Business Plan for 3-Year

MYT Control Period from FY 2022-23 to FY 2024-25

Submitted by:

Electricity Department

Andaman & Nicobar Administration

January-2022

GENERAL HEADINGS OF PROCEEDINGS

BEFORE HON'BLE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA & UNION TERRITORIES

FILE No: _____

CASE No: _____

IN THE MATTER OF	:	**Petition for Approval of Business Plan for 3 year MYT Control Period From FY 2022-23 to 2024-25.**
AND		
IN THE MATTER OF THEPETITIONER	:	**The Electricity Department, Vidyut Bhawan, Port Blair-744101**

Petitioner

Electricity Department of Union Territory of Andaman & Nicobar Administration (hereinafter referred to as "EDA&N"), files Petition for Approval of Business Plan for 3-year MYT Control Period From FY 2022-23 to 2024-25.

अधीक्षक अभियंता
Superintending Engineer
विद्युत विभाग / Electricity Department
पोर्ट ब्लेयर / Port Blair

6453/2022/Diary Section

सत्यमेव जयते

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Andaman and Nicobar Administration

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BEFORE HON'BLE JOINT ELECTRICITY REGULATORY COMMISSION

FOR THE STATE OF GOA & UNION TERRITORIES

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.....Petitioner

NOTARY ANDAMAN RINKU MARYAN ADVOCATE 18/1/22

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6453/2022/Diary Section

AFFIDAVIT

I, KARUNA JAYDHAR, S/o KANAI LAL JAYDHAR, (aged 58 years), (occupation) Government Service residing at 19- Tagore Road, Port Blair, Andaman & Nicobar Islands, the deponent named above do hereby solemnly affirm and state on oath as under:-

1. That the deponent is the Superintending Engineer of Electricity Department of Andaman & Nicobar Administration and is acquainted with the facts deposed to below.
2. I, the deponent named above do hereby verify that the contents of the accompanying petition are based on the records of the Electricity Department, Andaman & Nicobar Administration maintained in the ordinary course of business and believed by them to be true and I believe that no part of it is false and no material has been concealed there from.

Details of enclosures:

a) Petition for Approval of Business Plan for 3-year MYT Control Period from FY 2022-23 to 2024-25

b) Fee for Tariff Petition is being transferred through RTGS.

Affirmed before me after the contents were read over & explained in simple Hindi / English language, on this 18th day of January 2022

For The Electricity Department of A&N

अधीक्षक अभियन्ता
Superintending Engineer
बिजली विभाग / Electricity Department
पोर्ट ब्लेयर / Port Blair

Petitioner

Place: Port Blair, Andaman & Nicobar,
Dated: - 18/1/2022

RINKU NARAYAN
ADVOCATE & NOTARY PUBLIC
PORT BLAIR, A & N ISLANDS

I, Rinku Narayan Advocate, Notary Public, do hereby declare that the person making this affidavit is known to me through the perusal of records and I am satisfied that he is the same person alleging to be deponent himself.

Advocate

Solemnly affirmed before me on this 18th day of January 2022 at 5 a.m. /p.m. by the deponent who has been identified by the aforesaid Advocate. I have satisfied myself by examining the deponent that he understood the contents of the affidavit which has been read over and explained to him. He has also been explained about section 193 of Indian Penal Code that whoever intentionally gives false evidence in any of the proceedings of the Commission or fabricates evidence for purpose of being used in any of the proceedings shall be liable for punishment as per law.

Serial No 520/XV/2022

BEFORE HON'BLE JOINT ELECTRICITY REGULATORY COMMISSION

FOR THE STATE OF GOA & UNION TERRITORIES

FILE No: _____

CASE No: _____

IN THE MATTER OF	:	**Petition for Approval of Business Plan for 3-year MYT Control Period From FY 2022-23 to 2024-25.**
AND		
IN THE MATTER OF THE PETITIONER	:	**The Electricity Department, Vidyut Bhawan, Port Blair-744101, U.T. of Andaman & Nicobar.**

Petitioner

PETITIONER, UNDER JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA AND UNION TERRITORIES (MULTI YEAR TARIFF) REGULATIONS, 2021 FILES FOR INITIATION OF PROCEEDINGS BY THE HON'BLE COMMISSION FOR APPROVAL OF BUSINESS PLAN FOR 3 YEAR MYT CONTROL PERIOD FROM FY 2022-23 to 2024-25 OF ELECTRICITY DEPARTMENT OF ANDAMAN & NICOBAR ADMINISTRATION (HEREIN AFTER REFERRED TO AS "EDA&N").

THE ELECTRICITY DEPARTMENT OF ANDAMAN & NICOBAR ADMISTRATION RESPECTFULLY SUBMITS:

1. The Petitioner, The Electricity Department of Andaman & Nicobar Administration has been allowed to function as Distribution Utility for UT of Andaman & Nicobar.

2. Pursuant to the enactment of the Electricity Act, 2003, EDA&N is required to submit its Aggregate Revenue Requirement (ARR) and Tariff Petitions as per procedures outlined in section 61, 62 and 64, of EA 2003, and the governing regulations thereof.

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3. The Joint Electricity Regulatory Commission For The State Of Goa And Union Territories (Multi Year Tariff) Regulations, 2021 requires the EDA&N to file Business Plan, for Control Period of three financial years from April 1, 2022 to March 31, 2025, which shall comprise but not be limited to detailed category-wise sales and demand projections, power procurement plan, capital investment plan, financing plan and physical targets.

4. EDA&N has submitted its Business Plan for Control Period of three financial years from April 1, 2021 to March 31, 2025 for approval of the Hon'ble Commission on the basis of the principles outlined in tariff regulations notified by the Joint Electricity Regulatory Commission.

5. EDA&N prays to the Hon'ble Commission to admit the attached Business Plan for Control Period of three financial years from April 1, 2022 to March 31, 2025 and would like to submit that:

PRAYERS TO THE HON'BLE COMMISSION:

1. The petition provides, inter-alia, EDA&N's approach for formulating the present petition, the broad basis for projections used, summary of the proposals being made to the Hon'ble Commission, performance of EDA&N in the recent past, and certain issues impacting the performance of EDA&N in the Licensed Area.

2. Broadly, in formulating the Business Plan for Control Period of three financial years from April 1, 2022 to March 31, 2025, the principles specified by the Joint Electricity Regulatory Commission For The State Of Goa And Union Territories (Multi Year Tariff) Regulations, 2021 ("Tariff Regulations") have been considered as the basis.

3. In order to align the thoughts and principles behind the Business Plan, EDA&N respectfully seeks an opportunity to present their case prior to the finalization of the Business Plan. EDA&N believes that such an approach would go a long way towards providing a fair treatment to all the stakeholders and may eliminate the need for a review or clarification.

4. EDA&N may also be permitted to propose suitable changes to the Business Plan and the mechanism of meeting the revenue on further analysis, prior to the final approval by the Hon'ble Commission.

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In view of the above, the petitioner respectfully prays that Hon'ble Commission may:

- Approve the Business Plan for Control Period of three financial years from April 1, 2022 to March 31, 2025 for EDA&N formulated in accordance with the guidelines outlined as per the regulation of Joint Electricity Regulatory Commission relating to Distribution Licensee and the principles contained in Tariff Regulations;

- Condone any inadvertent delay/ omissions/ errors/ rounding off differences/shortcomings and EDA&N may please be permitted to add/ change/ modify/ alter the petition;

- Permit EDA&N to file additional data/ information as may be necessary;

- Pass such further and other orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case.

The Electricity Department of

Andaman & Nicobar administration

Petitioner

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Superintending Engineer
विद्युत विभाग / Electricity Department
पोर्ट ब्लेयर / Port Blair

Place: Port Blair, Andaman& Nicobar Islands

Dated:

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List of abbreviations

Abbreviation	Full Form
A&G	Administrative and General
ACoS	Average Cost of Supply
Act	The Electricity Act, 2003
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal of Electricity
CAGR	Compound Annualized Growth rate
Capex	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGRF	Consumer Grievance Redressal Forum
CGS	Central Generating Stations
COD	Commercial Operation Date
Cr	Crores
EDA&N	Electricity Department Andaman & Nicobar
FY	Financial Year
GFA	Gross Fixed Assets
HT	High Tension
JERC	Joint Electricity Regulatory Commission for the state of Goa and Union Territories
LT	Low Tension
MU	Million Units
MYT	Multi Year Tariff
NFA	Net Fixed Assets
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance

Abbreviation	Full Form
PLF	Plant Load Factor
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
REC	Renewable Energy Certificate
RoE	Return on Equity
RPO	Renewable Purchase Obligation
T&D Loss	Transmission & Distribution Loss
SECI	Solar Energy Corporation of India Ltd
UT	Union Territory

CHAPTER 1: INTRODUCTION

BACKGROUND

1.1 The Department of Electricity of Andaman & Nicobar Administration ("EDA&N") is responsible for power supply in the union territory. Power requirement of EDA&N is met by own generation station as well as power purchase.

Andaman & Nicobar Islands is cluster of islands scattered in the Bay of Bengal. These islands are truncated from rest of India by more than 1000 kms. The total area of the territory is 8249 sq. kms having population of 3,79,944 as per 2011 Census provisional records & average growth rate is 6.68%. The tempo of economic development has tremendously accelerated along with all-round expansion in the areas/sectors viz. (i) Shipping Services, (ii) Civil Supplies, (iii) Education, (iv) Fisheries, (v) Tourism & Information Technology, (vi) Health, (vii) Industries, (viii) Rural Development, (ix) Social Welfare, (x) Transport, (xi) Increase in District Headquarters (xii) Central Government Department, (xiii) Public Undertaking & other offices, (xiv) Services & Utilities, (xv) Defence Establishment (xvi) Commercial Organisations/Business Centre's etc. Thus, these islands have reached at the take-off stage of total economic transformation. All these economic and infrastructure developments require power as a vital input & to play a key role for achieving overall transformations.

