



**ORDER
ON
TRUE UP FOR THE F.Y. 2020-21,
REVIEW FOR THE F.Y. 2021-22 &
AGGREGATE REVENUE REQUIREMENT
AND
TARIFF FOR THE F.Y. 2022-23**

For

**Power Department,
Government of Sikkim**

March, 2022

**Sikkim State Electricity Regulatory Commission
Gangtok, Sikkim**

LIST OF CONTENTS

1. BACKGROUND	1
2. SUMMARY OF AGGREGATE REVENUE REQUIREMENT FOR FY 2020-21	9
2.1 Aggregate Revenue Requirement (ARR)	9
2.2 Tariff – Existing vs. Proposed.....	9
2.3 Prayers of PDS	11
3. POWER SECTOR – AN OVERVIEW	12
4. BRIEF SUMMARY OF OBJECTIONS RAISED, RESPONSE OF PDS AND COMMENTS OF THE COMMISSION.....	18
5. PROVISIONAL TRUE UP FOR THE FY 2020-21.....	44
5.1 Preamble	44
5.2 Energy Demand (Sales)	44
5.3 Transmission & Distribution Losses (T&D Losses)	45
5.4 Own Generation	46
5.5 Power Purchase	47
5.6 Energy Balance	47
5.7 Fuel Cost	48
5.8 Power Purchase Cost	49
5.9 Employee Cost	49
5.10 Repair and Maintenance Expenses.....	50
5.11 Administrative and General Expenses	50
5.12 Gross Fixed Assets	51
5.13 Depreciation	51
5.14 Interest and Finance Charges	52
5.15 Interest on Working Capital	52
5.16 Return on Equity	53
5.17 Non-Tariff Income	54
5.18 Revenue from Existing Tariffs for the FY 2020-21	55
5.19 Aggregate Revenue Requirement (ARR) for the FY 2020-21	56
6. REVIEW FOR THE FY 2021-22.....	57
6.1 Preamble	57
6.2 Energy Demand (Sales)	57
6.3 Transmission & Distribution Losses (T&D Losses)	58
6.4 Own Generation	59
6.5 Power Purchase	59
6.6 Energy Balance	60
6.7 Fuel Cost	61
6.8 Cost of Generation.....	61
6.9 Power Purchase Cost	61
6.10 Intra State Transmission Charges	62
6.11 Employee Cost	62
6.12 Repair and Maintenance Expenses.....	63
6.13 Administrative and General Expenses	63
6.14 Gross Fixed Assets	63
6.15 Depreciation	64
6.16 Interest and Finance Charges	64
6.17 Interest on Working Capital	65

6.18	Return on Equity	66
6.19	Non-Tariff Income.....	67
6.20	Revenue from tariff for the FY 2021-22	67
6.21	Aggregate Revenue Requirement (ARR) for the FY 2021-22	68
7.	AGGREGATE REVENUE REQUIREMENT FOR THE FY 2022-23, COMMISSION'S ANALYSIS AND DECISIONS	69
7.1	Consumer Categories.....	69
7.1.1	Growth of Consumers	69
7.2	Category-wise Energy Sales.....	70
7.2.1	Analysis of Energy Sales Projections by PDS and the Commission's decision.....	72
7.3	Category-Wise Energy Sales	80
7.4	Transmission and Distribution Losses (T&D Losses)	81
7.5	Power Procurement.....	81
7.5.1	Own Generation	81
7.5.2	Power purchase from Central Generating Stations.....	82
7.6	Energy requirement and availability.....	84
7.7	Aggregate Revenue Requirement	86
7.8	Fuel Cost.....	86
7.10	Power Purchase Cost	87
7.11	Intra State Transmission Charges	89
7.12	Employee Cost.....	90
7.13	Administrative and General Expenses	91
7.14	Repairs and Maintenance Expenses	92
7.15	Depreciation	92
7.16	Interest and Finance Charges	93
7.17	Interest on Working Capital	94
7.18	Return on Equity	95
7.19	Provision for Bad Debts.....	95
7.20	Non-Tariff Income.....	95
7.21	Revenue from Existing Tariff	96
7.22	Aggregate Revenue Requirement (ARR) and Gap	97
7.23	Revenue Gap for the FY 2022-23.....	98
7.24	Recovery of Revenue Gap for the FY 2022-23	99
8.	DIRECTIVES AND ADVISORIES.....	102
9.	TARIFF PRINCIPLES AND DESIGN	109
9.1	Background.....	109
9.2	Tariff Proposed by the PDS and Approved by the Commission	111
10.	WHEELING CHARGES.....	117
10.1	Wheeling Charges	117
11.	FUEL AND POWER PURCHASE COST ADJUSTMENT.....	119

