Business Plan
for
MYT Control Period
FY 2015-16 to FY 2017-18

Submitted to:

Joint Electricity Regulatory Commission for the State of Goa & Union Territories

Submitted By:

Electricity Department of Daman & Diu

દમણ અને દીવ दमण और दीव DAMAN AND DIU

084160

BEFORE THE HON'BLE JOINT ELECTRICITY REGULATORY COMMISSION, GURGAON, HARYANA.
FOR THE STATE OF GOA AND UNION TERRITORIES.

FILE No: _____
CASE No: _____

Serial No. 1646/2014
Daman Dt. 24/09/2014
Particular Attestation

IN THE MATTER OF : Filing of Business plan for the MYT Control Period FY 2015-18 for Union Territory of Daman and Diu under Section 61,62 and 64 of the Electricity Act, 2003

AND

IN THE MATTER OF THE PETITIONER : Electricity Department of Daman & Diu. Plot No 35, OIDC Complex, Near Fire Station, Somnath, Daman - 396210

.....Petitioner

AFFIDAVIT

I, Shri Vishwambhar Singh, Son of Shri Jhangir Singh (aged 58 years), (occupation) Government Service residing at 303, Atlanta Apartment, Nani Daman, the deponent named above do hereby solemnly affirm and state on oath as under:-

1. That the deponent is the Executive Engineer of Electricity Department of Daman & Diu., U.T. of Daman & Diu, who is authorized and acquainted with the facts given hereunder.

25 SEP 2014

Serial No. 6129 Place: Daman Treasury, dated.....
Value of Stamps Papers Rupees.....
Name of the Purchaser.....
Residing at.....
Agent.....
Name of Purchaser.....

Signature of Treasurer

Signature of Purchaser

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 of Daman & Diu 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 :

2.1 Proposal of Business Plan for the Control Period FY 15-18.

2.2 Petition fees Rs. 1,00,000/- (Rupees One Lakh Only) vide DD No.850370 Dated: 26/09/2014.

Electricity Department of Daman & Diu.
(Petitioner)
Executive Engineer,
Electricity Department,
DAMAN

Place : Daman
Dated : 26/09/2014

I, Rajnikant B. Tandel, Advocate and Notary, 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 ...26... day of September 2014 at ..... 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.

NOTARIAL NOTARIAL

Solemnly affirmed before me
by Vishwambhar Singh
of ... who is identified
by ..... of .....
whom I personally know.

RAJNIKANT B. TANDEL
Advocate & Notary
Daman (U.T.) INDIA

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List of Abbreviations

Sr. No	Abbreviations	Descriptions
1.	A&G	Administrative and General
2.	AC	Auxiliary Consumption
3.	APR	Annual Performance Review
4.	ARR	Aggregate Revenue Requirement
5.	AS	Accounting Standard
6.	CAGR	Compound Annual Growth Rate
7.	CAPEX	Capital Expenditure
8.	CERC	Central Electricity Regulatory Commission
9.	CGS	Central Generating Station
10.	CoS	Cost of Supply/ Service
11.	CPPs	Captive Power Plants
12.	Crs	Crores
13.	CWIP	Capital Work in Progress
14.	DF	Distribution Franchisee
15.	Discom	Distribution Companies
16.	DPS	Delayed Payment Surcharge
17.	DS	Domestic Service
18.	DSM	Demand Side Management
19.	DTC	Distribution Transformer
20.	EA/The Act	The Electricity Act 2003
21.	F&A	Finance & Accounts
22.	FY	Financial Year
23.	GFA	Gross Fixed Assets
24.	G.O.	Government Order
25.	GoI	Government of India
26.	HR	Human Resource
27.	HRA	House Rent Allowance
28.	HT	High Tension
29.	KV	Kilo Volt
30.	kVA	Kilo Volt Ampere
31.	kVAh	Kilo Volt Ampere Hour
32.	kW	Kilo Watt
33.	kWh	Kilo Watt Hour
34.	LF	Load Factor
35.	LT	Low Tension
36.	MD	Maximum Demand
37.	MOD	Merit Order Despatch
38.	MoP	Ministry of Power
39.	MOU	Memorandum of Understanding
40.	MU	Million Units (Million kWh)
41.	MVA	Mega Volt Ampere