1.2 The table below gives an overview of present transmission and distribution infrastructure of EDA&N as of 31.03.21

Table 1.2: Present Infrastructure

Particulars	Length (Kms)
33KV Lines	480.53 Km.
11KV Lines	984.47 Km.
LT Lines (415 V)	3858 Km.
Distribution Transformers	1136 Nos.
Capacity of Distribution Transformers 33 KV S/S	227.20 MVA
Total Number of Power House (in Nos)	53 Nos.
Peak Demand	60 MW
Present Installed Capacity	127.80 MW
Diesel Capacity (including 36.53 MW Hiring)	93.32 MW
Hydro Capacity	5.25 MW
Solar Capacity	29.23 MW
Departmental Power House	25 Nos
Private Power House	17 Nos
Community Power House	11 Nos
Consumers	141676

1.3 The key duties being discharged by EDA&N are:

- Laying and operating of such electric line, sub-station and electrical plant that is primarily maintained for the purpose of distributing electricity in the area of Andaman & Nicobar Islands, notwithstanding that such line, sub-station or electrical plant are high pressure cables or overhead lines or associated with such high-pressure cables or overhead lines; or used incidentally for the purpose of transmitting electricity for others, in accordance with Electricity Act. 2003 or the Rules framed there under.
- Operating and maintaining sub-stations and dedicated transmission lines connected there with as per the provisions of the Act and the Rules framed there under.
- Generation of electricity for the supply of electricity required within the boundary of the UT and for the distribution of the same in the most economical and efficient manner;
- Supplying electricity, as soon as practicable to any person requiring such supply, within its competency to do so under the said Act;
- Preparing and carrying out schemes for distribution and generally for promoting the use of electricity within the UT.

1.4 The present power availability of Electricity Department, Andaman & Nicobar Administration is mostly from own generation form DG plants & power purchase from the IPPs at various islands. The current demand is primarily dependent on the domestic and commercial consumers which contributed approx. 81% to the total sales of EDA&N in FY 20-21.

OBJECTIVE OF BUSINESS PLAN

1.5 The Joint Electricity Regulatory Commission (JERC) for the State of Goa and Union Territories, in exercise of powers conferred by sub section (1) of section 181 and clauses (zd), (ze) and (zf) of sub section (2) of section 181, read with sections 61, 62,83 and 86, of the Electricity Act 2003 (36 of 2003) and all other powers enabling it in this behalf, has issued the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Multi Year Tariff) Regulations, 2021, hereinafter referred to as "MYT Regulations".

1.6 As per the Regulations, the Distribution Licensee were required to file a Business Plan for Control Period of three financial years from April 1, 2022 to March 31, 2025, which shall comprise but not be limited to detailed category-wise sales and demand projections, power procurement plan, capital investment plan, financing plan and physical targets before the Hon'ble Commission as part of the Tariff Filing before the beginning of the Control Period.

1.7 Accordingly, the EDA&N is hereby filing the Business Plan for the Control Period (FY 2022-23 to FY 2024-25) based on the available data for the FY 2021-22 and previous financial years.

1.8 The EDA&N has prepared the Business Plan taking into the consideration the various existing internal factors and external business environment affecting the business.

1.9 The key objectives of this business plan are:

- Providing a tool for strategic planning and management - The primary objective of the Business Plan is to analyse and anticipate the future requirements and strategically plan for the requisite capital investments, means of financing the schemes and various associated costs and document them which would serve as an effective tool for monitoring and execution of future works. It is important to project the growth in transmission and distribution network infrastructure commensurate with the energy demand required for fuelling the economic growth targets of the UT.
- Meeting the regulatory compliance of submission of a business plan as mandated by the Joint Electricity Regulatory Commission, MYT Regulations, 2021.
- Support in decision making leading to better Operational Efficiency: The Business Plan is prepared so as to be useful for the Management, associated stakeholders, the Hon'ble Commission and various government bodies. The future projections in the Plan would help the department in decision making and taking proactive actions, and thus improving the overall operational efficiency of the transmission and distribution network infrastructure.

1.10 The EDA&N submits that the Business plan being a dynamic document may need to be updated at periodic intervals taking into account the changes in the internal and external environment and these changes would be intimated to the Hon'ble Commission from time to time.

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1.10.1 REVIEW OF PREVIOUS CONTROL PERIOD

Electricity Department A&N submitted the petition for approval of Business Plan for the MYT control period FY 2019-20 to FY 2021-22 vide petition no. 264/2018. The Hon'ble Commission after considering the petition and views of all the stake holders issued the Business Plan Order on 31st December, 2018. The Hon'ble Commission in its order had approved various parameters as required by the MYT Regulations, 2018. Electricity Department A&N has made efforts to achieve the targets/trajectories as set out by the Hon'ble Commission. The yearly performances have been submitted for approval of the Commission vide APR for the FY2019-20 & FY 2020-21. The Hon'ble Commission has already passed order in respect of the above petitions. EDA&N has also submitted True-up petition for the FY 2017-18, FY 2018-19, FY 2019-20 & FY 2020-21. EDA&N shall be submitting the APR for the FY 2021-22 along with the MYT petition for the next control period FY 2022-23 to FY 2024-25.

1.11. The subsequent sections provide the highlights of the targets & achievements on various parameters as approved in the Business Plan & MYT petition for the control period FY 2019-20 to FY 2021-22.

1.12. **Capital Investment Plan** - The Hon'ble Commission in the Business Plan for the MYT control period of the FY 2019-20 to FY 2021-22 had approved the Capital Investment Plan for each of the years of the control period. The year wise capital expenditure approved and actual expenditure is provided in the table below:

Table 1.12: Comparison of Capital Investment Plan for Previous Business Plan

Particulars	2019-20		2020-21		2021-22	
	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Estimated
Capital Expenditure (Rs. in Crores)	16.32	16.86	20.30	53.54	9.55	28.36

1.13. **Capitalisation** - The year wise capitalization for the FY 2019-20 & 2020-21 & estimated capitalization for the FY 2021-22 vis-à-vis capitalization schedule approved is provided in the table below:

Table 1.13: Comparison of Capitalization for Previous Business Plan

Particulars	2019-20		2020-21		2021-22	
	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Estimated
Capitalisation (Rs. in Crores)	6.32	1.38	30.30	23.88	9.55	28.36

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1.14. **T&D Loss Trajectory** - The year wise distribution loss for the FY 2019-20 & 2020-21 & estimated distribution loss for the FY 2021-22 vis-à-vis approved distribution loss trajectory is provided in the table below:

Table 1.14: Comparison of T&D Loss for Previous Business Plan

Particulars	2019-20		2020-21		2021-22	
	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Actual (Audited)	Approved in Business Plan Order	Estimated
T& D Loss	14.34%	21.58%	13.84%	18.01%	13.34%	17.91%

1.15. **Sales Forecast** - The year wise sales for various categories of consumers for the FY 2019-20 & 2020-21 & estimated sales for the FY 2021-22 vis-à-vis approved sales is provided in the table below:

Table 1.15: Comparison of Energy Sales for Previous Business Plan *(In MUs)*

Particulars	2019-20		2020-21		2021-22	
	Approved in Business Plan Order	Actual	Approved in Business Plan Order	Actual	Approved in Business Plan Order	Estimated
Domestic	156.46	142.93	166.48	139.30	177.13	148.96
Commercial	63.26	72.41	64.50	48.55	65.76	76.17
Industry	23.93	12.82	26.32	8.53	28.96	13.48
Bulk	41.60	32.26	43.81	27.03	46.13	33.88
Public Lighting	8.65	6.73	8.65	7.77	8.65	7.07
Irrigation, Pumps & Agriculture	1.15	1.12	1.19	1.08	1.23	1.14
Total	295.06	268.27	310.95	232.27	327.86	280.69

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1.16. **No. of Consumers** - The year wise no. of consumers for various categories of consumers for the FY 2019-20 & 2020-21 & estimated no. of consumers for the FY 2021-22 vis-à-vis approved no. of consumers is provided in the table below:

Table 1.16: Comparison of No. of Consumer for Previous Business Plan *(In No.)*

Particulars	2019-20 Approved in Business Plan Order	Actual	2020-21 Approved in Business Plan Order	Actual	2021-22 Approved in Business Plan Order	Estimated
Domestic	118077	116413	122032	118597	126119	121728
Commercial	21282	20828	21923	21256	22583	21748
Industry	614	469	632	468	650	479
Bulk	68	66	69	70	71	72
Public Lighting	704	738	713	807	721	838
Irrigation, Pumps & Agriculture	464	443	517	478	576	529
Total	141208	138957	145885	141676	150721	145394

1.17. **Connected Load** - The year wise connected load for various categories of consumers for the FY 2019-20 & 2020-21 & estimated connected load for the FY 2021-22 vis-à-vis approved connected load in MYT order is provided in the table below:

Table 1.17: Comparison of actual Connected Load with approved load

Particulars	2019-20 Approved in Business Plan Order	Actual	2020-21 Approved in Business Plan Order	Actual	2021-22 Approved in Business Plan Order	Estimated
Domestic	173850	185858	190236	182955	208168	198404
Commercial	60213	90671	61526	92813	62868	105614
Industry	25197	14554	27212	14591	29389	16603
Bulk	13886	1293	14702	14331	15566	15153
Public Lighting	2832	2990	2832	2786	2832	2800
Irrigation, Pumps & Agriculture	1167	1042	1251	1210	1341	1314
Total	277144	296409	297760	308686	320164	339888

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1.18. Power Procurement –

Table 1.18: Details of Power Procurement Sources –FY 2022-23, 2023-24 and 2024-25

Energy Balance	FY 2020-21 (Actual) MU's	FY 2021-22 (Estimated) MU's	FY 2022-23 (Projected) MU's	FY 2023-24 (Projected) MU's	FY 2024-25 (Projected) MU's
Power Purchase	244.55	261.82	271.38	283.77	295.60
Own Generation	38.75	80.10	82.50	84.99	87.54
Total	283.29	341.92	353.88	368.76	383.14

1.19 RPO – Solar and Non-Solar –

Table 1.19: Solar - Own

Solar – Department				
Actual	Power procurement projection (MUs)			
2020-21	2021-22	2022-23	2023-24	2024-25
0.020	0.022	0.024	0.025	0.027

Table 1.19.1: Solar Purchase

Solar – Purchased				
Actual	Power procurement projection (MUs)			
2020-21	2021-22	2022-23	2023-24	2024-25
21.02	23.12	25.43	27.98	30.78

Table 1.19.2: Hydro Generation Own

Non Solar – Hydro Generation Own				
Actual	Power procurement projection (MUs)			
2020-21	2021-22	2022-23	2023-24	2024-25
11.11	11.11	11.11	11.11	11.11

1.20 O&M – Employee, A&G and R&M Expenses –

Table - 1.20 Employee Expenses				
				(Rs. in crores)
2020-21	2021-22	2022-23	2023-24	2024-25
143.71	167.61	178.25	176.43	171.39

Table - 1.20.1 A&G Expenses				
				(Rs. in crores)
2020-21	2021-22	2022-23	2023-24	2024-25
2.36	2.48	2.62	2.76	2.91

Table - 1.20.2 R&M Expenses				
				(Rs. in crores)
2020-21	2021-22	2022-23	2023-24	2024-25
45.66	103.63	108.83	110.16	117.07

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CHAPTER 2: ABOUT ELECTRICITY DEPARTMENT A & N ADMINISTRATION

2.1 Prior to independence a small steam driven reciprocating DG Generator of 100 KW Capacity was installed by the British at Ross Island in 1926. Direct current DG Set of 100 KW Capacity was installed at Port Blair during 1929. After independence two steam turbine generating sets of 550 KW each were established during 1951 in the power house at Chatham Island. The boilers were operated on wood fuel and saw dust, which were the waste product of Chatham Saw Mill and later switched over to Mangrove wood as fuel. This was the start of alternating current power supply at Port Blair.

2.2 Due to the geographical & topographical peculiarities of these islands including separation by sea over great distances there is no single power grid for the entire electrified island and instead a power house caters independently to the power requirements of area/islands.

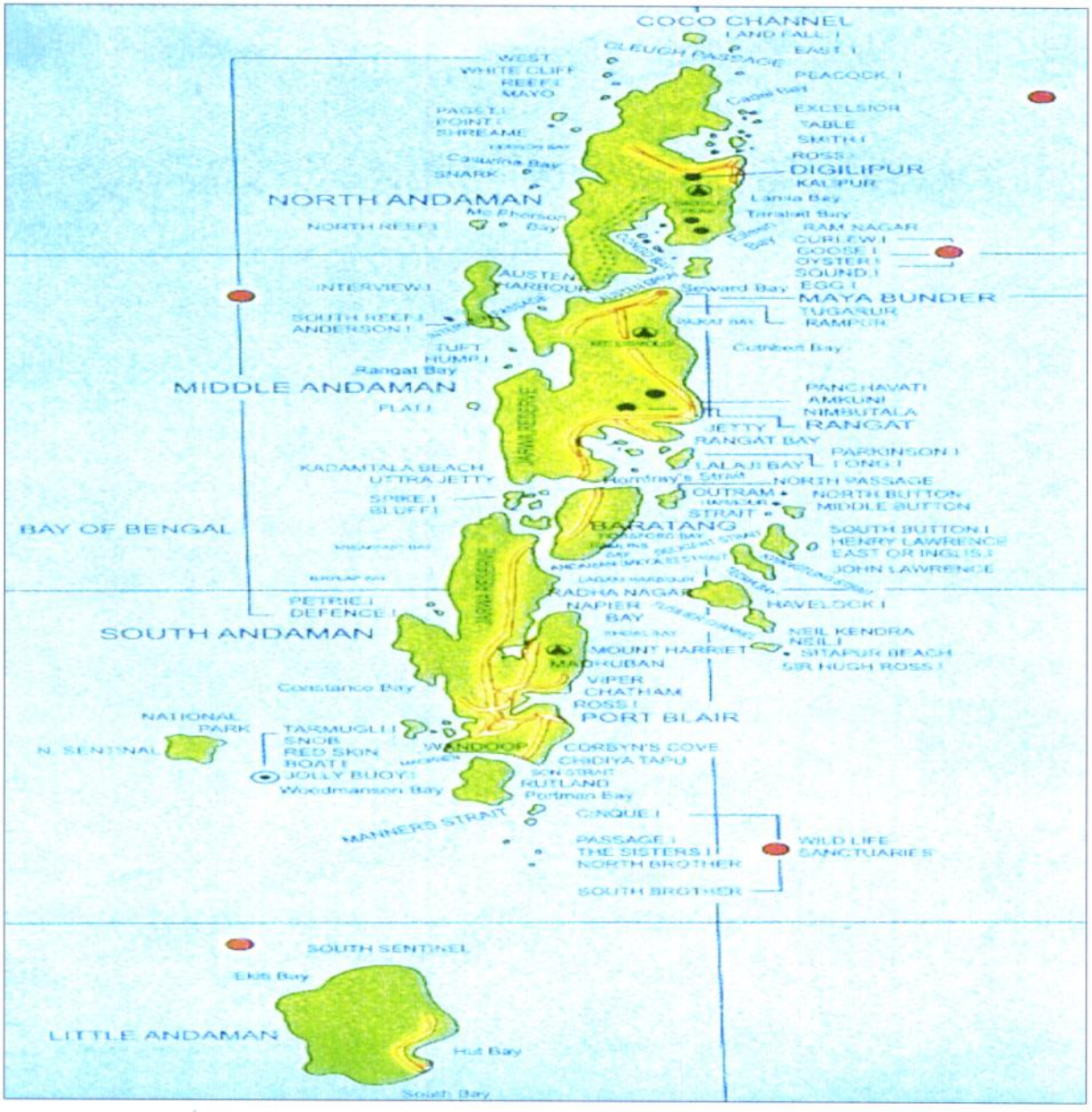
2.3 The Electricity Department is operating and maintain power generation, transmission & distribution system network in these islands for providing electric power supply to general public and implements various schemes under Plan & Non Plan for augmentation of DG Generating Capacity and establishment of new power houses and T&D Systems. This department is also functioning as a Nodal Agency for implementing renewable energy program of the Ministry of New & Renewable Energy in these islands. Presently, the department is headed by a Superintending Engineer, associated with seven EEs & around Thirty-eight AEs for carrying out the task of power generation, transmission & distribution to the general public including schemes under non-conventional energy sources.

AREA SERVED

2.4 Andaman & Nicobar Island comprises of an area of 8,249 sq. kms. For operational purpose the area has been divided into 7 divisions and 26 sub-divisions.

