	2.45	0.39	45.51	875.42	0.29	875.13
16	Ukai Hydro	2.31	1.32	10.64	0.56	16.33	1.99	0.15	-	33.31	0.11	33.20
17	Kadana Hydro	5.53	-	28.91	1.13	33.14	1.58	0.12	-	70.42	0.68	69.74
	<b>Total</b>	<b>1,140.42</b>	<b>463.39</b>	<b>1,079.81</b>	<b>455.58</b>	<b>1,720.11</b>	<b>43.65</b>	<b>3.24</b>	<b>264.62</b>	<b>5,170.81</b>	<b>109.17</b>	<b>5,061.64</b>

\* PPA governed stations



**6.16. ENERGY CHARGES FOR THE FY 2023-24**

6.16.1. Based on above proposed operating & fuel related parameters, GSECL proposes per unit Tariff for FY 2023-24 as follows:

**Table 61 : Energy Charges for FY 2023-24**

Sl. No:	Power Station	FY 2023-24
		Rs./kWh
1	Ukai (3-5)	3.95
2	Gandhinagar (3-4)	4.21
3	Gandhinagar 5*	3.92
4	Wanakbori 1-6 TPS	4.25
5	Wanakbori 7 TPS*	4.10
6	Sikka Extn. (3-4)*	9.29
7	KLTPS 3	3.60
8	KLTPS 4	3.12
9	BLTPS*	3.20
10	Dhuvaran CCPP 1*	8.31
11	Dhuvaran CCPP 2	6.14
12	Dhuvaran CCPP 3*	6.70
13	Utran Extension*	7.68
14	Ukai 6*	3.49
15	Wanakbori 8 TPS*	3.54
16	Ukai Hydro	0.00
17	Kadana Hydro	0.00

\* PPA governed stations

6.16.2. The Petitioner humbly requests the Hon'ble Commission to approve the revenue requirement, operating parameters and financial parameters for FY 2023-24 as proposed above without any disallowance and all parameters of PPA governed stations will be as per their respective PPAs.



## SECTION 7. TARIFF FOR FY 2023-24

7.1.1. In accordance with provisions of the GERC MYT Regulations, 2016 as mentioned above, fixed cost and energy charges for FY 2023-24 is determined as follows:

**Table 62: Energy Charges for FY 2023-24**

Sl. No:	Power Station	FY 2023-24
		Rs./kWh
1	Ukai (3-5)	3.95
2	Gandhinagar (3-4)	4.21
3	Gandhinagar 5*	3.92
4	Wanakbori 1-6 TPS	4.25
5	Wanakbori 7 TPS*	4.10
6	Sikka Extn. (3-4)*	9.29
7	KLTPS 3	3.60
8	KLTPS 4	3.12
9	BLTPS*	3.20
10	Dhuvaran CCPP 1*	8.31
11	Dhuvaran CCPP 2	6.14
12	Dhuvaran CCPP 3*	6.70
13	Utran Extension*	7.68
14	Ukai 6*	3.49
15	Wanakbori 8 TPS*	3.54
16	Ukai Hydro	0.00
17	Kadana Hydro	0.00

\* PPA governed stations

7.1.2. In accordance with provisions of the GERC MYT Regulations, 2016 as mentioned above, fixed cost and energy charges for FY 2023-24 is determined as follows:





Table 63: Fixed Costs for FY 2023-24 (Rs. Crore)

Sr. No.	Power Station	Depreciation	Interest & Finance Charges	Return on Equity	Interest on Working Capital	O&M Expenses	Tax	SLDC Fees & Charges	Water Charges	Total Fixed Cost	Less: Non-Tariff Income	Net Fixed Charges
1	Ukai (3-5)	49.41	0.05	25.91	36.82	277.63	3.99	0.30	-	394.10	15.46	378.64
2	Gandhinagar (3-4)	38.19	-	26.45	28.18	160.80	3.27	0.20	68.96	326.04	31.55	294.49
3	Gandhinagar 5*	2.16	-	28.67	13.30	65.19	2.75	0.10	34.48	146.64	0.07	146.57
4	Wanakbori 1-6 TPS	110.08	9.36	100.29	81.48	297.61	1.37	0.61	73.76	674.56	24.62	649.94
5	Wanakbori 7 TPS*	2.15	-	26.16	12.99	22.54	8.24	0.10	15.23	87.40	0.07	87.33
6	Sikka Extn. (3-4)*	166.95	82.55	132.81	70.96	155.12	1.37	0.24	4.86	614.86	3.81	611.05
7	KLTPS 3	31.48	-	55.47	5.63	54.66	5.23	0.04	0.25	152.76	4.46	148.30
8	KLTPS 4	17.89	1.17	29.65	4.31	22.17	3.27	0.04	-	78.50	0.10	78.40
9	BLTPS*	191.34	84.64	152.20	28.66	199.22	0.49	0.24	17.48	674.27	2.83	671.44
10	Dhuvaran CCPP 1*	10.11	0.04	10.65	11.36	54.56	0.49	0.05	0.89	88.15	16.99	71.17
11	Dhuvaran CCPP 2	13.12	0.15	14.57	9.44	55.33	3.27	0.05	0.89	96.83	3.65	93.18
12	Dhuvaran CCPP 3*	78.92	39.10	67.13	31.98	5.50	0.70	0.18	-	223.51	1.09	222.41
13	Utran Extension*	37.86	14.05	57.73	36.08	58.05	0.74	0.18	2.32	207.01	3.22	203.79
14	Ukai 6*	157.41	48.31	126.98	30.80	60.83	2.46	0.24	-	427.04	0.18	426.86
15	Wanakbori 8 TPS*	225.52	182.64	185.59	51.90	181.42	2.45	0.39	45.51	875.42	0.29	875.13
16	Ukai Hydro	2.31	1.32	10.64	0.56	16.33	1.99	0.15	-	33.31	0.11	33.20
17	Kadana Hydro	5.53	-	28.91	1.13	33.14	1.58	0.12	-	70.42	0.68	69.74
	<b>Total</b>	<b>1,140.42</b>	<b>463.39</b>	<b>1,079.81</b>	<b>455.58</b>	<b>1,720.11</b>	<b>43.65</b>	<b>3.24</b>	<b>264.62</b>	<b>5,170.81</b>	<b>109.17</b>	<b>5,061.64</b>

\* PPA governed stations



## SECTION 8. COMPLIANCE OF DIRECTIVES

### DIRECTIVES AND THEIR COMPLIANCE BY GSECL:

The compliances to the directives of the Hon'ble Commission have been submitted via letter no. GSECL/Comm./GERC Cell/134 dated 13/05/2022 and the same is reproduced below:

DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<b>Earlier Directives:</b>	
<p><b><u>Directive 1: Actual Performance Parameters</u></b> GSECL shall submit month wise, at quarterly intervals, the actual performance parameters like PAF, PLF, SHR, Aux. Consumption, SFC, 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.</p> <p><b><u>Compliance already submitted by GSECL:</u></b> Performance Parameters and Coal stock position month-wise at quarterly intervals are submitted as Annexures to the Petition.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b> The Commission has noted the submission. GSECL shall continue to submit the report as per directive.</p>	<p><b><u>COMPLIANCE:</u></b> Performance Parameter and Coal stock Position month wise at quarterly intervals are attached as <b>Annexure- I</b> and <b>Annexure-II</b>. [For 1<sup>st</sup> to 4<sup>th</sup> Qtr. of FY 2021-22]</p> <p>Which have already been uploaded on GSECL website on 06/05/2022</p>
<p><b><u>Directive 2: Deviation of Capital Expenditure</u></b> 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.</p> <p><b><u>Compliance:</u></b> GSECL will submit Capex proposal in Tariff Petition for next Control Period commencing from April 1, 2022.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b>  The Commission has noted that GSECL has submitted the details of proposed capital expenditure for F.Y. 2022-23 and same has been considered by the Commission for approval, subject to prudent check. The Commission re-iterates its directives that GSECL to submit its Capex proposal along with the next MYT petition for next control period commencing from 1<sup>st</sup> April-2023.</p>	<p><b><u>COMPLIANCE:</u></b> GSECL will submit Capex proposal along with the next MYT petition for next control period commencing from 1<sup>st</sup> April-2023.</p>
<p><b><u>Directive 3: Life Assessment &amp; fulfilling Environment Norms of GSECL Plants ( Vide Order dated: - 24<sup>th</sup> April,2019</u></b>  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 &amp; Modernization with techno-commercial assessment keeping new environmental norms of MoEF for Thermal Power Plants. GSECL shall submit a comprehensive report at the earliest.</p>	<p><b><u>COMPLIANCE:</u></b> Progress Report on Life Assessment &amp; Fulfilling Environment Norms of GSECL Plants is attached as <b>Annexure-III</b>.</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p><b><u>Compliance:</u></b></p> <p>GSECL submitted the progress report on Life assessment and Fulfilling environment norms of GSECL plants along with the Petition. It is noted that the report includes status of installation of FGD for 800 MW Unit No. 8 of Wanakbori TPS, 500 MW Unit No. 6 of UTPS and 2 x 250 MW Units 3 &amp; 4 of STPS. For all other units, approval for installation of FGD in old units is under consideration.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b></p> <p>The Commission noted the submission. GSECL shall continue to submit the progress report as per directive.</p>	
<p><b><u>Directive 4: Study for Technical Minimum Operations of plants at 55% of MCR (Vide order dated: - 24<sup>th</sup> April-2019)</u></b></p> <p>To achieve the National RE capacity addition target of 175 GW by the year 2022, the existing coal based base load capacity has to be used as balancing power and anticipated to be more and more cycled with increase in variable RE generation in the State Grid. To absorb the highly intermittent and variable generation from RE sources, more flexible and cyclic operations with fast Ramp Up and Ramp Down from base load plants is need of the time. In order to meet this, GSECL is directed to submit a comprehensive report covering the present status of Technical minimum level operation of each thermal plant with Ramp Up and Ramp Down capability and action plan for implementing 55% Technical minimum criteria for all such efficient plants. The report may include cost of implementation including timeline and impact on machine's life and efficiency. This report should be submitted within 3 months to the Commission.</p> <p><b><u>Compliance:</u></b></p> <p>The pilot project of Coal Plant Flexible Operation covering low load trial run of Ukai TPS Unit no 4 (200 MW) &amp; Ukai TPS Unit no 6 (500 MW) with the assistance from USAID – GTG RISE is completed during the year 2020-21. Under the same, the low load trial of Ukai TPS unit no 6 up to 55% &amp; 40% with ramp rate of 1% &amp; 5% is successfully completed.</p> <p>Based on the learning (low load procedure) from above Pilot Coal Flexible Project, the Company has successfully completed the trial run of all other units of 200/210/250 MW up to 55% successfully. The ramp rate of the generating units is observed to be in the range of 1% - 1.7%.</p> <p>At present the units are run at low tech minimum load consultation with SLDC during low demand period to support grid.</p>	<p><b><u>COMPLIANCE:</u></b></p> <p>Based on the experience of Low Load Operation of Ukai #4 (200 MW) &amp; #6 (500 MW), the GSECL has successfully taken up similar trial runs in all other coal based units.</p> <p>The units are run at low load of 55% in consultation with SLDC to minimize start/stop so that the damage to critical equipment's can be minimized to the extent possible.</p> <p>The company has also planned Major Renovation &amp; Modernization of old LMZ turbines of Ukai Unit no 3 &amp; 5 and Wanakbori Unit no 1 &amp; 2 as a part of Efficiency Improvement Programme.</p> <p>In these units it is planned to bring down low load to 40 % and so the proposed retrofitted turbines will be designed to operate accordingly for better RE Integration. Moreover required modifications in boilers of the said units are also planned for flexible operation of these units. It is to submit that the tender for Ukai Unit-3 &amp; 5 has been already invited and is yet live.</p> <p>Moreover, as directed by Hon'ble Commission, the impact on performance parameters and subsequently on generation cost due</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p><b><u>Commission Comments: (Directive of this order)</u></b></p> <p>The Commission noted the submission of the Petitioner. However, GSECL is further directed to continue updating the Commission on the progress made to achieve 55% technical minimum operation and 3% ramp rate for generating plants. GSECL also needs to highlight the impact on the performance parameters due to same along with the detail report highlighting the cost benefit analysis.</p>	<p>to partial load operation is attached as <b>Annexure-IV.</b></p>
<p><b><u>Directive 5: Action Plan for Capacity Retirement/ Addition/ Utilisation (vide order dated: - 26<sup>th</sup> March 2020)</u></b></p> <p>GSECL is directed to submit its Action Plan for next 10 (ten) years in next Tariff Petition for Control Period commencing from April 1, 2021. The Action Plan shall include the plan for retirement of existing Old Stations, plan for capacity addition of Conventional Generating Stations, plan for capacity addition of Renewable Energy Plants, plan for optimum utilisation of existing Generating Stations and plan for achieving operational and economic efficiency.</p> <p><b><u>Compliance:</u></b></p> <p><b>(1) Plan for retirement of existing old Units:</b></p> <p>(A) Coal Based—It would be as per recommendation of the committee constituted by CEA.</p> <p>(B) Gas Based –</p> <p>(1) Dhuvaran CCPP-I - 27.01.2024</p> <p>(2) Dhuvaran CCPP-II - 31.10.2027</p> <p>(3) Utran Extension - 07.11.2029</p> <p><b>(2) Plan for Capacity Addition:</b></p> <p><i>(a) Conventional power plant:</i></p> <p>800 MW Coal based supercritical Unit 7 at Ukai TPS: GSECL has applied for Environment clearance to MoEF &amp; CC. Terms of Reference (TOR) received. Based on TOR, EIA report is already submitted to MoEF &amp; CC. Preparation of Compliance to Observations of Expert Appraisal Committee in EIA report is under progress.</p> <p><i>(b) Renewable Energy</i></p> <p>1. Implementation of 75 MW Solar PV Project Phase-II at Dhuvaran is under progress. Scheduled COD of the project is 12.02.2021</p> <p>2. 100 MW Solar PV Project Phase-I at Raghnesda is under progress Scheduled COD of the project is 17.02.2021</p>	<p><b><u>COMPLIANCE:</u></b></p> <p>The Action Plan showing the plan for retirement of existing Old Stations, plan for capacity addition of Conventional Generating Stations and plan for capacity addition of Renewable Energy Plants is attached herewith for kind perusal of the Hon'ble Commission as <b>Annexure-V.</b></p> <p>Moreover, the generation from efficient units viz UTPS Unit No 4 &amp; 6 and WTPS Unit No 3 &amp; 8 is maximized by maintaining higher availability/reliability of these units. The major R &amp; M of Old LMZ Units is also planned to reduce variable cost by Rs 0.46-50 per unit. This will further help in maximizing generation from these units.</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>3. 100 MW Solar PV Project Phase-II at Raghnesda is under progress Scheduled COD of the project is 26.07.2021</p> <p>4. 2500 MW Solar PV Project on Government around GETCO S/S (A) LoI for (40/35/35/25/30/20) Total185 MW EPC at 06 (six) locations is awarded.</p> <p>Scheduled CoD of Projects is 31.05.2021 for &gt;20 MW Capacity projects 30.04.2021 for 20 MW Capacity project</p> <p>(B) Pre-feasibility for potential CUF and preparation of tender for 500 MW is under progress for 18 locations where Allotment of Govt. land is received.</p> <p>(C) Acquisition of Land for 2195 MW capacity at various locations (108 no.s) is under progress.</p> <p><b>(3) Plan for optimum utilisation of existing Generating stations and plan for achieving operational and economic efficiency:</b></p> <ul style="list-style-type: none"><li>• Retrofitting of Turbine and Boiler Modification in unit # 3 &amp; 5 of UTPS is planned.</li><li>• Tender preparation for EPC is under progress.</li></ul> <p><b><u>Commission Comments:</u></b></p> <p>GSECL has submitted the following details as compliance to this directive</p> <ul style="list-style-type: none"><li>• Plan for retirement of existing old Units</li><li>• Plan for Capacity Addition (Conventional as well as Renewable Energy)</li><li>• Status of the Projects to be commissioned</li><li>• Plan for optimum utilisation of existing Generating stations and plan for achieving operational and economic efficiency.</li></ul> <p>The Commission has studied the response submitted by GSECL and observed that some of the details were missing. GSECL submitted that coal-based stations would be retired based on Committee constituted by CEA but has not provided its proposal on which old coal-based Units it plans to retire. GSECL has also not provided details on the year-wise power availability and the effect of commissioning/de-commissioning on Y-o-Y basis for the next ten years.</p> <p>Further, no details were provided for existing non-performing power stations (excluding the ones proposed to retire) on how it plans to achieve optimum utilisation and the road map for attaining operational and economic efficiency.</p> <p>In view of the above, the Commission is not satisfied with the information submitted by GSECL in this regard. The Commission therefore directs GSECL to submit Action Plan on Capacity</p>	