Sr. No	Abbreviations	Descriptions
42.	MW	Mega Watt
43.	MYT	Multi Year Tariff
44.	NEP	National Electricity Policy
45.	NTP	National Tariff Policy
46.	NTPC	National Thermal Power Corporation
47.	O&M	Operation & Maintenance
48.	PAF	Plant Availability Factor
49.	PF	Provident Fund
50.	PFC	Power finance Corporation
51.	PLF	Plant Load Factor
52.	PLR	Prime Lending Rate
53.	PPA	Power Purchase Agreement
54.	PSD	Power Service Division
55.	REC	Rural Electrification Corporation
56.	R&M	Repair and Maintenance
57.	ROE	Return on Equity
58.	RPO	Renewable Purchase Obligation
59.	Rs	Rupees
60.	SBI	State Bank of India
61.	SLM	Straight Line Method
62.	SHR	Station Heat Rate
63.	T&D	Transmission and Distribution
64.	w.e.f	With effect from
65.	Y-o-Y	Year on Year

Chapter 1: Introduction

1 Background

Daman and Diu is a union territory in India. Daman District comprises of an area of 72 sq. km whereas Diu District comprises of an area of 40 sq. km. The total population of Daman & Diu as per 2011 census was 242,911 with population density being 2400 persons per sq. km.

The Electricity Department of Daman & Diu (EDDD) is responsible for supply of uninterrupted & quality power to all categories of consumers in Daman & Diu at the most economical rates. The (EDDD) is engaged in the procurement, transmission and distribution of electricity to the various consumer categories in the Union Territory of Daman and Diu. It does not have its own power generation station and completely rely on the Central Sector Generating Stations (CSGS) in Western Region to meet its energy demand. EDDD also has some allocation from Eastern Region Central Generating Stations.

The present transmission and distribution system of EDDD consists of 25.71 circuit kms of 220 kV Double Circuit (D/C) lines, 80.7 kms of 66kV lines, 342 circuit kms of 11kV and above lines and 890.89 kms of LT lines along with 617 transformers. Presently, there are 87 no. 11 kV feeders and 4 no. 66 kV feeders in the network of Daman & Diu.

The key duties being discharged by Daman & Diu Electricity Department 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 supply of 'Daman & Diu Electricity Department', 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.

- Arranging, in-coordination with the Generating Company(ies) operating in or outside the State, for the supply of electricity required within the State 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 State.

The present power allocation of Daman & Diu is approximately 358 MW from various generating stations including 92 MW from NTPC-SAIL plant located at Bhilai and 38 MW from Ratnagiri Gas and Power Private Limited (RGPPL). At present, EDDD gets power at Daman from 220 kV Ambethi - Magarwada Central Sector line, and Diu gets power from 66 kV Una substation through 66 kV double circuit line emanating from 220 /66 kV Kansari substation of GETCO.

Earlier in FY 12-13, electricity drawl of EDDD was approximately 220 to 250 MW against the daily scheduled availability of 280 to 290 MW resulting in a surplus of 30 to 40 MW during FY 12-13. The current demand is primarily dependent on the HT and LT Industrial consumers contributing approx. 94% of the total sales in FY 13-14. The demand from the industrial consumers is primarily due to tax holiday benefit extended by the Govt of India in UT of Daman & Diu which has attracted a large number of industries to set up base in this area.

Considering the increase in demand from the large industries, the demand is likely to reach to 360 MW by FY 2015-16. In view of the huge power demand in future, EDDD had proposed a number of schemes to be implemented during the coming years for strengthening and augmentation of the transmission and distribution system in the territory. EDDD is also undertaking efforts to get higher allocation from the Central Generating Stations. The EDDD is undertaking all necessary actions to tie-up for long-term power purchase for meeting the deficit in the UT of Daman and Diu.