Map Area Served

ANDAMAN GROUP OF ISLANDS



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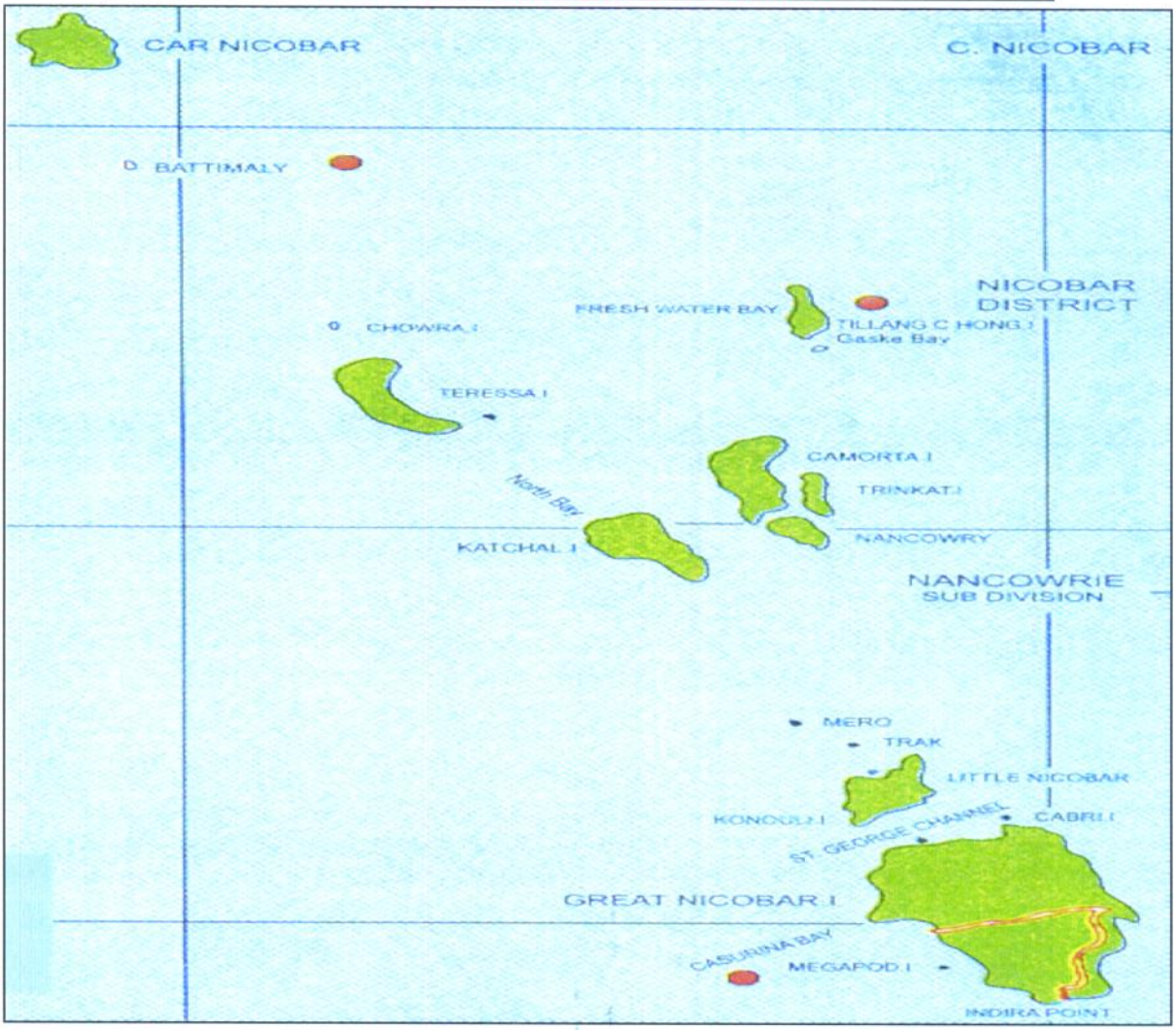
NICOBAR GROUP OF ISLANDS



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ORGANIZATIONAL STRUCTURE

2.5 The Electricity Department is headed by Superintending Engineer along with seven Executive Engineers with the employee strength of 1,821 (As of 31.03.21).

POWER DEMAND AND SUPPLY

2.6 Electricity Department is responsible for arranging power from various sources and distribution and transmission thereof to all type of consumers. EDA&N procures electricity from own generating stations as well as from purchase from HPPs, IPPs & NTPC (SPV). The present power availability of EDA&N is as listed below:

Table 2.6: Power Availability for the FY 2020-21

Generating Station	Purchase of Power (MW)	Own generation (MW)	Total Availability (MW)
Purchase			
HPP- I	5.00		5
HPP-II	10.00		10
NTPC DG Power Plant Aggreko	5.00		5
NTPC DG Power Plant NVVN	10.00		10
DG Power Plant at Niel	0.40		0.4
NTPC (SPV)	5.00		5
SECI	1.00		1
Mundra (Roof Top)	2.84		2.84
Mundra (Roof Top) Car Nicobar	0.31		0.31
Mona Generation Mayabandar	1.60		1.6
Baratang HPP	0.80		0.8
NLC Ground Mounted	20.00		20
Gandhi Nagar	0.08		0.08
Ganesh Nagar	0.15		0.15
Shanti Nagar	0.18		0.18
Smith Island(Sagar Deep)	0.15		0.15
Own Generation			
Diesel		60.04	60.04
Hydro		5.25	5.25
Total	**62.51**	**65.29**	**127.80**

2.7 The present power available to EDA&N is 127.80 MW. The peak demand for last year touched 60 MW (FY 20-21) and it is anticipated it will be same in FY 2021-22. The peak demand is projected to be 63 MW, 67 MW and 70 MW for FY 2022-23, FY 2023-24 and FY 2024-25 respectively.

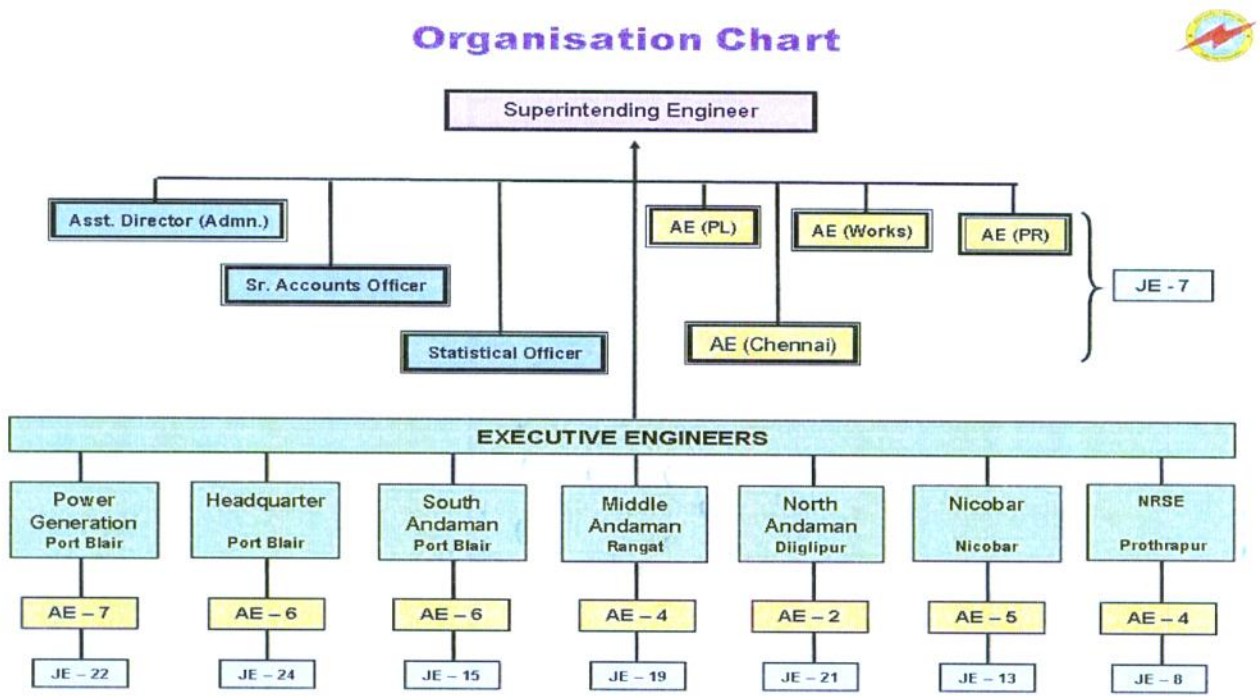
GRID DETAILS

2.8 Due to the geographical & topographical peculiarities of these islands including separation by sea over great distances there is no single power grid for the entire electrified island and instead a power house caters independently to the power requirements of area/islands.

ORGANIZATION STRUCTURE: ROLES AND RESPONSIBILITIES

2.9 Electricity Department is part of the Administration of Union Territory of Andaman & Nicobar Islands & headed by the Superintending Engineer. Day to day work related to functioning of the Department is conducted by the Executive Engineers at Division level and Sub Divisions headed by the Assistant Engineer. Executive Engineer at Division Office is also helped by Technical Section, Establishment Section and Account Section headed by the Accounts Officer. At lower level there are Junior Engineers who look after the Operation & Maintenance work of their respected assigned areas and report to their respected Assistant Engineer.

ORGANIZATION CHART OF ELECTRICITY DEPARTMENT



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CHAPTER 3: LOAD, CONSUMERS AND SALES GROWTH PROJECTIONS

PAST LOAD GROWTH

3.1. The Table given below summarizes the growth in sanctioned load over the past 5 years.

Table 3.1: Past Load Growth *All Figures are in KW*

Category	2016-17 Actual	2017-18 Actual	2018-19 Actual	2019-20 Actual	2020-21 Actual
Domestic	124671	145189	155414	185858	182955
Commercial	49777	57670	62911	90671	92813
Industry	15790	21602	22990	14554	14591
Bulk	11605	12388	12388	1293	14331
Public Lighting	2706	2832	2870	2990	2786
Irrigation, Pumps & Agriculture	891	1016	2977	1042	1210
Total	205440	240697	259550	296409	308686

3.2. To project the load growth for the different consumer categories 5-year CAGR has been considered for the domestic, commercial, bulk & Agriculture. The 5-year CAGR for industries was showing a negative growth. However, based on the government initiatives for development of industries, it is expected that the industry shall have a steady growth during the control period. Accordingly, the 5 CAGR of Commercial category has been considered for projecting the load of the Industrial category for the control period. The CAGR along with projected load for the control period has been given in the table below:

Table 3.2: Projected Load Growth *All Figures are in KW*

Category	CAGR Used	2021-22 Estimated	2022-23 Projected	2023-24 Projected	2024-25 Projected
Domestic	8.44%	198404	215157	233325	253027
Commercial	13.79%	105614	120180	136756	155618
Industry	13.79%	16603	18893	21499	24464
Bulk	5.73%	15153	16022	16941	17912
Public Lighting	0.52%	2800	2815	2830	2844
Irrigation, Pumps & Agriculture	8.57%	1314	1426	1549	1681
Total		339888	374494	412899	455547