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>retirement/Addition/Utilisation for next ten (10) years for the Control Period commencing from April 1, 2022, along with details of retirement of existing Unit/stations, generation capacity availability, capacity addition from Conventional Generating station and Renewable Energy, plan for optimum utilisation of existing generating stations and plan for achieving operational efficiency in economical manner, as directed in previous Tariff Order, in the form of a report within 45 days of the issuance of this Tariff Order.</p> <p>The Commission in this regard has also issued a fresh directive to GSECL to undertake a comprehensive assessment of the rate of its existing power plants with respect to the power purchase rate prevailing in the State and overall power supply scenario before proposing additional capital expenditure for its existing plants.</p> <p><b>Further Compliances: - (Submitted by GSECL in response to the order dated: - 30/03/2021)</b></p> <p>GSECL submitted the following:-</p> <p><b>(1) <u>Plan for retirement of existing old units:</u></b></p> <p>The committee of CEA has identified Ukai TPS Unit No 3 &amp; 5 and Wanakbori TPS Unit No 1 &amp; 2 as Old &amp; Inefficient and recommended for phasing out in view of higher SHR&gt;2600 kcal/kwh and non-compliance of New Environment Norms. For the above said units, there is no plan for retirement at present. However GSECL intends to carry out Energy Efficiency Renovation &amp; Modernisation to reduce SHR as well as making these units flexible (capable to run up to 30% load without oil support). After R &amp; M the SHR of 2350 Kcal/kwh is expected to be achieved.</p> <p>The tender for Ukai TPS Unit No 3 &amp; 5 for Retrofitting of Turbine and Boiler Modification is published and Last date of bid submission is 30.06.21.</p> <p><b>(2) <u>Plan for Capacity Addition :</u></b></p> <p><b>(A) Conventional power plant:</b></p> <p><b>800 MW Coal based supercritical Unit no 7 at Ukai TPS:</b> Environment clearance from MoEF &amp; CC is received. Further Processing will be done on confirmation/Principle approval from GoG.</p> <p><b>(B) Renewable Energy:</b> RE Projects development plan is as under:</p> <p><b>a) Projects to be developed under competitive bidding of GUVNL</b></p>	



DIRECTIVE			COMPLIANCE TO THE DIRECTIVE		
<b>Project</b>	<b>Capacity (MW)</b>	<b>Completion by/Status</b>			
SPV Project at Dhuvaran	75	Inspection for commissioning by GEDA is completed on 15.04.21			
SPV Project Raghanshd a UMRE Park. Ph. I	100	Design Engineering Material supply and civil work is under progress. Scheduled Completion by March'2022			
SPV Project Raghanshd a UMRE Park. Ph. II	100				
<p><b>b) 2500 MW SPV Projects to be developed on Government Waste Land near GETCO Substation:</b></p> <p>I. Orders for EPC are awarded for 575 MW Capacity.</p> <p>II. Tender for EPC for 112 MW is live. Last date of bid submission is 18.05.2021</p> <p>III. Application for Land allotment of 37818 Ha at 93 locations is under progress at different collectorate</p>					
<p><b>c) Development of 3325 MW RE Projects at Khavda RE Park:</b></p> <p>6650 Ha. Land for 3325 MW is allotted to GSECL by High power Committee of GoG.</p> <p>50% of total capacity is to be developed within 3 years and 100% capacity to be completed within 5 years.</p> <p>Feasibility report prepared. Preparation of Detailed Project report is under progress. Expected submission by May,2021</p> <p>GSECL has applied for Stage I Connectivity for power evacuation of 500MW Capacity. Formation of JV amongst NREL, GSECL &amp; GIPCL is in process for Development of RE Park. MoU for Joint venture approved by Respective Boards of all Companies. Further activities will be carried out after finalization of JVA.</p>					
<p><b>Year Wise Plan for Capacity Addition:</b></p>					
<b>Year</b>	<b>Renewable Energy (MW)</b>			<b>Conve</b>	<b>Total</b>
	<b>Comp Bidding</b>	<b>Waste Land</b>	<b>Khavda RE Park</b>	<b>ntiona l (MW)</b>	<b>additi on (MW)</b>
2020-21	75				75



DIRECTIVE						COMPLIANCE TO THE DIRECTIVE
2021-22	200	130			330	
2022-23		390	200		590	
2023-24		1000	500		1500	
2024-25		980	1000		1980	
2025-26			1000		1000	
2026-27			625	800	1425	
<p><b>(3) Plan for optimum utilisation of existing Generating stations and plan for achieving operational and economic efficiency:</b></p> <p>As far as possible generation from efficient units viz UTPS Unit No 4 &amp; 6, WTPS Unit No 3 &amp; 8 is maximized by maintaining higher availability/reliability of these units. The major R &amp; M of Old LMZ Units is planned to reduce variable cost by Rs 0.46-50 per unit. This will further help in maximizing generation from these units.</p> <p><b>Commission Comments:- (Directive of this order)</b></p> <p>The Commission noted the submission of GSECL. Further, the Commission directed GSECL to submit ten-year action plan in order to have clear visibility on demand supply planning for the State. However, GSECL has not submitted such details. Hence, the Commission re- iterates its direction to submit the action plan for next 10 (ten) years in next Tariff Petition for Control Period commencing from 1st April, 2023. The Action Plan shall include the plan for retirement of existing Old Stations, plan for capacity addition of Conventional Generating Stations, plan for capacity addition of Renewable Energy Plants, plan for optimum utilisation of existing Generating Stations and plan for achieving operational and economic efficiency. Further, the plan shall be in coordination with the demand supply planning projected by Discoms.</p>						
<p><b><u>Directive 6: Roadmap for Improvement of Performance of Lignite Based Stations (Vide order dated: - 26<sup>th</sup> March 2020)</u></b></p> <p>The Commission directs GSECL to submit roadmap for improvement the performance of Lignite based power stations, in economical manner.</p> <p><b><u>Compliance:</u></b></p> <p>The Power Station wise Roadmap for improvement in Performance of Lignite Based Power Stations is as under:</p>						<p><b>COMPLIANCE:</b></p> <p>The directives of Hon'ble Commission to take necessary measures for improvement of performance by improving the O&amp;M practices so as to have better PLF and efficiency has been noted and suitable actions in this regard are being taken.</p>





DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p><b>A. KLTPS</b></p> <ol style="list-style-type: none"> <li>1. The KLTPS Unit No 3 is capable of running at rated load of 75 MW.</li> <li>2. The load on KLTPS Unit No 4 is restricted to 45-47 MW against rated capacity of 75 MW due to the following               <ol style="list-style-type: none"> <li>(a) Both LHS/RHS Combustor outlet duct (COD) leakage</li> <li>(b) Frequent water wall tube leakages from 17 to 20 mtr in combustor due to water wall tubes sagging &amp; fins leakages</li> <li>(c) Low PA pressure due to excessive Tubular APH leakages.</li> </ol> </li> </ol> <p>All of the above defects are planned to be attended in ensuing AOH of unit preferably during monsoon and the required materials and work contracts are in place.</p> <p>On rectification of above defects the rated load on unit is expected</p> <p><b>(A) BLTPS</b></p> <p>The Major constraint in achieving rated load on Bhavnagar Lignite TPS Units is the availability/reliability of lignite feeding system. For the same, following actions are undertaken/planned to have sustained availability of lignite feeding system:</p> <ol style="list-style-type: none"> <li>1. Lignite Feeders – The drag link chains of existing lignite feeders are replaced by modified designed drag link chain having better strength and reliability in both the units. After replacement of the same, no issues related to damage to drag link chain and resultant loss of generation are observed</li> <li>2. Belt Conveyors/Crushers/SCR – At present 01 stream of lignite feeding from stockyard to bunkers is commissioned and running smoothly. The 2nd stream is yet to be commissioned (about 80-85% work is completed). The Company has taken up matter with concerned executing agency very strongly so as to completed the pending work as early as possible to have redundancy to avoid loss of generation. The work is under progress and expected to be completed by Sept 21 end.</li> <li>3. Pipe conveyor system – The work of erection of pipe conveyor system for lignite transportation from lignite mines up to the Bhavnagar lignite TPS is under progress and expected to be completed by 2021-22 end. This will help to minimize the coal feeding problems and improve availability of the units</li> </ol>	<p>Moreover, following actions are initiated at BLTPS to achieve the rated load as per the installed capacity.</p> <ul style="list-style-type: none"> <li>• Spares replacement of crusher, rectification in conveyor belt, manual provision of DFDS system. The target date for completion of this work is 31<sup>st</sup> May-2022. After completion of these jobs, total load up to 400 MW is likely to be achieved.</li> <li>• Commissioning of second stream of mine conveyor to stack yard and DFDS system, commissioning of stacker A and conveyor belts of A stream. The target date for completion of this work is 31<sup>st</sup> August-2022. After completion of these jobs, total load up to 500 MW is likely to be achieved.</li> </ul> <p>Similarly for improvement of performance of KLTPS Unit-3 &amp;4, following actions are planned:</p> <ul style="list-style-type: none"> <li>• KLTPS Unit no.3 is running at 60 MW. Unit Load is restricted due to poor vacuum due to CW flow &amp; IDCT and deteriorated coal burner assembly. Both work will be carried out in coming Annual overhauling (June -22).</li> <li>• The KLTPS Unit no.4 is running at load of 65 MW. Unit Load is restricted due to High vibrations in TG bearing no 4. Same will be analysed and rectified in consultation with BHEL in nearby future.</li> </ul> <p>Improvement in performance of Lignite based stations is expected after carrying out the works as stated above.</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>Since takeover/merger of the BECL with GSECL, the Company is doing maximum efforts to put Bhavnagar TPS units on track. The generation of Bhavnagar Lignite Units during 2017-18 (prior to merger) was 480 Mus which has increased to 1201 Mus during the year 2020-21 &amp; GSECL is committed to improve/enhance the performance of units in line with other Power Plants of GSECL in due course of time by rectification of various chronic bottlenecks.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b></p> <p>The Commission noted the submission made by GSECL. During truing up for FY 2020-21, 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.</p> <p>Further, the Commission directs that GSECL shall submit the progress report on performance improvement plan for Lignite based Power Stations.</p> <p>GSECL is directed to improve the O&amp;M practices of these units so as to have improvement in PLF and efficiency.</p>	
<p><b><u>Directive 7: Capitalisation of Capital Spares</u></b></p> <p>The Commission directs GSECL to submit details of the capital spares capitalised for FY 2020- 21 and onwards along with every MYT/Tariff Petition to be filed subsequently:</p> <p>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 GERC (MYT) Regulations, 2016, and the actions proposed with respect to the excess capitalisation of capital spares, if any. Non-submission of such details along with the every subsequent MYT/ Tariff Petition may lead to disallowance of capitalisation.</p> <p><b><u>Compliance: -</u></b></p> <p>GSECL submitted that the capital Spares capitalized for FY 2020-21 are of Rs. 137.09 Crore based on the unaudited Account for FY 2020-21.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b></p> <p>During truing up for FY 2020-21, the Commission noted the</p>	<p><b><u>COMPLIANCE:</u></b></p> <p>The comments of Hon'ble commission are noted and GSECL shall submit the details of capital Spares capitalized for FY 2021-22 along with the MYT petition for the next control period commencing from 01/04/2023.</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>submission of GSECL regarding the emergency nature of the spares. Further, the Commission has approved this capital spares for FY 2020-21 based on submission of GSECL.</p>	
<p><b><u>Directive 8: ESP Retrofitting works (Vide order dated: - 30<sup>th</sup> March-2021)</u></b></p> <p>The Commission directs GSECL to make a plant-wise assessment of the ESP Retrofitting works necessary to meet the SPM norms specified by MoEF &amp; CC. GSECL is directed to submit station/unit wise cost required for ESP retrofitting and the benefit to be achieved through reduction in SPM norms. GSECL shall also quantify station/unit wise number of years for which the emission shall be within the norms specified by MoEF &amp; CC, and the period of recovery of the additional cost proposed to be incurred.</p> <p>Further, GSECL shall ensure that the decision to take up ESP Retrofitting works in each of the unit/station shall be after taking into account the remaining useful life of old Units which are planned to be phased out in the near future.</p> <p>GSECL shall submit the comprehensive assessment report on ESP Retrofitting works covering the above details along with the next MYT/Tariff Petition.</p> <p><b><u>Compliance:-</u></b></p> <p>GSECL Submitted that as per tender/order, the performance Guarantee is for 1.5 years. However, Environment norms are expected to be met during remaining plant life. The combine order for retrofitting were awarded for WTPS Unit # 1,2&amp;3 &amp; Ukai Unit # 5 , WTPS unit # 4, 5 &amp; 6 and Ukai unit 3 &amp; 4 respectively. Unit wise beak up of cost is submitted separately by GSECL. The payback period, considering 14 % of RoE in pass through ARR work out to be 7 years &amp; two months.</p> <p><b><u>Commission Comments: (Directive of this order)</u></b></p> <p>The Commission noted the submission made by GSECL. The Commission, while approving the capital cost for FY 2022-23, has not considered these expenses. The Commission feels that such expenditure though required to be undertaken to meet the revised MoEF norms, the same is to be allowed on the basis of actual cost to be incurred at the time of true-up. The Commission directs GSECL to submit the cost of such works with detail justification and cost benefit analysis.</p>	<p><b><u>COMPLIANCE:</u></b></p> <p>As directed by Hon’ble Commission to submit the cost of ESP retrofitting works with detail justification and cost benefit analysis, the detail of ESP retrofitting works necessary to meet SPM norms specified by MoEF &amp; CC planned and implemented by GSECL is attached as <b>Annexure-VI.</b></p>
<p><b><u>Directive 9: Overview of Power Supply Scenario (Vide order dated: - 30<sup>th</sup> March 2021)</u></b></p> <p>It is observed that most of the older stations of GSECL have achieved lower PLF since they are not part of the Merit Order</p>	<p><b><u>COMPLIANCE:</u></b></p> <p>GSECL has noted the directives issued by Hon’ble Commission to carry out the</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>Dispatch (MOD) schedule notified by SLDC and have been asked to back down. On the other hand, GSECL has been commissioning new stations which qualify for MOD due to their lower energy charges but have higher fixed cost. Overall, the power stations of GSECL pose a significant burden on the consumers of the State. Further, GSECL has been proposing to take up Renovation and Modernisation works for several plants every year under capitalisation.</p> <p>GSECL is therefore directed to take a holistic view on the Renovation and Modernization works claimed/proposed to be taken up every year as well as consider future Generation projects, after keeping the overall power purchase scenario in mind. GSECL shall also take into account the existing power purchase rate prevailing in the State as compared to the rates of its existing power stations before proposing capital expenditure/capitalisation through Renovation and Modernization for its stations or new Generation projects. In this regard, GSECL shall do a comprehensive assessment of the major and minor Renovation and Modernization works, taking into consideration all the above factors and submit the same along with the next MYT/Tariff Petition.</p> <p><b><u>Compliance:-</u></b></p> <p>The new unit commissioned by GSECL during last 05 years is 1 x 800 MW unit at Wanakbori. Thereafter no new units are under planning stage by the Company.</p> <p>Moreover the Energy Efficiency Major Renovation &amp; Modernisation of 02 units (Ukai TPS Unit no 4 &amp; Wanakbori TPS Unit no 3) was carried out during 2017-18 &amp; 2018-19. After R &amp; M substantial reduction (to the tune of Rs 0.46-0.50 per kwh) in cost of generation was achieved in these units. The PLF of these units during the year 2019-20 was 60% as more energy was scheduled from these units being cheaper generation in the overall interest of the Consumers.</p> <p>However the directive of Hon'ble Commission is noted &amp; the Renovation &amp; Modernisation proposals will be included in MYT petition with required justification</p> <p><b><u>Commission Comments:- (Directive of this order)</u></b></p> <p>The Commission noted the submission made by GSECL. The Commission re-iterates that GSECL to take a holistic view on the Renovation and Modernization works claimed/proposed to be taken up every year as well as consider future Generation projects, after keeping the overall power purchase scenario in mind. GSECL shall also take into account the existing power</p>	<p>comprehensive assessment of the major and minor Renovation and Modernization works, taking into consideration the factors like future generation projects (Conventional and RE), overall power purchase scenario, rate of power purchase in the state prevailing in the state as compared to the rates of GSECL's power stations and shall submit the same along with the next MYT/Tariff Petition before Hon'ble Commission.</p>



DIRECTIVE	COMPLIANCE TO THE DIRECTIVE
<p>purchase rate prevailing in the State as compared to the rates of its existing power stations before proposing capital expenditure/capitalisation through Renovation and Modernization for its stations or new Generation projects. In this regard, GSECL shall do a comprehensive assessment of the major and minor Renovation and Modernization works, taking into consideration all the above factors and submit the same along with the next MYT/Tariff Petition.</p>	
<p><b>Fresh Directive:</b></p>	
<p><b><u>GSECL is directed to quarterly report the progress and status of all the above directives.</u></b></p>	<p><b>COMPLIANCE:</b> GSECL shall submit the quarterly report regarding progress and status of all the directives issued by Hon'ble Commission</p>