2 Objective of Business Plan

The Joint Electricity Regulatory Commission 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 Distribution Tariff) Regulations, 2014, hereinafter referred to as "MYT Regulations".

As per the Regulations, the Distribution Licensee shall file Business Plan, for Control Period of three financial years from April 1, 2015 to March 31, 2018, 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.

Accordingly, the EDDD is hereby filing the Business Plan for the Control Period (FY 2015-16 to FY 2017-18) based on the available data for the FY 2013-14 and data of previous 4 years.

EDDD has prepared the Business Plan taking cognizance of the existing internal factors and external business environment affecting the business. EDDD 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.

Chapter 2: About the Electricity Department Daman & Diu

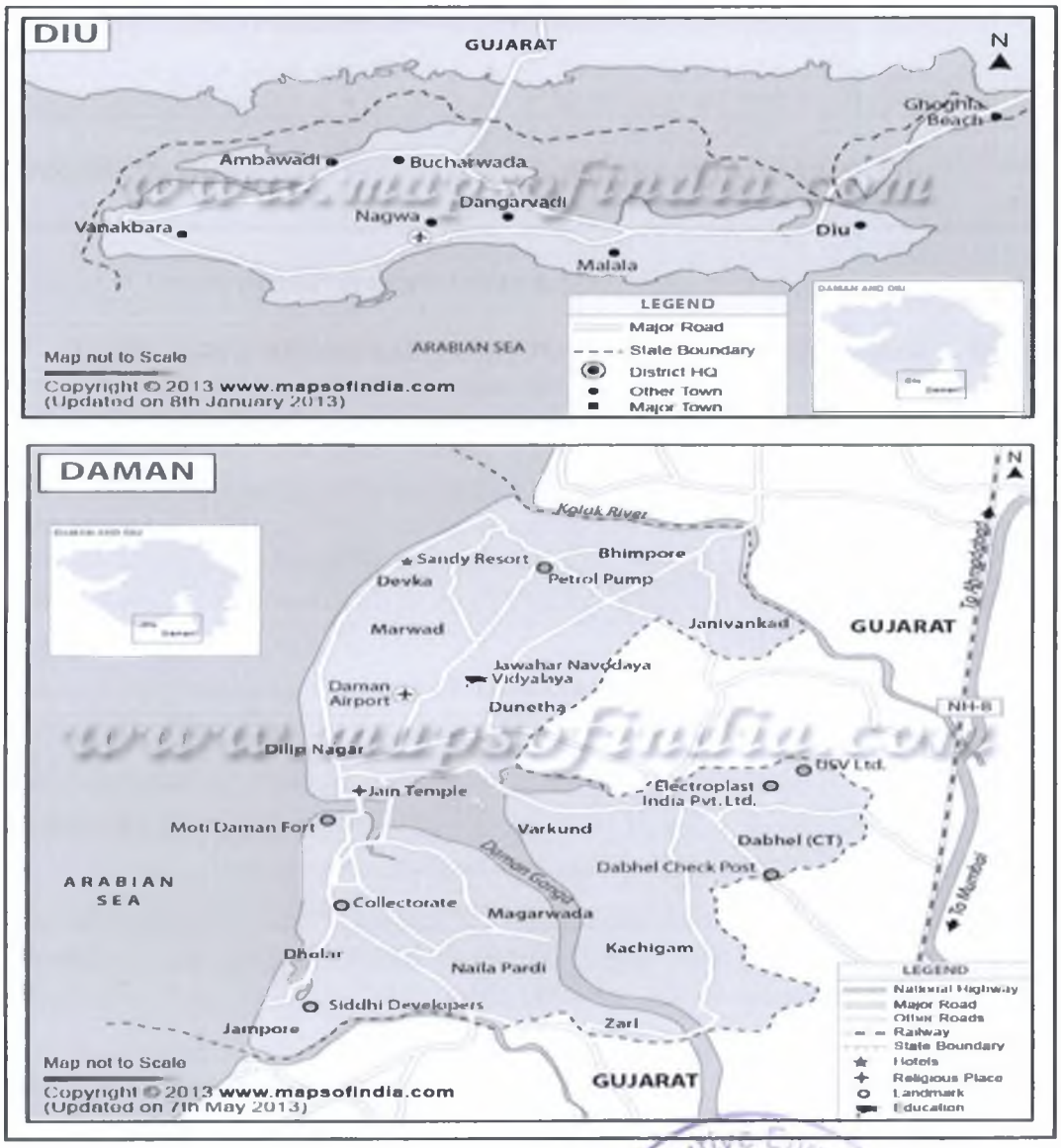
1 Mission of Electricity Department Daman & Diu