CONSUMER GROWTH

3.3. The Table below summarizes the category wise growth in consumers over the past 5 years.

Table 3.3: Past Consumer Growth *All Figures in No.*

Category	2016-17 Actual	2017-18 Actual	2018-19 Actual	2019-20 Actual	2020-21 Actual
Domestic	100742	110547	112014	116413	118597
Commercial	18948	20056	20261	20828	21256
Industry	549	579	581	469	468
Bulk	57	64	64	66	70
Public Lighting	649	688	689	738	807
Irrigation, Pumps & Agriculture	257	374	381	443	478
Total	121202	132308	133990	138957	141676

3.4. To project the consumer growth for the different consumer categories, 5-year CAGR has been considered for the domestic, commercial, bulk & Agriculture. The 5-year CAGR for industries was showing a negative growth. However, based on the government initiatives for development of industries it is expected that the industry shall have a steady growth during the control period. Accordingly, the 5 CAGR of Commercial category has been considered for projecting the number of consumers of the Industrial category for the control period. The CAGR along with projected consumer growth for the control period has been given in the table below:

Table 3.4: Projected Consumer Growth

Category	CAGR Used	2021-22 Estimated	2022-23 Projected	2023-24 Projected	2024-25 Projected
Domestic	2.64%	121728	124941	128239	131624
Commercial	2.31%	21748	22251	22766	23293
Industry	2.31%	479	490	501	513
Bulk	3.44%	72	75	77	80
Public Lighting	3.85%	838	870	904	939
Irrigation, Pumps & Agriculture	10.66%	529	585	648	717
Total		145394	149213	153136	157166

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ENERGY SALES GROWTH

3.5 The Table below presents the category-wise energy sales for the past five years. The overall growth in sales has been mainly contributed by increase in the domestic and commercial categories.

Table 3.5: Past Sales Growth *All Figures are in MUs*

Category	2016-17 Actual	2017-18 Actual	2018-19 Actual	2019-20 Actual	2020-21 Actual
Domestic	129.90	127.38	133.66	142.93	139.30
Commercial	60.13	56.86	62.14	72.41	48.55
Industry	17.98	17.49	21.03	12.82	8.53
Bulk	35.63	32.05	29.83	32.26	27.03
Public Lighting	8.65	7.61	6.72	6.73	7.77
Irrigation, Pumps & Agriculture	1.04	0.98	1.02	1.12	1.08
Total	**253.34**	**242.37**	**254.38**	**268.27**	**232.27**

3.6. The sales for different categories of consumers have been projected based on the actual sales in the respective categories from the FY 2015-16 to FY 2019-20. The energy sales for the FY 2020-21 were sales lower than that of FY 2019-20 in various categories of consumers on account of COVID-19. In view of the same, the energy sales for the FY 2020-21 have not been considered for calculating the CAGR. Accordingly, the 4-year CAGR (FY 2015-16 to FY 2019-20) has been calculated for each category and applied on the actual energy sales for the FY 2019-20 to project the category wise sales for the control period FY 2022-23 to FY 2024-25. The CAGR for Industry, Bulk & Public lighting categories showed a native or zero growth. However, based on the government initiatives for development of industries it is expected that the industry shall have a steady growth during the control period. Accordingly, the 4-year CAGR of Commercial category has been considered for projecting the energy sales of the Industrial category for the control period. Further, growth rate of 5% has been considered for projecting energy sales of Bulk & Public lighting categories. The table given below summarizes the projections of category wise energy sales for the Control Period (FY 2022-23 to FY 2024-25) along with the CAGR used for projections.

Table 3.6: Projected Sales Growth

All Figures are in MUs

Category	CAGR Used	2021-22 Estimated	2022-23 Projected	2023-24 Projected	2024-25 Projected
Domestic	4.22%	148.96	155.23	161.78	168.60
Commercial	5.18%	76.17	80.11	84.27	88.63
Industry	5.18%	13.48	14.18	14.91	15.68
Bulk	5.00%	33.88	35.57	37.35	39.22
Public Lighting	5.00%	7.07	7.42	7.79	8.18
Irrigation, Pumps & Agriculture	2.23%	1.14	1.17	1.19	1.22
Total		280.69	293.68	307.29	321.53

CHAPTER 4: POWER AVAILABILITY

ENERGY REQUIREMENT & SOURCES OF POWER PURCHASE

4.1 The energy requirement for EDA&N is estimated based on the retail sales projections, grossed up by estimated loss levels. The energy balance expected for the FY 2022-23, 2023-24 and 2024-25 is as given below:

Table 4.1: Energy Requirement – FY 2022-23, 2023-24 and 2024-25

Energy Balance	FY 2020-2021 (Actuals) MU's	FY 2021-2022 (Estimated) MU's	FY 2022-2023 (Projected) MU's	FY 2023-2024 (Projected) MU's	FY 2024-2025 (Projected) MU's
ENERGY REQUIREMENT					
Energy Sales					
LT Supply	232.27	280.69	293.68	307.29	321.53
HT Supply	0.00	0.00	0.00	0.00	0.00
Total Energy Sales	232.27	280.69	293.68	307.29	321.53
Overall T & D Losses %	18.01	17.91	17.01	16.67	16.08
Overall T & D Losses (MUs)	51.02	61.24	60.19	61.47	61.61
Total Energy Requirement	283.29	341.92	353.88	368.76	383.14
ENERGY AVAILABILITY AT PERIPHERY					
Power Purchase	244.55	261.82	271.38	283.77	295.60
Own Generation	38.75	80.10	82.50	84.99	87.54
Total Energy Availability	283.29	341.92	353.88	368.76	383.14
ENERGY SURPLUS/(GAP)	0.00	0.00	0.00	0.00	0.00

4.2 The energy requirement of EDA&N is mainly met from own generation and power purchase from HPPs, IPPs & NTPC (SPV). There is no availability of power from Central Generating Stations or from other sources/ open market/ power exchanges etc. Own generation accounts for around 14% of the total power requirement for FY 2020-21 and balance 86% of power requirement is met from power purchase and is estimated that approximately 23%-25% & 75%-77% of the total energy requirement for FY 2021-22 shall be met by own generation and power purchase respectively. The present scenario is likely to continue and is projected that energy requirement for FY 2022-23, 2023-24 and 2024-25 and mix of own generation and power purchase shall be in approximately in the above range.

DETAILS OF OWN GENERATION

4.3 The Generation forecast is based on the plant availability and energy demand for the period. Accordingly, generation for FY 2021-22, FY 2022-23, 2023-24 and 2024-25 is estimated.

Table 4.3: Projected Power Generation– FY 2022-23, 2023-24 and 2024-25

Units Generated & Sent Out (MUs)					
Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Units Generated	317.98	328.99	340.47	352.48	365.02
Auxiliary Consumption	4.77	4.93	5.11	5.29	5.48
Sent Out	283.29	341.92	353.88	368.76	383.14

RENEWABLE PURCHASE OBLIGATION

4.4 EDA&N shall also procure power from roof-top solar power plants as covered under the power procurement from renewable energy segment. Renewable power obligation for the utilities has been prescribed by the Hon'ble Commission vide JERC for State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010, First Amendment Regulations, 2014, Second Amendment Regulations, 2015 and Third Amendment Regulations, 2016. The Hon'ble Commission has not revised/specified Renewable Purchase Obligation (RPOs) targets for all Distribution Licensees/obligated entities for FY 2022-23 to FY 2024-25. Accordingly, RPO targets as specified for the previous control period has bee considered for projecting the RPO during the FY 2022-23 to FY 2024-25.

4.5 The RPO targets for the control period to be achieved by the EDA&N during the Control Period as specified in the Regulations is as follows:

Table 4.5: RPO Obligation

FY	Solar RPO (%)	Non-Solar RPO (%)
2022-23	**8.00**	**9.00**
2023-24	**8.00**	**9.00**
2024-25	**8.00**	**9.00**

4.6 The Andaman & Nicobar Electricity Department submits that it intends to meet the RPO as per the directions of the Hon'ble Commission in the MYT Control period as well. EDA&N has planned to meet the Solar RPO from the purchase of solar power from roof-top projects & other solar power plants within the UT of Andaman & Nicobar Administration.

4.7 Further, EDA&N submits that RPO towards non-solar power shall be met through EDA&N's own hydro power plant. While EDA&N is exploring the possibilities of other sources of non-solar renewable power, the shortfall in the RPO requirement is proposed to be met by purchase of non-solar REC's.

4.8 The summary of projected Solar and Non-Solar RPO for EDA&N during the Control Period is provided in the table below:

Table 4.8: Units to be Purchase under RPO

Solar Obligation	2022-23	2023-24	2024-25
Solar RPO (In %)	8.00%	8.00%	8.00%
Projected Sales	293.68	307.29	321.53
Less: Hydro sources	11.11	11.11	11.11
Sales excluding Hydro sources	282.57	296.18	310.42
Total Power to be Procured to meet Solar Obligation (In MU)	22.61	23.69	24.83
Non-Solar Obligation	**2022-23**	**2023-24**	**2024-25**
Non-Solar RPO (In %)	9.00%	9.00%	9.00%
Total Power to be Procured to meet Non-Solar Obligation (In MU's)	25.43	26.66	27.94

CHAPTER 5: T&D LOSS TRAJECTORY AND ENERGY BALANCE

T&D LOSS TRAJECTORY FOR THE CONTROL PERIOD

5.1. The operational area of the EDA&N is spread over several Islands therefore having comprehensive loss reduction is difficult due to geographical & topographical peculiarity of these Islands. It is submitted that EDA&N has been constantly endeavouring to reduce its T&D losses.