**ANNEXURE – I**

**PERFORMANCE PARAMETER FOR THE MONTH OF APRIL'21 to March'22**

Sr. No.	Power Station	PAF (%)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	65.90%	76.25%	82.35%	91.44%	69.46%	66.16%	51.64%	57.63%	55.15%	60.53%	78.06%	73.92%
2	Ukai Extn. 6	65.42%	72.36%	76.31%	62.78%	0.00%	0.00%	0.05%	75.83%	91.07%	76.33%	81.36%	85.15%
3	Gandhinagar (3-4)	99.19%	99.34%	99.19%	99.05%	99.49%	82.40%	85.15%	48.50%	64.42%	97.78%	98.97%	89.78%
4	Gandhinagar 5	100.00%	100.00%	98.37%	12.56%	0.00%	0.00%	74.49%	98.94%	99.54%	92.12%	99.52%	99.98%
5	Wanakbori 1-6	88.96%	93.02%	92.58%	79.90%	54.51%	33.42%	50.03%	77.87%	73.61%	64.71%	72.00%	66.45%
6	Wanakbori 7	89.93%	97.20%	99.85%	87.13%	90.51%	73.73%	51.78%	97.61%	87.88%	77.32%	89.60%	90.25%
7	Wanakbori 8	77.84%	84.86%	87.46%	95.00%	68.94%	63.05%	53.36%	51.48%	70.09%	75.08%	40.37%	75.23%
8	Sikka Extn. (3-4)	85.37%	85.98%	89.22%	99.43%	89.01%	21.77%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	KLTPS 3	81.74%	77.39%	78.05%	62.39%	69.64%	69.67%	71.68%	82.75%	78.14%	66.32%	51.22%	49.64%
10	KLTPS 4	40.17%	36.75%	24.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.57%
11	BLTPS 1&2	17.09%	18.56%	24.47%	39.26%	38.47%	19.51%	25.65%	55.01%	50.04%	42.69%	40.20%	33.82%
12	Dhuvaran CAPP 1	82.39%	71.18%	73.69%	76.64%	63.99%	84.94%	64.93%	88.08%	90.06%	91.88%	92.82%	67.44%
13	Dhuvaran CAPP 2	75.45%	77.65%	78.93%	79.14%	59.30%	83.37%	43.47%	86.32%	89.10%	90.76%	90.76%	67.13%
14	Dhuvaran CAPP 3	84.45%	93.17%	64.15%	59.43%	58.93%	63.62%	0.00%	0.00%	0.00%	0.00%	9.07%	73.85%
15	Utran Extension	97.81%	96.71%	97.62%	68.83%	79.97%	98.73%	36.90%	100.00%	73.80%	99.99%	99.99%	76.26%
16	Ukai Hydro	97.79%	97.56%	97.43%	96.32%	96.32%	96.32%	75.00%	72.24%	72.24%	73.85%	73.69%	76.93%
17	Kadana Hydro	93.62%	94.49%	94.49%	79.98%	86.77%	90.49%	68.01%	71.98%	71.84%	70.72%	69.77%	66.95%

Sr. No.	Power Station	PLF (%)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	57.77%	34.38%	27.74%	34.58%	58.98%	46.23%	50.01%	39.30%	48.79%	52.26%	74.18%	72.39%
2	Ukai Extn. 6	65.54%	71.81%	74.97%	55.13%	0.00%	0.00%	0.02%	71.65%	81.39%	72.61%	77.17%	83.21%
3	Gandhinagar (3-4)	84.41%	15.77%	15.14%	33.43%	87.59%	71.65%	79.05%	32.17%	55.16%	76.92%	88.83%	82.36%
4	Gandhinagar 5	91.11%	47.15%	65.48%	10.99%	0.00%	0.00%	71.44%	80.67%	87.92%	81.43%	92.45%	93.93%
5	Wanakbori 1-6	73.91%	33.04%	25.03%	26.24%	45.25%	21.98%	49.99%	55.35%	62.65%	56.12%	68.76%	63.54%
6	Wanakbori 7	77.25%	44.39%	61.99%	62.67%	82.62%	53.97%	45.82%	61.40%	72.03%	61.64%	77.73%	77.32%
7	Wanakbori 8	74.27%	74.66%	83.21%	81.80%	66.14%	59.20%	53.92%	45.77%	64.71%	67.59%	37.16%	70.21%
8	Sikka Extn. (3-4)	80.16%	40.91%	19.03%	48.36%	67.54%	6.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	KLTPS 3	83.40%	72.73%	80.31%	63.34%	70.15%	70.73%	72.01%	82.81%	77.38%	64.62%	51.99%	50.20%
10	KLTPS 4	45.30%	37.96%	0.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.34%
11	BLTPS 1&2	20.01%	22.12%	40.94%	42.79%	40.52%	23.02%	28.59%	57.72%	51.95%	45.15%	43.54%	37.78%
12	Dhuvaran CAPP 1	22.78%	6.41%	12.40%	11.52%	16.48%	0.04%	18.69%	0.00%	0.00%	0.00%	0.00%	0.00%
13	Dhuvaran CAPP 2	23.24%	5.67%	11.98%	14.16%	15.29%	0.00%	2.07%	0.00%	0.00%	0.00%	0.00%	0.00%
14	Dhuvaran CAPP 3	28.57%	1.89%	1.49%	4.97%	16.26%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
15	Utran Extension	29.62%	6.87%	21.12%	10.10%	24.94%	4.80%	4.33%	0.00%	0.44%	0.00%	0.00%	0.00%
16	Ukai Hydro	32.55%	15.91%	14.02%	8.78%	6.35%	56.83%	72.69%	20.05%	15.40%	1.64%	30.53%	21.88%
17	Kadana Hydro	5.32%	1.88%	2.64%	11.96%	7.19%	10.94%	25.64%	8.42%	11.51%	13.82%	14.19%	13.03%

Sr. No.	Power Station	SHR as Fired (Kcal/kwh)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	2611	2515	2414	2498	2666	2620	2630	2684	2666	2626	2648	2654
2	Ukai Extn. 6	2395	2397	2401	2411	0	0	0	2386	2427	2415	2401	2374
3	Gandhinagar (3-4)	2520	2515	2602	2537	2520	2581	2549	2556	2565	2556	2539	2542
4	Gandhinagar 5	2500	2508	2525	2506	0	0	2555	2521	2511	2523	2505	2503
5	Wanakbori 1-6	2553	2515	2456	2501	2571	2566	2592	2564	2618	2616	2598	2639
6	Wanakbori 7	2464	2465	2470	2476	2480	2539	2502	2471	2521	2499	2482	2489
7	Wanakbori 8	2222	2182	2162	2222	2242	2285	2258	2245	2250	2235	2252	2211
8	Sikka Extn. (3-4)	2407	2409	2436	2408	2420	2688	0	0	0	0	0	0
9	KLTPS 3	3159	3244	3236	3285	3261	3312	3252	3203	3241	3267	3284	3376
10	KLTPS 4	3063	3158	4370	0	0	0	0	0	0	0	0	3597
11	BLTPS 1&2	2896	2843	2853	2827	2972	3083	3046	2991	3024	2988	3031	3043
12	Dhuvaran CAPP 1	2130	2482	2292	2235	2136	9815	2159	0	0	0	0	0
13	Dhuvaran CAPP 2	2185	2224	2276	2283	2163	0	2176	0	0	0	0	0
14	Dhuvaran CAPP 3	1890	1973	2383	2420	1907	5047	0	0	0	0	0	0
15	Utran Extension	1812	1849	1864	1840	1776	2088	1956	0	2469	0	0	0
16	Ukai Hydro	-	-	-	-	-	-	-	-	-	-	-	-
17	Kadana Hydro	-	-	-	-	-	-	-	-	-	-	-	-



Petition for True Up for FY 2021-22 and Determination of ARR & Tariff for FY 2023-24