Uninterrupted, Reliable and Quality Power Supply to all our Consumers on competitive rates

2 Area Served

Daman District comprises of an area of 72 sq. km whereas Diu District comprises of an area of 40 sq. km.

Figure 1: District map of Daman & Diu



3 Generation Transmission & Distribution

Electricity Department of Daman & Diu is mainly engaged in the procurement, transmission and distribution of electricity to the various categories of consumers. The bulk power supply is drawn from the Central Sector Power Stations in Western Region through PGCIL Grid. At present, Daman gets power from 220KV Ambethi - Magarwada Central Sector line and Diu gets power from 66KV Una Substation through 66KV double circuit line emanating from 220 /66 KV. Kansari S/S of GETCO.

The present power allocation of Daman & Diu is 365 (off peak hrs) MWs. Against this allocation, the U.T is getting only an average of 270-300 MW (off peak hrs) as a daily power schedule. The actual demand of the UT's is about 270 MW (restricted) and 290 MW (Un-restricted).

The Department is mainly engaged in the work of construction, operation and maintenance of power distribution system which caters to power demand of various categories of consumers.

Table 1: Transmission and Distribution System

Sr.No.	Details	Daman	Diu	Total
01.	220 KV D/C line	25.00 C.Kms.	--	**25.00 C Kms.**
02.	66 KV D/C line	58.70 C.Kms.	22.00 C. Kms.	**80.70 C. Kms.**
03.	11KV line O/H	250.82 C. Kms.	82.18 C. Kms.	**333.00 C. Kms.**
04.	11KV line U/G	60.40 C. Kms.	12.20 C. Kms.	**72.60 C. Kms.**
05.	L.T. Line	492.00 C. Kms.	155.70 C. Kms.	**647.70 C. Kms.**
06.	L.T line U/G	94.20 C. Kms.	31.77 C. Kms.	**125.97 C. Kms.**
07.	Transformer Centre	500.00 Nos.	117.00 Nos.	**617.00 Nos.**