5.2. While in future EDA&N shall make all efforts to achieve the loss targets set up by the Hon'ble Commission, it is requested that Commission may set realistic targets in view of the geographical constraints faced by EDA&N.

5.3 For the purpose of FY 2022-23, 2023-24 and 2024-25, EDA&N has proposed T&D loss target for the Control Period in view of the geographical & topographical conditions of the operational area of EDA&N. The T&D loss target proposed by EDA&N is as below and the Hon'ble Commission is requested to approve the same:

Table 5.3: T&D Loss Trajectory for the Control Period

Loss %	FY 22-23	FY 23-24	FY 24-25
T&D Losses	17.01	16.67	16.08

CHAPTER 6: MANPOWER PLANNING

6.1 Currently there are 3,153 sanctioned posts of different categories in the EDA&N. The details of the current manpower status & proposed recruitment along with the employee status are provided in the table below.

Table 6.1: Manpower Strength

Sl. No.	Description	Category	Financial Year				
			Actual	Projected			
			2020-21	2021-22	2022-23	2023-24	2024-25
			(Nos)	(Nos)	(Nos)	(Nos)	(Nos)
1	Opening number of employees	A	3	3	6	6	5
		B (G/NG)	131	133	133	134	128
		C *	1839	1685	1877	1895	1779
2	Addition during the year	A	0	4	0	0	0
		B (G/NG)	5	3	10	0	0
		C	0	297	132	0	0
3	Retirement during the year	A	0	1	0	1	0
		B (G/NG)	3	3	9	6	5
		C	154	105	114	116	144
4	Closing number of year	A	3	6	6	5	5
		B (G/NG)	133	133	134	128	123
		C	1685	1877	1895	1779	1635
NB : * Post includes Mazdoor Dying posts							

6.2 The EDA&N has planned to carry out recruitment for 304 posts in the current year. The table below presents the year wise & category wise recruitment for the control period FY 2022-23 to FY 2024-25.

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Table 6.2: Planned Recruitments - post wise Projected – 2022-23, 2023-24, 2024-25

Sl. No.	Name of Post	Category	Financial Year		
			2022-23	2023-24	2024-25
1	Superintending Engineer	Gazetted	0	0	0
2	Executive Engineer	Gazetted	0	0	0
3	Assistant Engineer	Gazetted	0	0	0
4	Junior Engineer	B (G/NG)	10	0	0
5	Line man	C	48	0	0
6	SBEO	C	18	0	0
7	Mazdoor	C	66	0	0

*** Recruitment planned by EDA&N to fill the gap between actual and approved strength.*

SAFETY MEASURES

6.3 A brief description of health and safety policy –

In order to ensure safety of its manpower, the safety measures prescribed under Indian Electricity rules, Safety, Electricity Supply Regulations 2010 notified by CEA and Joint Electricity Regulatory Commission (Distribution Code Regulation 2010) needs to be adhered to by the utility. Accordingly, to comply with the safety measures directed by the commission the EDA&N intends to examine all the Rules and Regulations in the force and suggest way forward. The EDA&N shall analyze existing safety standards, tool kits and practices being followed by the department. To comply with the safety regulation in place, EDA&N shall come out with suitable safety tool kits/ equipment required to carry out operation and maintenance of distribution network.

6.4 The proposed expenditure to be incurred on safety measures and procurement of safety materials such as firefighting equipment's and cap shoes gloom etc for its manpower is as below:

Table 6.4: Proposed Expenditure on Safety Measures

Particulars	2022-23	2023-24	2024-25
Proposed Expenditure (In Rs Lakh)	1.52	1.68	1.75

CHAPTER 7 IT INITIATIVES AND TECHNOLOGICAL INITIATIVES

7.1 EDA&N has taken various IT & Technological initiatives for improvement of system working & efficiency. Now the entire subordinate offices of the Department have been provided with sufficient computers, dedicated internet connection and thus virtually interconnected each other.

7.2 Department has switched over to web-based applications for extending various online facilities to its consumers and to have a real time monitoring of the activities of the Department.

7.3 **Outage Management System** – EDA&N is implemented outage management system vide scheme of Urja Mitra wherein there shall be online monitoring & information for schedule/unscheduled outages.

7.4 Details of various measures taken by the Department is provided in the table below.

Table 7.4: IT Initiatives

SL. No.	Particulars	Project/ Services	Remarks
1	Details of activities in progress (Need of such initiatives and status update)	Inventory Management System	With Inventory Management System, this department can live track all the stocks and available items in the stores of this department from anywhere from the A&N Island. The Inventory Management System will bring transparency and reduce the process time.
2	In-house activities	File Tracking System (Diary & Despatch System)	The letter, files and other documents are registered in the online platform and saved in the database. The files can be tracked and the status can be monitored anytime from anywhere.
3	Outsourced activities	Smart Meter	The old meters are being replaced with new smart meters. These smart meters can send the meter reading automatically, which reduced the mistakes and increase the transparency.
4	New/ upcoming initiatives and upgrades project	Lease Line Connectivity	At present the site offices in South Andaman except Shaheed, Swaraj Deep and Hutbay are connected with State Data Centre. This department has a plan to connect all the billing systems working in standalone mode to be connected with the State Data Centre through lease line.

CHAPTER 8 CUSTOMER SERVICE RELATED ACTIVITIES

8.1. EDA&N has taken several initiatives for improvement of customer service. The steps already taken and those proposed to be taken are provided below.

8.2. Consumer Helpline Centre: EDA&N has established centralized complaint centre where consumers can lodge complaints and remedial action to their queries can be taken accordingly.

8.3. EDA&N has introduced the facility of online energy bill payment whereby consumers can pay their bill by debit card/ credit card/ internet banking.

8.4. EDA&N has introduced the facility of online billing.

8.5. The details of the initiatives taken by the department towards Consumer Service is provided in the table below.

Table 8.5: Customer Services Related Activities

SL. No.	Particulars	Project/ Services	Remarks
1	Mechanism of collecting feedback and complaints from customers	1. Central Control Room 2. Social Media Handles (Twitter & Facebook) 3. Gmail	This department has a central control room to register complaints from consumers over phone.
2	Steps taken to act on feedbacks and customer complains	1. Central Control Room 2. Social Media Handles (Twitter & Facebook) 3. Gmail	The complaints registered over phone are directed to the concerned officer/ site office. The complaints and feedback received through Social Media Handles and Gmail are also forwarded to concern officers/ site office.
3	Initiatives related to on-line payment and other online services	1. Urja Pay (Online Energy Bill) 2. New Meter Connection 3. Unified Solar Rooftop Portal	This department has launched online electricity bill payment portal, online new meter connection, Unified Solar Rooftop portal and are used by consumers of this department.
4	Performance versus standard of Performance benchmarks		

CHAPTER 9: CAPITAL INVESTMENT PLAN

9.1. As per the MYT Regulations 2021, the Distribution Licensee is required to file the Business Plan for Control Period of three financial years from April 1, 2022 to March 31, 2025, which shall comprise but not be limited to detailed category-wise sales and demand projections, power procurement plan, capital investment plan, financing plan and physical targets before the Hon'ble Commission as part of the Tariff Filing before the beginning of the Control Period.

9.2. Based upon the above mandate the CAPEX Plan proposals for FY 22-23 to FY 24-25 under the MYT Control Period FY 2022-25 have been formulated by the Electricity Department of Andaman & Nicobar Administration in order to enable better planning, budgeting and monitoring at macro & micro levels.

9.3. The Electricity Department of Andaman & Nicobar Administration has prepared the cap-ex plan taking into consideration all the factors which would affect the operations of the Department. The cap-ex plan includes the details of various capital expenditure schemes in the identified areas and their respective estimates for each year of the MYT control period from FY22-23 to FY24-25.

9.4. The capital investments of the Department of Electricity of Andaman & Nicobar Administration can largely be categorized in following areas:

- Investments in New Transmission Infrastructure to support the demand requirements or power evacuation from generation projects.

- System augmentation and strengthening including renovation and modernization to maintain the performance of the existing system and to deter investments.

The figure below provides a wider overview of the capital investment avenues planned by the Electricity Department of Andaman & Nicobar Administration.

Sl. No.	Name of the Scheme	Annual Target 2020-21	Achievements upto 31.03.2021
1.	Energy Efficient LED Lamps under DELP Scheme	Replacement of present lighting system of 01 lakh domestic consumers by energy efficient LED lights.	In A&N Islands, the present lighting system was replaced by Energy Efficient LED lamps supplied by EESL under DELP scheme. 9 Watt LED bulbs supplied by EESL Ltd. distributed in all three Districts @ 4 Nos. LED bulbs per domestic consumers. • 100% target achieved during "Gram Swaraj Abhiyan" conducted from 14.4.2018 to 05.05.2018 in these islands. • A proposal is under consideration for ensuring the availability of Affordable Energy Efficient Appliances through EESL under UJALA scheme for implementation of Energy Efficiency Programme called "Filament Lamp Free Campaign". Under this scheme LED bulb, LED Tube light and Fan will be distributed through Fair Price Shops, CCS, CCWS etc. in the Islands. • 35,000 Conventional Street Lights replaced with LED Street Lights in Municipal and Panchayat. Three village made Energy Efficient Villages by replacement of Conventional lights with Energy Efficient Lights.
2.	50 KW Grid connected SPV at Raj Niwas under SADP Programme	Establishment of 50 KWp Grid Connected Solar Power Plant at Raj Niwas under Special Area Demonstration Programme (SADP)	• The plant has generated 183387 units till December 2020 which has saved 51348 litres of diesel amounting to Rs. 27.97 Lakhs. At present the plant is non-functional due to repair and maintenance of invertors installed in the grid.
3.	Roof Top SPV Plants in Govt. Buildings	Establishment of Roof Top Solar Power Plants of 1000 KWp capacity in 15 Govt. buildings at Port Blair.	• This Project has generated 4.0 MU till March 2021 which has saved 1122 KL of diesel amounting to Rs. 6.13 Crores.
4.	Augmentation of DG capacity at Swaraj Dweep	Establishment of 3 MW DG power house at Swaraj Dweep.	4x0.808 MW DG sets commissioned by NTPC and in operation since 01.11.2019 and the power requirement of Swaraj Dweep is catered by 4X0.808 MW DG Plant.
5.	Establishment of 15 MW Power Plant in South Andaman as a short term	Establishment of 15 MW Power Plant on hiring by NTPC	• 5 MW DG Power Plant commissioned by NVVN through M/s Aggreko on 01.04.2018 at a tariff of Rs. 1.42/Kwh including trading margin of Rs. 0.07/Kwh to NVVN.