Sr. No.	Power Station	Auxi. Consumption (%)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	10.49%	11.04%	10.69%	10.99%	10.75%	10.83%	10.22%	10.44%	9.79%	10.05%	9.48%	9.39%
2	Ukai Extn. 6	7.01%	6.83%	6.72%	7.27%	0.00%	0.00%	0.00%	7.24%	7.14%	7.79%	6.29%	6.08%
3	Gandhinagar (3-4)	9.82%	12.87%	13.83%	11.32%	9.89%	10.72%	10.41%	11.73%	10.41%	9.88%	9.49%	9.91%
4	Gandhinagar 5	9.95%	11.39%	10.93%	14.72%	0.00%	0.00%	10.40%	10.19%	9.89%	10.39%	9.93%	9.89%
5	Wanakbori 1-6	9.29%	10.01%	10.18%	10.10%	9.77%	11.34%	10.02%	9.56%	9.69%	10.48%	9.91%	10.14%
6	Wanakbori 7	9.20%	9.67%	9.99%	10.19%	10.03%	11.98%	11.62%	9.98%	9.77%	10.25%	9.45%	9.82%
7	Wanakbori 8	4.98%	4.86%	4.63%	4.67%	5.22%	6.40%	6.02%	5.61%	4.93%	5.12%	6.80%	4.95%
8	Sikka Extn. (3-4)	9.20%	10.51%	10.85%	9.55%	9.19%	23.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	KLTPS 3	13.00%	13.61%	13.18%	13.99%	13.84%	14.11%	13.58%	12.66%	13.03%	13.63%	13.87%	14.67%
10	KLTPS 4	26.23%	28.66%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.32%	0.00%	0.00%	0.00%
11	BLTPS 1&2	26.43%	24.42%	19.97%	18.66%	17.09%	25.60%	21.71%	16.33%	0.00%	17.17%	17.81%	19.06%
12	Dhuvaran CAPP 1	7.01%	13.98%	8.60%	10.57%	8.20%	0.00%	7.30%	0.00%	0.00%	0.00%	0.00%	0.00%
13	Dhuvaran CAPP 2	6.63%	17.77%	9.49%	8.49%	8.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
14	Dhuvaran CAPP 3	3.68%	20.52%	19.86%	11.22%	4.76%	136.74%	12.68%	0.00%	0.00%	0.00%	0.00%	0.00%
15	Utran Extension	3.41%	7.09%	4.07%	5.18%	3.32%	9.83%	9.89%	0.00%	0.00%	0.00%	0.00%	0.00%
16	Ukai Hydro	0.74%	0.89%	0.90%	1.13%	1.39%	0.62%	0.61%	0.82%	0.89%	4.79%	0.74%	0.80%
17	Kadana Hydro	0.84%	1.00%	0.97%	0.84%	0.80%	0.67%	0.61%	0.75%	0.77%	0.71%	0.90%	0.82%

Sr. No.	Power Station	SFC (Kg./kwh)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	4.58	3.11	0.82	6.95	18.36	13.56	17.11	13.73	3.43	4.14	7.14	2.16
2	Ukai Extn. 6	3.72	1.26	1.34	3.30	0.00	0.00	0.00	3.67	0.80	1.05	1.01	0.31
3	Gandhinagar (3-4)	0.26	0.72	7.18	0.97	0.65	4.79	0.77	1.05	1.08	0.93	0.11	0.97
4	Gandhinagar 5	0.00	0.89	2.13	0.17	0.00	0.00	3.68	0.80	0.00	1.12	0.00	0.00
5	Wanakbori 1-6	0.53	0.99	1.48	1.22	3.45	6.97	2.48	1.15	0.45	2.55	2.14	4.56
6	Wanakbori 7	0.94	0.83	0.88	1.39	2.41	4.92	1.63	0.57	0.83	0.46	0.11	1.08
7	Wanakbori 8	0.50	0.85	0.52	0.07	2.56	5.39	2.00	2.27	0.86	0.64	3.12	0.71
8	Sikka Extn. (3-4)	1.66	0.93	3.69	0.02	1.48	22.38	0.00	0.00	0.00	0.00	0.00	0.00
9	KLTPS 3	2.04	7.67	4.82	9.11	6.89	11.80	10.08	2.31	6.05	8.72	8.95	17.93
10	KLTPS 4	2.27	7.11	162.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.81
11	BLTPS 1&2	6.98	4.03	3.38	1.64	2.95	12.44	5.10	0.64	0.90	1.29	2.59	3.03
12	Dhuvaran CAPP 1	-	-	-	-	-	-	-	-	-	-	-	-
13	Dhuvaran CAPP 2	-	-	-	-	-	-	-	-	-	-	-	-
14	Dhuvaran CAPP 3	-	-	-	-	-	-	-	-	-	-	-	-
15	Utran Extension	-	-	-	-	-	-	-	-	-	-	-	-
16	Ukai Hydro	-	-	-	-	-	-	-	-	-	-	-	-
17	Kadana Hydro	-	-	-	-	-	-	-	-	-	-	-	-

Sr. No.	Power Station	Actual Gross Generation (Mus)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	253.74	156.05	121.85	156.93	267.66	203.06	226.96	172.62	221.45	237.19	304.08	328.52
2	Ukai Extn. 6	235.93	267.14	269.89	205.09	0.00	0.00	0.09	257.95	302.79	270.11	259.28	309.56
3	Gandhinagar (3-4)	255.26	49.28	45.79	104.47	273.71	216.67	247.01	97.28	172.35	240.37	250.72	257.35
4	Gandhinagar 5	137.76	73.66	99.01	17.17	0.00	0.00	111.63	121.97	137.37	127.23	130.46	146.75
5	Wanakbori 1-6	670.50	309.70	227.07	246.02	424.22	199.39	468.65	502.12	587.32	526.05	582.17	595.68
6	Wanakbori 7	116.81	69.35	93.74	97.91	129.09	81.60	71.59	92.83	112.54	96.31	109.69	120.81
7	Wanakbori 8	427.77	444.40	479.29	486.90	393.68	341.00	320.96	263.62	385.15	402.30	199.79	417.88
8	Sikka Extn. (3-4)	288.56	152.19	68.51	179.91	251.26	21.68	0.00	0.00	0.00	0.00	0.00	0.00
9	KLTPS 3	45.04	40.59	43.37	35.34	39.15	38.20	40.18	44.72	43.18	36.06	26.20	28.01
10	KLTPS 4	24.46	21.18	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.98
11	BLTPS 1&2	72.03	82.27	147.39	159.18	150.74	82.87	106.37	207.79	193.25	167.94	146.29	140.55
12	Dhuvaran CAPP 1	17.49	5.09	9.52	9.14	13.08	0.03	14.83	0.00	0.00	0.00	0.00	0.00
13	Dhuvaran CAPP 2	18.82	4.74	9.70	11.85	12.79	0.00	1.73	0.00	0.00	0.00	0.00	0.00
14	Dhuvaran CAPP 3	77.38	5.28	4.05	13.89	45.49	0.48	0.00	0.00	0.00	0.00	0.00	0.00
15	Utran Extension	79.89	19.16	56.97	28.16	69.52	12.95	12.06	0.00	1.23	0.00	0.00	0.00
16	Ukai Hydro	71.48	36.11	30.78	19.91	14.41	124.79	164.94	44.04	34.95	3.72	62.57	49.66
17	Kadana Hydro	9.28	3.39	4.60	21.53	12.95	19.06	46.16	14.67	20.72	24.88	23.08	23.47

Sr. No.	Power Station	Net Generation (Mus)											
		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
1	Ukai (1-5)	227.13	138.83	108.83	139.68	238.89	181.07	203.75	154.60	199.78	213.34	275.25	297.68
2	Ukai Extn. 6	219.40	248.91	251.75	190.17	-2.02	-1.51	-3.98	239.26	281.17	249.07	242.97	290.72
3	Gandhinagar (3-4)	230.18	42.93	39.45	92.64	246.64	193.43	221.29	85.87	154.40	216.62	226.94	231.85
4	Gandhinagar 5	124.05	65.33	88.18	14.65	-0.52	-0.66	100.02	109.55	123.79	114.01	117.51	132.24
5	Wanakbori 1-6	608.18	278.69	203.96	221.16	382.76	176.77	421.68	454.11	530.39	470.93	524.49	535.28
6	Wanakbori 7	106.06	62.65	84.37	87.93	116.15	71.82	63.27	83.57	101.54	86.43	99.33	108.94
7	Wanakbori 8	406.47	422.80	457.10	464.16	373.13	319.19	301.62	248.84	366.18	381.68	186.21	397.19
8	Sikka Extn. (3-4)	262.03	136.20	61.08	162.73	228.18	16.52	-1.31	-1.02	-0.93	-0.93	-0.78	-0.93
9	KLTPS 3	39.18	35.06	37.65	30.40	33.73	32.81	34.72	39.06	37.55	31.14	22.52	23.90
10	KLTPS 4	18.04	15.11	-1.10	-0.04	-0.37	-0.42	-0.43	-0.41	-0.40	-0.38	-0.32	0.80
11	BLTPS 1&2	53.00	62.18	117.96	129.47	124.97	61.65	83.27	173.85	161.72	139.10	120.24	113.77
12	Dhuvaran CAPP 1	16.26	4.38	8.70	8.17	12.00	-0.37	13.75	-0.21	-0.24	-0.17	-0.23	-0.21
13	Dhuvaran CAPP 2	17.57	3.90	8.78	10.84	11.68	-0.67	0.84	-0.40	-0.31	-0.27	-0.30	-0.29
14	Dhuvaran CAPP 3	74.53	4.19	3.24	12.33	43.32	-0.18	-0.13	-0.44	-0.40	-0.31	-0.17	-0.68
15	Utran Extension	77.17	17.80	54.65	26.70	67.21	11.68	10.86	-0.68	0.54	-0.64	-0.62	-0.70
16	Ukai Hydro	70.95	35.79	30.50	19.69	14.21	124.02	163.93	43.68	34.64	3.54	62.10	49.26
17	Kadana Hydro	9.20	3.36	4.56	21.35	12.84	18.93	45.87	14.56	20.56	24.71	22.87	23.27