4 Organization Structure: Roles and Responsibilities

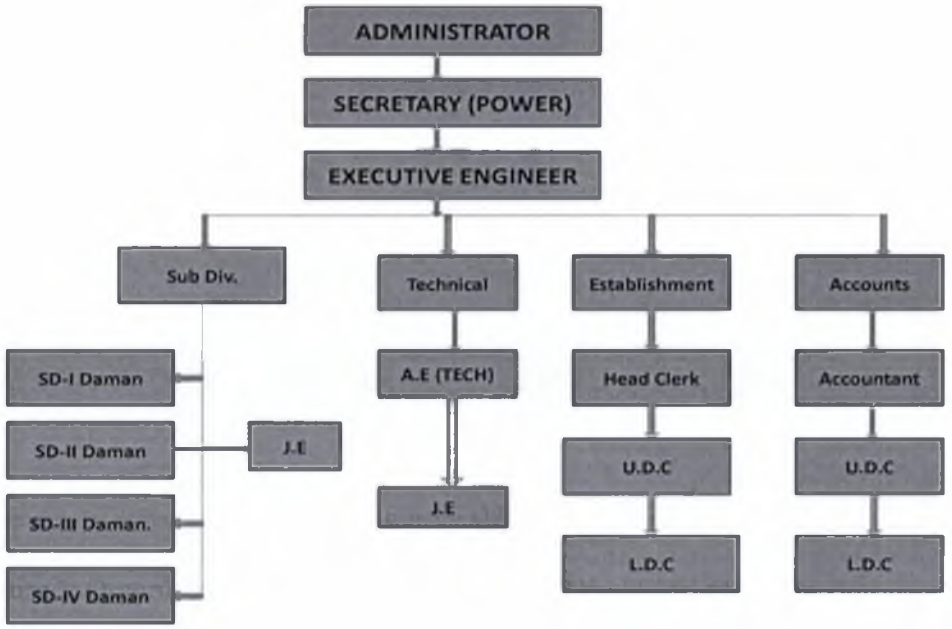
Electricity Department is part of the Administration of Union Territory of Daman & Diu & headed by the Secretary (Power). Day to day work related to functioning of the Department is looked by the Executive Engineer (Elect.) at Division level.

Under Division there are four Sub Division headed by the Assistant Engineer. Executive Engineer at Division Office is also help by Technical Section headed by The Assistant Engineer, Establishment Section headed by Head Clerk and Account Section headed by the Accountant.

At lower level there are Junior Engineer who look after the Operation & Maintenance work of their respected assigned areas and report to their respected Assistant Engineer.

Office of the Executive Engineer, Elect. Deptt. DAMAN

Figure 2: Organisation structure of Daman and Diu Electricity Dept.



5 Grid details

Power supply to the Daman District is received through 400/220 kv Sub Station At Ambheti of Power Grid , a Public Sector Undertaking of GOI at 220/66 Kv , Magarwada Sub-Station from where it is distributed to 66/11 kv Sub Station via 66 kv Transmission lines network . There are 8 nos 66/11 kv , Sub-station at Dabhel , Kachigam, Dalwada ,Bhimpore , Varkund , Ringanwada & Magarwada in Daman& Malala at Diu. Consumers received power supply through Distribution network. Power supply to Diu District is received through GETCO network through 66 kV Transmission lines.

6 Future Power Allocation

During the control period, it is expected that capacity from the following plants will also be allocated to EDDD. The details of the plants and the capacity to be allocated to EDDD are as given below:

a. VSTPS – Stage V (500 MW) – 2 MW from FY 2015-16
b. LARA (2x800 + 3x800 MW) – 4 MW from 2017-18
c. NPCIL –Kakrapar – Stage III & IV (100 MW) – 5.44 MW from FY 2016-17
d. GADARWARA STPP – Stage – I & II (2x660 + 2x660 MW) – 6 MW from FY 2017-18
e. MOUDA-II (2x500) – 6 MW from FY 2016-17 and

f. Solapur (1x660 + 2x660) – 8 MW from FY 2016-17

7 Transmission Sub Stations

There is one 220/66 KV sub-station and eight 66/11 KV sub-stations in Daman & Diu. The details of the same have been shown in the table given below:

Table 2: Transmission Sub Stations

Sr.No.	Sub-Station	Voltage Level (KV)	Installed capacity	% loading
01.	Magarwada	220/66	360 MVA	60
02.	Magarwada	66/11	30 MVA	40
03.	Kachigam S/S	66/11	80 MVA	80
04.	Dabhel S/S	66/11	80 MVA	80
05.	Dalwada S/S	66/11	80 MVA	80
06.	Varkund S/S	66/11	42 MVA	80
07.	Ringanwada	66/11	50 MVA	60
08.	Malala S/S, Diu	66/11	15 MVA	35
09	Bhimpore	66/11	30MVA	50

8 Physical achievements during FY 2013-14

01. Replacement of existing ACSR Panther Conductor of 66 kV Magarwada – Kachigam, Magarwada – Varkund link line by HT TASCR – Conductor.