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	solution to tide over the present power crisis.		10 MW DG Power Plant established by NTPC Vidyut Vyapaar Nigam through M/S Express Genset consortium private Limited commissioned by Hon'ble Lt. Governor on 26.10.2018 at Bambooflat at a tariff of Rs. 1.38/Kwh including trading margin of Rs. 0.07/Kwh to NVVN.
6.	100 MWp Solar Park in A & N Islands	Establishment of 45 MWp Solar Power Plants in South Andaman District	**21.7 MW Solar Park is being developed by NLC & SECI along with Battery Energy Storage System.** • The NLCIL have completed installation of 2.5 MW capacity at Dollygunj which was commissioned by Hon'ble Prime Minister of India on 30th December 2018. • Complete capacity of 2X10 MW Ground Mounted Solar PV Plant at Dollygunj and Attampahad with 16 MW, 8 MWhr BESS established by NLCIL commissioned on 30.06.2020. • 20 MW SPV Project by NLCIL has generated 11.23 MU till March 2021 which has saved 3143 KL of diesel amounting to Rs. 17.29 Crs. • **25 MW SPP by NTPC cancelled as decided by MNRE in the meeting held on 27.08.2019.** • The RE plan for ANI has been considered by MNRE in the meeting held on 27.08.2019 under the Chairmanship of Secretary, GoI, MNRE conveyed vide letter dt. 12.09.2019 and directed SECI. **Floating Solar PV Plant:** • The developer /bidder M/s Sun Source Energy Pvt. Limited, Noida has been selected by SECI through competitive bidding for installation of 4MWp floating solar power plants at Kalpong reservoir. • LoA has been placed by SECI vide No. SECI/C&P/SPD/RfS /A&N/04MW/012020/LOA/ 39548 dt. 21.10.2020. • Draft PPA has been approved by the Competent Authority and SECI has been intimated via mail for signing of PPA and submission of PBG. ▪ The work will be commenced after signing of PPA. **Solar Power Plant (Ground Mounted) in Swaraj & Shaheed Dweep, Little Andaman, North & Middle Andaman** • SECI has engaged International Finance Corporation (IFC) for carrying out pre-feasibility study on RE projects in these islands.

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			• Further, IFC has appointed M/s Deloitte as consultant, data sharing with M/s Deloitte is under process. ▪ The project is under conceptualization and is expected to be completed by March 2023. • SECI for establishing Solar Power Plants along with appropriate BESS Capacity in N&M Andaman, Swaraj Dweep, Shaheed Dweep and Little Andaman has engaged International Finance Corporation (IFC) for carrying out pre-feasibility study on RE projects in these islands. Delloite has been appointed as consultant by IFC, data sharing is under process. **5.71 MWp Rooftop Solar Plant in North & Middle Andaman under Annuity Model.** • MOU has been signed with EESL for establishment of Rooftop Solar Power Plant in North & Middle Andaman. The project shall be taken up under ANNUITY model. • Tender has been floated by EESL and technical bid opened and in under scrutiny. ▪ Based on the actual cost upon opening the tender, SFC clearance shall be accorded by the Administration. Thereafter Agreement for 5.71 MW capacities on 469 govt. buildings shall be signed. • Meantime, for implementation of the project proposal has been received from M/s Convergence Energy Service Limited (CESL). CESL is a sholly owned subsidiary of EESL. All the projects related to deployment of electric vehicles and charging station. Solar power renewable etc. shall be carried out by CESL. • The total project cost for implementation of Rooftop Solar power plant in N&M Andaman on Govt. Building in Annuity Model has been worked out is Rs. 71.65 Cr. The proposal is being submitted to A&N Administration for approval of Competent Authority.
7.	LNG Based Power Project at Hope Town, South Andaman	Establishment of 30 MW LNG based power plant at South Andaman.	• Land use letter issued on 02.07.2018 in favour of NVVN/NTPC for establishment of 50 MW LNG Power Project. A&N Admn. letter dated16.07.2018. • The exemption of section 63 of Electricity Act 2003 for selection of NVVN/NTPC on nomination basis for installation of 50MW RLNG

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			Project has been granted vide MoP letter dated 18th Sept 2018. • The foundation stone for establishment of the project was laid on 30.12.2018 by Hon'ble Prime Minister of India. • In-principle approval for Defence clearance received on 19.08.2019. Wildlife clearance and Forest Clearance given by DoEF, A&NA on 09.09.2019 and 08.11.2019 respectively. • The site for establishment of 50 MW LNG Power Plant at Hope Town has been notified as **"PORT AREA** ***under the power conferred under Indian Ports Act 1908"*** by Ministry of Shipping and has been notified in the Gazette of India on 02.03.2020. • CEA has given consent for single fuel engine and accordingly NVVN is finalizing the bid documents for floating of tenders. • The Revised tenders for 50 MW Gas Power Project and Fuel Supply infrastructure have been issued and their bid opening date is 23.11.2020 and 21.11.2020 respectively. • The report of Public Hearing held on 29.09.2020 shall be submitted by ANPCC to MoEF&CC for Environmental Clearance. • 5th Meeting of the re-constituted Expert Appraisal Committee (EAC) on Environment Impact Assessment (EIA) of Thermal Power Projects held on 30th December, 2020, in respect of Environmental Clearance. • The MoM of EAC meeting forwarded to PCCF, Wildlife to offer their comments for onward submission to MoEF&CC. • The environmental clearance from Pollution Control Committee has been obtained for Gas Supply infrastructure. • PCCF (WL) requested for Wild life clearance for the Gas Supply Infrastructure. The public hearing for CRZ clearance for Gas Supply Infrastructure (FSRU) held on 06.04.2021 at Bambooflat.
8.	Implementation of DDUGJY Scheme of MoP for strengthening of existing T&D system at	Modernization/renovation of old T&D systems in Rural areas of South Andaman and North & Middle Andaman District as per	• DPRs under Deen Dayal Upadhyay Gramin Jyoti Yojana (DDUGJY) and Integrated Power Development Scheme (IPDS) was prepared and submitted by Administration to MOP for Strengthening of sub transmission & distribution (ST&D) of

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	South, N&M Andaman Districts.	audit report	existing infrastructure to ensure reliable and quality power to Rural and Urban consumers. • MOP has approved / sanctioned Rs. 20.96 Crores on 28.04.2016 & Rs. 17.86 Crores on 20.12.2016 under DDUGJY & IPDS respectively. • Due to poor response to the tenders in two occasions, the Monitoring Committee approved the change in scope of work at the RPM meeting Dt. 21.08.2019 wherein the entire funds available under IPDS/DDUGJY to be utilized for Smart Metering. Draft Agreement submitted for implementation of smart Meters. • An agreement signed with EESL on 16.12.2019 for supply, installation, commissioning and O&M of 76000 Smart Meters in South, Middle and North Andaman by utilizing the funds flow under DDUGJY and IPDS Schemes wherein ***36800 smart meters for Rural areas under DDUGJY and 39200 smart meters for Urban areas under IPDS.*** • Smart meter project in A & N Islands was e-launched by Hon'ble Vice President of India on 17.01.2020. • EESL has supplied 76000 smart meters out of which 70000 are single phase, 5000 are three phase and 1000 are CT operated meters. The installation work started. 55952 Consumer indexing completed and 49481 meters have been installed.
9.	HSD storage tank at Car Nicobar.	Establishment of HSD storage tank 2x203 KL at Car Nicobar & other remote areas.	• Installation works completed. The explosive license for 2X203 KL HSD storage tank at Kinyuka Power House, Car Nicobar, A & N Islands has been obtained from Chief Controller of Explosives, Nagpur.
10.	Establishment of Energy Management Centre (EMC) by PGCIL.	Establishment of Energy Management Centre(EMC)	• The Ministry of Power directed PGCIL to establish Energy Management Centre in South Andaman for Smooth Integration of Solar Power in the existing grid • The agreement for Establishment of Energy Management Centre was signed between A&N Administration and PGCIL