ANNEXURE – II

Monthly Coal Stock Position(MT) details of 1st to 4th Quarter of 2021-22				
	TPS	Indigenous	Imported	TOTAL
April 21 (As on 30.04.21)	UTPS	82480	0	82480
	GTPS	78430	0	78430
	WTPS	49773	0	49773
	STPS	0	31807	31807
	<b>GSECL</b>	<b>210683</b>	<b>31807</b>	<b>242490</b>
May 21 (As on 31.05.21)	UTPS	144933	0	144933
	GTPS	176129	0	176129
	WTPS	259370	0	259370
	STPS	0	65505	65505
	<b>GSECL</b>	<b>580432</b>	<b>65505</b>	<b>645938</b>
June 21 (As on 30.06.21)	UTPS	271070	0	271070
	GTPS	217415	0	217415
	WTPS	257591	0	257591
	STPS	0	60873	60873
	<b>GSECL</b>	<b>746075</b>	<b>60873</b>	<b>806948</b>
July 21 (As on 31.07.2021)	UTPS	269940	0	269940
	GTPS	226122	0	226122
	WTPS	187359	0	187359
	STPS	0	74491	74491
	<b>GSECL</b>	<b>683422</b>	<b>74491</b>	<b>757913</b>
August 21 (As on 31.08.21)	UTPS	261704	0	261704
	GTPS	62033	0	62033
	WTPS	110724	0	110724
	STPS	0	10831	10831
	<b>GSECL</b>	<b>434461</b>	<b>10831</b>	<b>445292</b>
September 21 (As on 30.09.21)	UTPS	243274	0	243274
	GTPS	38018	0	38018
	WTPS	161346	0	161346
	STPS	0	3597	3597
	<b>GSECL</b>	<b>442638</b>	<b>3597</b>	<b>446235</b>
October 21 (As on 31.10.21)	UTPS	198070	0	198070
	GTPS	42787	0	42787
	WTPS	109747	0	109747
	STPS	0	3597	3597
	<b>GSECL</b>	<b>350604</b>	<b>3597</b>	<b>354201</b>
November 21 (As on 30.11.21)	UTPS	104351	0	104351
	GTPS	68912	0	68912
	WTPS	174458	0	174458
	STPS	0	3597	3597
	<b>GSECL</b>	<b>347721</b>	<b>3597</b>	<b>351318</b>
December 21 (As on 31.12.21)	UTPS	35847	0	35847
	GTPS	50742	0	50742
	WTPS	52946	0	52946
	STPS	0	3597	3597
	<b>GSECL</b>	<b>139534</b>	<b>3597</b>	<b>143131</b>
January 22 (As on 31.01.22)	UTPS	80788	0	80788
	GTPS	101633	0	101633
	WTPS	77919	0	77919
	STPS	0	3597	3597
	<b>GSECL</b>	<b>260341</b>	<b>3597</b>	<b>263938</b>





<b>February 22 (As on 28.02.22)</b>	<b>UTPS</b>	39529	0	39529
	<b>GTPS</b>	38560	0	38560
	<b>WTPS</b>	112180	0	112180
	<b>STPS</b>	0	3597	3597
	<b>GSECL</b>	<b>190269</b>	<b>3597</b>	<b>193865</b>
<b>March 22 (As on 31.03.22)</b>	<b>UTPS</b>	95465	0	95465
	<b>GTPS</b>	131612	0	131612
	<b>WTPS</b>	85838	0	85838
	<b>STPS</b>	0	3597	3597
	<b>GSECL</b>	<b>312915</b>	<b>3597</b>	<b>316512</b>

**ANNEXURE - III**

Progress report showing Life Assessment and fulfilling environment norms of GSECL plants:

**(A) Progress report of installation of FGD system in GSECL plants**

Sr. No.	Name of TPS	Unit No.	Unit Size (In MW)	Status
1	Wanakbori	8	1x800	<ul style="list-style-type: none"><li>• LOI issued to M/s Datang Technologies &amp; engineering India Ltd on 16.03.2019.</li><li>• Work held up due to Covid-19 pandemic as M/s DTEI is from China.</li><li>• Likely to be completed by Dec-2023.</li></ul>
2	Ukai	6	1x500	<ul style="list-style-type: none"><li>• Tender uploaded on 20.01.22</li><li>• Pre-bid meeting held on 03/04.03.2022.</li></ul>
3	Sikka	3 & 4	2x250	<ul style="list-style-type: none"><li>• Last date of Physical bid submission was 28.04.2022. Technical bids are opened and under scrutiny.</li><li>• Expected to finalize by June-22 and work is also likely to be completed by Dec-2024 (30 months completion period).</li></ul>
4	Gandhinagar	3,4 & 5	3x210	<ul style="list-style-type: none"><li>• Feasibility and DPR work is completed. Tender preparation is under process.</li></ul>
5	Wanakbori	1 to 7	7x210	<ul style="list-style-type: none"><li>• Expected to finalize the work orders by Augt-22. The work is likely to be completed by Feb-2025 (30 months completion period).</li></ul>
6	Ukai	3, 4 & 5	2x200, 1x210	
7	KLTPS	3 &4	2x75	



**(B) Unit wise status of ESP retrofitting work of GSECL plants is under:**

Sr. No.	Name of TPS	Unit No.	Capacity in MW	Existing norms in mg/Nm <sup>3</sup>	Order Cost Rs. in Cr.	Status	Remark
1	Wanakbori TPS	8	800	30	--	Not Required	Meets the emission norms
2	Ukai TPS	6	500	50	--	Not Required	
3	Sikka TPS	3	250	50	--	Not Required	
4	Sikka TPS	4	250	50	--	Not Required	
5	Ukai TPS	3	200	100	46.75	Completed in April-16	After retrofitting, SPM norms achieved
6	Ukai TPS	4	200	100		Completed in May-17	
7	Ukai TPS	5	210	100	27.5	Completed in March-17	After ESP retrofitting SPM norms are within limit.
8	Wanakbori TPS	1	210	100	82.5	Completed in March-17	
9	Wanakbori TPS	2	210	100		Completed in Nov-17	
10	Wanakbori TPS	3	210	100		Completed in April-18	
11	Wanakbori TPS	4	210	100	112.5	Material is already supplied. Work of Unit-6 is completed. Work of Unit-4&5 shall be taken in next shut down.	Order for ESP retrofitting is placed on BHEL
12	Wanakbori TPS	5	210	100			
13	Wanakbori TPS	6	210	100			
14	Wanakbori TPS	7	210	100	--	Not Required	Meets the emission norms
15	Gandhinagar TPS	3	210	100	--	Not Required	Meets the emission norms
16	Gandhinagar TPS	4	210	100	--	Not Required	
17	Gandhinagar TPS	5	210	100	--	Not Required	
18	KLTPS	3&4	75 x 2	100	42.35	Tender Price bids are opened and under approval.	