02. Normal Development works and Release of connections a. Connection released: 942 Nos. b. 11 KV line: 7 Kms. c. LT line : 3 Kms. d. Transformer Centers : 20 Nos.

03. Establishment of 66/11 kV 2x15 MVA S/s along with associated line at Zari, Daman.

04. Augmentation of capacity from 1x100+1x50+1x160 MVA to 1x100+1x50+2x160 MVA at 220/66 kV Sub station at Magarwada, Daman.

05. Providing Under-ground cable power Distribution system in Daman & Diu City / Rural areas and extension of the schemes To the Industrial Estate.
    a. Conversion of 11 KV High Tension overhead lines in to U/G system: 14 Kms.
    b. conversion of Low Tension Overhead lines in to U/G system : 12.5 Kms.
    c. 630 KVA Transformer Centers: 02 Nos.

06. Renovation of existing old power Distribution net work and providing improved Metering system and providing SCADA System to all Sub- station in Daman & Diu.
    a. EMS at 66 KV S/S: 05 Nos.

b. Replacement of Conductors: 2.5 Kms.

c. Replacement of Electro-mechanical relays by numerical relays. : 25 Nos.

Chapter 3: SWOT Analysis

As part of the development of a strategic plan for any organization, it is necessary to understand the inherent competitive advantage of the electricity department as well as the risk surrounding its business environment. Like any other businesses, it is very important for EDDD to evaluate the environment – both internal and external while charting out its growth path. The aim of a SWOT analysis is to identify the key internal and external factors that are important for achieving the objectives of the company.

The SWOT analysis is a strategic planning technique used to assess the internal and external environment in which the electricity department operates and competes. These come from within the company's unique value chain. The information being used for the SWOT analysis is grouped into two main categories:

- Internal factors – The strengths and weaknesses internal to the organization;
- External factors – The opportunities and threats presented by the external environment to the organization;

This section provides the analysis of the strengths, weaknesses, opportunities and threats as perceived by EDDD. These are summarized in the following table:

	Helpful *In achieving the objective*	**Harmful** *In achieving the objective*
Internal Attributes of the Organisation	**STRENGTHS** ✓ Quality Power Supply ✓ Lower Losses ✓ Efficient Customer Service ✓ Setting up of CGRF	**WEAKNESS** ✓ Ageing Distribution Network ✓ Very Less Own generation ✓ Inadequate Manpower
External Attributes of the Environment	**OPPORTUNITIES** ✓ Business Growth due to setting up of new industries	**THREATS** ✓ Increase in Coal Prices ✓ Increasing Avg. CoS – ARR Gap

Strengths:

- **Quality Power Supply:** EDDD has been providing quality and reliable power supply to its consumers with low voltage fluctuations and power supplied at a stable frequency.

- **Lower Losses:** EDDD has been very proficient in reducing the Distribution losses to 8.84% up to 2012-13 over the last few years. EDDD has been and shall always be committed towards taking the best possible measures to minimise distribution losses by adopting pro-active approach and adopting best practices prevalent in the distribution sector in India.

- **Efficient Customer Service:** EDDD has been providing efficient services to its consumers and has also initiated Consumer Management System ensuring better services to its consumers round the clock.

- **Setting up of Forum for Redressal of Consumer Grievances:** EDDD has constituted Forum for Redressal of Grievances of consumers of electricity having jurisdiction to entertain complaints within the area of its distribution licensee, under section 42 of the Electricity Act 2003 at Daman.

Weakness:

- **Ageing Distribution Network:** EDDD has been supplying electricity for a very long time and has also been maintaining its network. However, with passage of time the Distribution Network has started showing signs of ageing and this shall lead to deterioration in performance of EDDD, if adequate and timely steps are not taken.