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			on 20.11.2017 at MoP, New Delhi. SFC has recommended for EMC installation vide MoM dt. 01.11.2019. • The tender for EMC was floated by PGCIL on 22.06.2018 and PGCIL has issued LoA to successful bidder *M/s GE T&D India Ltd.* on 18.12.2019 in accordance of presidential sanction on 16.12.2019 for establishment of Energy Management System (EMC) for smooth integration of power from all new Solar projects in A & N Islands. • *EE (PBND), APWD has been requested to add new works in the scope based on site survey done jointly by the officials of PGCIL, GE T&D and Electricity Department and to furnish revised estimate if the added new works exceeds the sanctioned amount.* • *Tentative quotes submitted by BSNL for ILL and P2P leased circuits for the project has been mailed to the firm for further action for early implementation of the project.* • *Factory Acceptance Test completed in the last week of October, 2020 Two lots of materials of the project reached at site.* Civil works of building completed and installation of equipments in the center are under progress.
11.	Grid Connected Rooftop on residential buildings (1 to 10 KWp)	2 MWp Grid Connected Rooftop on residential buildings (1 to 10 KWp)	• The installation of grid connected rooftop solar PV plants on private residential building done by M/s Ujaas Energy Pvt. Ltd., Indore. A total capacity of 28.81 KWp was commissioned. The scheme has expired on October 2018. • A Tender floated for 1-50 KWp Solar Rooftop Plant aggregated to 5 MWp for domestic, commercial and industrial consumers in A & N Islands. One firm M/s Sunshine Energy Pvt Ltd. has been empaneled for installation of aggregate capacity of 1 MWp Rooftop Solar PV Plant.
12.	Grid Connected Rooftop on Govt. Buildings	3.15 MWp Grid Connected Rooftop on Govt. Buildings	• Installation of 3.15 MWp grid connected Solar PV Rooftop Plants completed on Govt. Buildings at Port Blair **(33 Bldgs.) and Car Nicobar (06 Bldgs.)** by M/s Mundra Solar Pvt Ltd. • 3.15 MWp Grid connected Rooftop Plants was **commissioned on 30th December 2018** by the Hon'ble Prime Minister of India during his visit to A & N Islands from 29th to 30th December 2018. This Project has generated 6.93 MU till March 2021 which has saved

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			1942 KL of diesel amounting to Rs 10.76 Crores.
13.	LED street lights in Rural areas (SLNP)	LED street lights in Rural areas (SLNP)	• Implementation of Street Light National Programme (SLNP) for replacement of conventional street lights with LED street lights in Rural areas of A & N Islands through EESL. Under the programme 22156 Nos. LED street lights of different capacity (i.e. 18W, 35W, 70W and 110W) with 2 years warranty have been ordered to M/s EESL. • A tripartite Agreement was executed for implementation of the programme. The LED bulbs received from EESL have been distributed to different Panchayats for replacement of conventional street lights. 2737 Nos. LED Street Lights are balance for distribution. An amount of Rs. 3.26 Cr. received from BEE to be transferred to RD for releasing payment to supplier M/s EESL.
14.	Solar street lights/LED street lights for Nicobar District.	Solar street lights/LED street lights for Nicobar District.	• MNRE has sanctioned installation of 1100 Nos. Solar Street lights (SSL) for A & N Islands. • Out of 1100 solar street light 495 Nos. solar street lights will be provided for Nicobar District. • All conventional street lights of Nicobar group shall be replaced by LED street lights • Three villages (Chowra , Teressa and Chouldari) have been taken up for complete replacement of conventional appliances with energy efficient appliances (which includes indoor lights, outdoor lights, fans and street lights) with energy efficient appliances from BEE funds • 745 Nos. Solar Street Lights installed at Car Nicobar. • 280 Nos. Solar Street Lights installed in other Nicobar Group of Islands. 13 Schools of Car Nicobar taken up for complete replacement of conventional appliances with energy efficient appliances.

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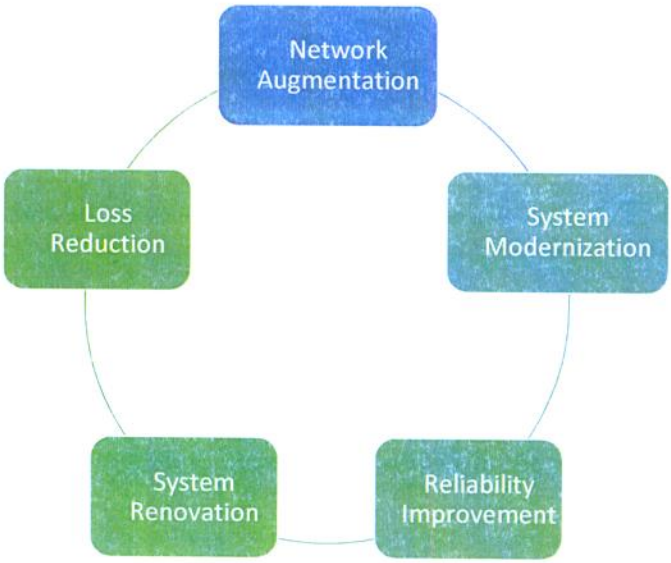

9.5. The year wise details of proposed capital expenditure under the two categories has been furnished a below.

9.5.1 EDA&N has planned for the system upgradation requirement and improvement of reliability. The details of the capital schemes is provided in table below:

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Table 9.5.1: New Schemes proposed for the Control Period

Sr. No.	New Schemes	Original / Estimated Project Cost (Rs. Lacs)	Proposed Expenditure (Rs Lakh)		
			2022-23	2023-24	2024-25
1	Installation of 27,302 Prepaid Smart Meters and remaining 36,000 under RDSS scheme.	4000	800	1600	1600
2	New Installation and Repairment & augmentation on the existing distribution transformers (Total 95 No's of Distribution Transformer) at 33KV/11 KV existing sub-station including HT/LT Panels.	1059	188	406	465
3	The scheme will provide commissioning of new sub-stations and the replacement of existing 33/11 KV sub-station including HT/LT Panels, HT/ LT Shunt Capacitors etc, replacement of old and obsolete panels and other allied equipment etc.	4372	593	889	2890
4	Laying of HT/LT new cable line and also replacement of old and defective cables in all the Island.	2363	545	967	851
	Total	**11794**	**2126**	**3862**	**5806**

Installation of 76,000 Smart Meters under DDUGJY and IPDS scheme completed by December, 2021 with a total cost of Rs. 52.59 Crores where Rs. 38.72 Crores (Capex) and Rs. 13.87 Crores (Opex). Under Capex 60% met by Central share and 40% met by UT share.

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CAPITALIZATION SCHEDULE

9.6. For the above schemes, EDA&N has proposed the capitalization considering the estimated date of commissioning of these schemes.

9.7. Scheme-wise and year-wise proposed capitalization for the Control Period is summarized in Table below:

Table 9.7: Capitalization Schedule

Sr. No.	Name of Scheme	Capitalization (Rs. In Lakhs)		
		2022-23	2023-24	2024-25
1	Installation of 27,302 Prepaid Smart Meters and remaining 36,000 under RDSS scheme.	-	2400	1600
2	New Installation and Repairment & augmentation on the existing distribution transformers (Total 95 No's of Distribution Transformer) at 33KV/11 KV existing sub-station including HT/LT Panels.	188	406	465
3	The scheme will provide commissioning of new sub-stations and the replacement of existing 33/11 KV sub-station including HT/LT Panels, HT/ LT Shunt Capacitors etc. replacement of old and obsolete panels and other allied equipment etc.	-	-	4372
4	Laying of HT/LT new cable line and also replacement of old and defective cables in all the Island.	545	967	851
	Total	733	3773	7288

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9.8. The table below presents overview of the planned capital expenditure and capitalization schedule over the first control period.

Table 9.8: Year Wise Overall Capital Expenditure and Capitalization

Particulars (In Rs Lakh)	2022-23	2023-24	2024-25
Capital Expenditure	2126	3862	5806
Capitalization	733	3773	7288

PHYSICAL TARGET ACHIEVEMENT FOR THE CONTROL PERIOD

9.9. In accordance with the proposed capitalization schedule, EDA&N expects to roll out infrastructure as presented in the table below:

Table 9.9: Expected Physical Target Achievement for the control period

Year	Distribution Transformer		New Sub-Stations Nos.	Lines (In KM's)	
	Nos.	kVA		LT	11KV
2022-23	25	5330	0	20	25
2023-24	35	7875	0	25	45
2024-25	35	7700	6	35	35

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CHAPTER 10: FINANCING OF THE CAPITAL SCHEMES

10.1. The entire capital expenditure incurred by EDA&N had been funded through equity infusion by GOI through budgetary support without any external borrowings. There are no loan borrowings by the Electricity Department of Andaman & Nicobar Administration for the capital expenditure.

10.2. As per the MYT Regulations, any equity deployed in excess of 30% of the capital cost of the project is required to be treated a normative loan. Since the entire capital expenditure in the various schemes shall be infused by the Government of India, EDA&N requests the Hon'ble Commission to consider the funding of the various schemes in line with the Regulations and provide approval for the same.

10.3. The breakup of the financing of the capital expenditure to be undertaken during the Control Period is provided in table below:

Table 10.3: Proposed Funding Details

Particulars	FY 2022-23 (In Rs Lakhs)	FY 2023-24 (In Rs Lakhs)	FY 2024-25 (In Rs Lakhs)
Proposed Capital Expenditure	2126	3862	5806
Actual Funding			
100% Equity from GoI	2126	3862	5806
Proposed Funding in line with JERC MYT Regulations			
Equity (30%)	637.80	1,158.60	1,741.80
Debt (Normative Debt in excess of 30% equity)	1,488.20	2,703.40	4,064.20
Total Funding	**2126.00**	**3862.00**	**5806.00**

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