**ANNEXURE - IV**

**Statement showing the impact of partial load operation on the performance and subsequently on cost of generation of GSECL plants.**

Particulars	Unit loading %	Typical 200/210 MW Unit				Typical 500 MW Unit			
		Due to Heat Rate	Add. O&M	Start-up Oil	Total	Due to Heat Rate	Add. O&M	Start-up Oil	Total
<b>Loading</b>		<b>Additional cost in Paisa/Kwh</b>				<b>Additional cost in Paisa/Kwh</b>			
<b>Minimum load With significant load following</b>	90%	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.3
	80%	0.0	0.0	0.0	0.0	3.4	0.0	0.0	3.4
	70%	2.1	3.3	0.0	5.4	6.7	7.1	0.0	13.8
	60%	7.5	3.3	0.0	10.8	12.6	7.1	0.0	19.7
	50%	15.0	3.3	0.0	18.3	20.0	7.1	0.0	27.2
	40%	23.2	3.3	0.0	26.5	27.6	7.1	0.0	34.8
	30%	34.6	3.3	0.0	38.0	38.0	7.1	0.0	45.2
<b>Weekly Start</b>		23.2	60.2	14.8	98.2	27.6	69.2	10.7	107.5
<b>Daily Start</b>		7.5	444.1	112.6	564.2	12.6	531	75.0	618.6



## ANNEXURE - V

GSECL's Action plan for retirement of existing power plants, Capacity addition, and optimum utilization with economic efficiency for next ten years.

### **Retirement of existing plants: -**

The committee of CEA has identified Ukai TPS Unit No 3 & 5 and Wanakbori TPS Unit No 1 & 2 as Old & Inefficient and recommended for phasing out in view of higher SHR>2600 kcal/kwh and non-compliance of New Environment Norms. However, there is no plan for retirement of these units at present in view of the existing demand supply scenario prevailing in the state of Gujarat. Moreover, GSECL intends to carry out Energy Efficiency Renovation & Modernisation to reduce SHR as well as making these units flexible (capable to run up to 30% load without oil support). It is also expected that after R & M the SHR of 2350 Kcal/kwh can be achieved.

The tender for Ukai TPS Unit No 3 & 5 for Retrofitting of Turbine and Boiler Modification is already published and shall be finalized at the earliest. Moreover, similar work is being planned for Wanakbori TPS Unit no. 1 & 2.

In view of this it is to submit that at present, there is no plan to retire existing old plants of GSECL.

### **New Capacity Addition: -**

#### **By Conventional Power Plant: -**

GSECL intends to add 800 MW power plant with super critical technology in next 10 years. It is being planned to construct 800 MW units at Ukai TPS to be added to existing generation capacity Ukai TPS. As per the present anticipation, the 800 MW unit at Ukai may be commissioned in F.Y. 2025-26.

Thus GSECL has planned to add total 800 MW conventional indigenous coal based power plant in next 10 years.

#### **By Renewable Energy Generation: -**

During the F.Y. 2021-22, 75 MW Solar PV Project Phase-II at Dhuvaran has been declared as commercially operational on 21/03/2021 (50 MW) & 15/04/2021 (25 MW).

100 MW Solar PV Project Phase-I at Raghnesda is under progress. However, in this project, 30 MW has been declared as commercially operational on 03/03/2022, 55 MW on 22/03/2022. Remaining 15 MW capacities is likely to be commissioned by June-2022.

100 MW Solar PV Project Phase-II at Raghnesda is under progress. However, this project is likely to be partially commissioned during June-2022.

Solar PV Projects at different locations having total capacity of 2500 MW on Government waste land around GETCO Sub stations have been envisaged. Out of this, 30 MW project at Chandarva has already been commissioned during F.Y. 2021-22. Moreover, another project of 35 MW at Khandiya has also been declared as commercially operational on 19/03/2022. Further, following RE capacities are likely to be added in phased manner during next ten years.



Sr. no.	Financial year	Likely capacity to be added in RE (MW)	Details of projects.
1	2022-23	537	Solar projects in Govt. Waste Land in the vicinity of GETCO S/s.
2	2023-24	3300	Solar projects in Govt. Waste Land in the vicinity of GETCO S/s- 1000 MW, 500 MW-Hybrid RE, 500 MW Floating Solar projects.  1300 MW Khavda Solar park.
3	2024-25	1600	Solar projects in Govt. Waste Land in the vicinity of GETCO S/s- 900 MW and Khavda Solar Park- 700 MW.
4	2025-26	1325	Khavda Solar Park- 1325 MW
5	2026-27 to 2032-33	500 MW every year	Locations have not yet been identified.

Thus in next 10 years GSECL has planned to add the RE Capacity of total 10262 MW.



**ANNEXURE - VI**

Statement showing details of ESP retrofitting works implemented by GSECL at different power stations

Sr. No	Name of TPS	Unit No	Unit Capacity (In MW)	Cost (Rs. Crores)	Status
1	Wanakbori	4,5 & 6	3 x 210	112.50	<ul style="list-style-type: none"><li>• LOI issued on 17.10.2019.</li><li>• Unit No#6 work is already completed.</li><li>• Unit#4 &amp; 5 will be carried out in next available outage. Work is likely to be completed by 31/03/2023.</li></ul>
2	KLTPS	3 & 4	2x75	42.35	<ul style="list-style-type: none"><li>• Tender published on 04.12.2020.</li><li>• Post bid meeting completed</li><li>• Price bid is opened on 19.04.2022. Work order shall be awarded after obtaining necessary approvals. The work is likely to be completed in. The likely work completion period of unit-3 is 12 months and of unit-4 is 16 months from the date of LOI.</li></ul>

As regards to the cost benefit analysis, it is humbly submitted that ESP retrofitting works are being implemented to meet the SPM norms specified by MoEF & CC.



## SECTION 9. PRAYER

GSECL respectfully prays to the Hon'ble Commission:

1. To admit this Petition seeking True up of FY 2021-22, Aggregate Revenue Requirement for FY 2023-24 & Tariff Proposal for FY 2023-24.
2. To approve the True up for FY 2021-22 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 2021-22 from four DISCOMs through GUVNL in twelve (12) equal monthly instalments during FY 2023-24.
4. To approve Aggregate Revenue Requirement for FY 2023-24 as submitted by the Petitioner.
5. Pass suitable orders for implementation of Tariff Proposal for FY 2023-24 for making it applicable from 1<sup>st</sup> April, 2023 onwards.
6. To grant any other relief as the Hon'ble Commission may consider appropriate.
7. The Petitioner craves leave of the Hon'ble Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
8. Pass any other Order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

Signature of the Petitioner

Gujarat State Electricity Corporation Limited

Dated:

Place:

### **Declaration:**

Declaration that the subject matter of the petition has not been raised by the petitioner before any other competent forum, and that no other competent forum is currently seized of the matter or has passed any orders in relation thereto.

Signature of the Petitioner

Gujarat State Electricity Corporation Limited

Dated:

Place:





**BEFORE THE GUJARAT ELECTRICITY REGULATORY COMMISSION  
GANDHINAGAR**

Filing No. \_\_\_\_\_

Case No. \_\_\_\_\_

<b>IN THE MATTER OF</b>	Filing of Petition for True Up of FY 2021-22 & Determination of ARR & Tariff for FY 2023-24 under GERC MYT Regulations, 2016 and Section 62 of the Electricity Act, 2003
<b>AND</b>	
<b>IN THE MATTER OF</b>	Gujarat State Electricity Corporation Limited, Vidyut Bhavan, Race Course, Vadodara 390007 Phone No. :0265 6612003; Fax: 0265 2344537 E-mail: <a href="mailto:gmf.gsecl@gebmail.com">gmf.gsecl@gebmail.com</a> , <a href="mailto:coacommerce.gsecl@gebmail.com">coacommerce.gsecl@gebmail.com</a> <p style="text-align: right;"><b>Petitioner</b></p>
<b>AND</b>	
<b>IN THE MATTER OF</b>	Gujarat Urja Vikas Nigam Limited, Sardar Patel Vidyut Bhavan, Race Course, Vadodara 390007 E-mail: <a href="mailto:coacom@gebmail.com">coacom@gebmail.com</a> , <a href="mailto:gmipp.guvnl@gebmail.com">gmipp.guvnl@gebmail.com</a> <p style="text-align: right;"><b>Respondent</b></p>

**Affidavit verifying the Application**

I, Kalpana Hiren Chadderwala, wife of Shri Hiren Chadderwala, aged about 48 years, residing at 50/B, Shiv kumud Society, Akota, Vadodara do solemnly affirm and say as follows:

I am General Manager (Finance & Accounts) of the Gujarat State Electricity Corporation Limited, the Petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit.

The Statements made hereinabove are true to my knowledge and belief, which I believe them to be true.

Solemnly affirmed at Vadodara on this \_\_\_ day of November 2021, that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

(K. H. Chadderwala)  
General Manager (F & A)  
GSECL-Vadodara

Place: Vadodara.

Dated: \_\_\_\_ .12.2022



## SECTION 10. ANNEXURE – I: TARIFF FILING FORMATS

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**Note:** The forms which are not applicable are excluded.