- **Very Less Own Generation:** The own generation of EDDD is limited to the upcoming solar plants in Daman and Diu. The EDDD has to depend upon the power generation from the Central Generating Stations like NTPC, NPCIL etc. At times when there is a grid outage or a shutdown of the plants allocated to EDDD, the department has to resort to costly short term power purchase to supply uninterrupted power supply to the industries.

- **Inadequate Manpower:** The manpower of EDDD serving the UT of Daman and Diu is inadequate. The ratio of the no. of consumers per employee is much higher as compared to the Distribution companies in other states.

Opportunity:

- **Business growth due to setting up of new industries:** Over the past ten to fifteen years, the UT has seen a tremendous growth in the no. of industries setting up base in Daman due to the tax free policy of the Government of India. As such, EDDD foresees an expansion of Customer base and load growth in its license area.

Threats

- **Increase in Coal Prices:** It is a well known fact that the recent increase in imported Coal prices is causing some serious strains to the power utilities. As a result of this, generators at the central level are seeking increase in tariffs. If such increase in tariff is allowed in the near future, this increase will have to be borne by the consumers. EDDD feels that this shall cause hardship on its consumers.

- **Increasing ACS-ARR Gap:** Average Cost of Supply (CoS) of energy at consumer doorstep has been increasing over the years owing to impact of inflation on various cost heads, however corresponding increase in Average Rate of Realisation (ARR) from all category of consumers is not commensurate.

Chapter 4: Sales

1 Load Growth

The Table given below summarizes the growth in sanctioned load over the past 3 years. The highest growth of 9.25% has been seen in the HT Industrial category. Overall growth for the UT has been 4.01%.

Table 3: Past Years' Load Growth

Consumer Category	FY 11-12	FY 12-13	FY 13-14
kVA	Actual	Actual	Actual
Domestic	55,440	55,080	55,991
Commercial	35,214	18,180	17,654
Agriculture	2,065	2,252	2,512
LT Industry	94,901	96,818	97,780
HT/EHT Industry	369,685	483,024	488,495
Public Lighting	1,624	1,919	1,649
Public Water Works	675	654	664
Total	**559,604**	**657,927**	**664,745**

As can be seen in the table given above the commercial is showing a negative load growth. In the commercial category, earlier separate connections were released for the factory lighting till FY 2011-12. However, due to problems faced by the department during billing of such connections from FY 2013-14 such connections were disconnected and presently only one connection is released for one premises.

To project the load growth for the different consumer categories a two year CAGR has been considered for the domestic, agriculture, LT industry, HT industry, and public lighting. However, for the commercial and public water works category a normalized CAGR has been considered to project the load growth for the control period. The CAGR along with the projected load for the control period has been given in the table below:

Table 4: Projected load growth during Control Period (FY 2015-16 to FY 2017-18)

Consumer Category	FY 14-15	FY 15-16	FY 16-17	FY 17-18	CAGR
kVA	R E	Projected	Projected	Projected	
Domestic	56269	56548	56829	57110	1.65%
Commercial	17794	17935	18077	18221	0.79%
Agriculture	2771	3056	3370	3717	10.29%
LT Industry	99252	100746	102263	103803	1.51%
HT/EHT Industry	561532	645488	741998	852937	14.95%
Public Lighting	1662	1674	1687	1700	0.77%
Public Water Works	669	675	681	686	0.82%
Total	**739,949**	**826,123**	**924,905**	**1,038,174**	

2 Consumer Growth

The Table 5 below summarizes the category wise growth in consumers over the past 3 years.