LIST OF TABLES

Table 2.1: Aggregate Revenue Requirement Projected by PDS.....	9
Table 5.1: Energy Sales approved by Commission for FY 2020-21	45
Table 5.2: T&D Loss calculation approved by the Commission for FY 2020-21.....	45
Table 5.3: Own Generation approved by the Commission during FY2020-21.....	46
Table 5.4: Power Purchase approved by the Commission during FY2020-21.....	47
Table 5.5: Energy Balance approved by the Commission for FY 2020-21.....	48
Table 5.6: Fuel Cost approved by the Commission for FY 2020-21.....	48
Table 5.7: Power Purchase Cost approved by the Commission for FY 2020-21.....	49
Table 5.8: Employee Cost approved by the Commission for FY 2020-21.....	49
Table 5.9: Repair & Maintenance Expenses approved by the Commission for FY 2020-21 .	50
Table 5.10: A & G Expenses approved by the Commission for FY 2020-21.....	50
Table 5.11: Gross Fixed Assets during FY 2020-21	51
Table 5.12: Depreciation approved by the Commission for FY2020-21	51
Table 5.13: Interest on Working Capital calculated by the Commission for FY 2020-21	53
Table 5.14: Interest on Working Capital now approved by the Commission for FY 2020-21	53
Table 5.15: Non-Tariff Income approved by the Commission for FY 2020-21.....	55
Table 5.16: Revenue from Sales approved by Commission for FY 2020-21	55
Table 5.17: Aggregate Revenue Requirement approved by Commission for FY 2020-21	56
Table 6.1: Energy Sales approved by the Commission for FY 2021-22	57
Table 6.2: T&D Loss calculation approved by the Commission for FY 2021-22.....	58
Table 6.3: Own Generation approved by the Commission for FY 2021-22	59
Table 6.4: Power Purchase approved by the Commission for FY 2021-22	59
Table 6.5: Energy Balance approved by the Commission for FY 2021-22.....	60
Table 6.6: Fuel Cost approved by the Commission for FY 2021-22.....	61
Table 6.7: Cost of Generation approved by the Commission for FY 2021-22	61
Table 6.8: Power Purchase Cost approved by the Commission for FY 2021-22.....	61
Table 6.9: Intra State Transmission Charges approved by the Commission for FY 2021-22	62
Table 6.10: Employee Cost approved by the Commission for FY 2021-22	62
Table 6.11: Repair & Maintenance Expenses approved by the Commission for FY 2021-22	63
Table 6.12: A & G Expenses approved by the Commission for FY 2021-22.....	63
Table 6.13: Gross Fixed Assets furnished by PDS for FY 2021-22.....	64
Table 6.14: Depreciation approved by the Commission for 2021-22.....	64
Table 6.15: Interest on Working Capital calculated by the Commission for FY 2021-22	66
Table 6.16: Interest on Working Capital approved by the Commission for FY 2021-22	66
Table 6.17: Non-Tariff Income approved by the Commission for FY 2021-22.....	67
Table 6.18: Revenue from the Tariff approved by the Commission for FY 2021-22.....	67
Table 6.19: Aggregate Revenue Requirement and Gap approved for FY 2021-22 (RsCrore)	68
Table 7.1: Projected of no. of consumers.....	70
Chart 7.1: No. of consumers projected by PDS for FY 2022-23	70
Table 7.2: Energy Sales projected by PDS for the FY 2022-23	71
Chart 7.2: Energy Sales projected by PDS for FY 2022-23.....	71
Table 7.3: CAGR of energy sales	72
Table 7.4: Specific monthly consumption/consumer.....	73
Chart 7.3: Trend of actual consumption – Domestic Category	73
Chart 7.4: Trend of actual consumption – Commercial Category	74
Chart 7.5: Trend of actual consumption – Public Lighting Category	75
Chart 7.6: Trend of actual consumption – Temporary Supply Category	76
Chart 7.7: Trend of actual consumption – HT Industrial Category	77

Chart 7.8: Trend of actual consumption – LT Industrial Category.....	78
Chart 7.9: Trend of actual consumption – Bulk Supply Category.....	79
Chart 7.10: Trend of actual consumption – Sales within the State	80
Table 7.6: Energy Requirement approved by the Commission	81
Table 7.8: Summary of Power Purchase furnished by PDS	83
Table 7.9: Power Procurement approved by the Commission	84
Table 7.10: Energy Balance projected by PDS	84
Table 7.11: Energy Balance approved by the Commission	85
Table 7.12: Aggregate Revenue Requirement projected by PDS.....	86
Table 7.13: Power Purchase Cost projected by PDS	87
Table 7.14: RPO Compliance approved by the Commission	88
Table 7.15: Power Purchase Cost approved by the Commission	89
Table 7.16: Intra State Transmission Charges projected by PDS.....	90
Table 7.17: Intra State Transmission Charges approved by the Commission	90
Table 7.18: Employee Cost furnished by PDS	90
Table 7.19: Employee Cost approved by the Commission	91
Table 7.20: Administrative and General Expenses Projected by PDS.....	91
Table 7.21: Administration & Generation Expenses approved by the Commission	91
Table 7.22: Repair and Maintenance Expenses projected by PDS	92
Table 7.23: Repair and Maintenance Expenses approved by the Commission	92
Table 7.24: Depreciation Projected by PDS.....	93
Table 7.25: Depreciation approved by the Commission	93
Table 7.26: Interest on Working Capital Projected by PDS	94
Table 7.27: Interest on Working Capital approved by the Commission.....	95
Table 7.28: Revenue at Existing Tariff as approved by the Commission for FY 2022-23.....	96
Table 7.29: Aggregate Revenue Requirement projected by PDS.....	97
Table 7.30: Aggregate Revenue Requirement approved by the Commission.....	98
Table 7.31: Approved Revenue at Existing Tariff & Gap.....	98
Table 7.32: Revenue from revised Tariff approved by the Commission for FY 2022-23.....	100
Table 9.1: Existing Tariffs v/s proposed Tariffs for FY 2022-23.....	112
Table 9.2: Tariffs approved by the Commission for FY 2022-23	114
Table 10.1: Allocation Matrix.....	117
Table 10.2: Segregation of wires and Retail Supply Costs for FY 2022-23.....	117
Table 10.3: Wheeling Tariff approved by the Commission.....	118