Table 5: Past Years' Consumer Growth

Consumer Category	FY 11-12	FY 12-13	FY 13-14
	Actual	Actual	Actual
Domestic	46023	42,507.0	43,962
Commercial	9236	8,158.0	7,972
Agriculture	1,157	1,173.0	1,191
LT Industry	1,765	1,926.0	1,799
HT/EHT Industry	827	801.0	798
Public Lighting	188	369.0	339
Public Water Works	77	77.0	71
Total	**59,273.0**	**55,011.0**	**56,132**

Annual Growth in the number of consumers for the MYT Control Period is projected on the basis of the y-o-y growth in the consumers across different categories. The CAGR along with the projected consumer growth for the control period has been given in the table below:

Table 6: Projected consumer growth during Control Period (FY 2015-16 to FY 2017-18)

Consumer Category	FY 14-15	FY 15-16	FY 16-17	FY 17-18	CAGR
	R E	Projected	Projected	Projected	
Domestic	45,109	46,286	47,494	48,733	2.61%
Commercial	8,175	8,384	8,598	8,818	2.55%
Agriculture	1,216	1,241	1,267	1,294	2.10%
LT Industry	1,816	1,834	1,851	1,869	0.96%
HT/EHT Industry	804	810	816	823	0.76%
Public Lighting	345	352	359	366	1.92%
Public Water Works	71	71	71	71	0.00%
Total	**57,537**	**58,979**	**60,457**	**61,973**	

3 Energy Sales Growth

Table 7 below presents the category-wise energy sales for the past 5 years. The overall growth in sales has been 4.10% p.a., mainly contributed by increase in the HT industrial Category.

Table 7: Past Years' Energy Sales Growth

Consumer Category	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
MUs	Actual	Actual	Actual	Actual	Actual
Domestic	57.92	64.20	73.85	77.79	84.16
LIG/ Kutir Jyoti	0.05	0.10	0.10	0.04	0.08
Commercial	27.73	29.30	33.83	38.74	46.75

Consumer Category	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
MUs	Actual	Actual	Actual	Actual	Actual
Agriculture	2.53	2.60	2.70	4.22	3.05
LT Industry	139.12	151.00	156.84	161.21	169.59
HT/EHT Industry	1,236.51	1,402.00	1,496.83	1,572.81	1,441.53
Public Lighting	4.36	4.40	5.59	6.51	7.06
Public Water Works	0.88	0.90	0.92	1.12	1.20
Temp. Supply	0.00	0.70	0.51	0.51	0.67
Total Sales	**1,469.10**	**1,655.20**	**1,771.17**	**1,862.95**	**1,754.08**

The sales in the HT industrial category has fallen in the FY 2013-14 over the FY 2012-13 as three no. of consumers having cumulative load of 43.5 MVA have shifted to the open access. The sales for the FY 2014-15 has been projected by considering the actual sales for the first three months of FY 2014-15 and estimating the sales of the remaining nine months on the basis of the four year CAGR for the different consumer categories. For projecting the sales for the MYT control period for the HT industrial category a three year CAGR has been considered. For the all the other consumer categories the four year CAGR from FY 2009-10 to FY 2013-14 has been considered. The table given below summarizes the projections of category wise increase in energy sales over the control period (FY 2015-16 to FY 2017-18), comparing them to the approved sales of FY 2014-15.

Table 8: Projected energy sales during Control Period (FY 2015-16 to FY 2017-18)

Consumer Category	FY 14-15	FY 14-15	FY 15-16	FY 16-17	FY 17-18	CAGR considered for projections
MUs	Approved	RE	Projected	Projected	Projected	
Domestic	94.26	91.20	100.13	109.93	120.69	9.79%
LIG/ Kutir Jyoti	0.04	0.09	0.10	0.11	0.13	11.52%
Commercial	82.49	49.32	56.20	64.04	72.97	13.95%
Agriculture	3.31	2.87	3.01	3.15	3.30	4.80%
LT Industry	171.87	176.04	184.97	194.36	204.23	5.08%
HT/EHT Industry	1724.95	1,287.45	1,394.95	1,511.41	1,637.61	3.91%
Public Lighting	5.80	7.81	8.81	9.93	11.21	12.80%
Public Water Works	1.14	2.07	2.24	2.42	2.62	8.06%
Temp. Supply	0.01	0.71	0.72	0.72	0.73	1.00%
Total Sales	**2083.87**	**1,617.56**	**1,751.12**	**1,896.09**	**2,053.48**	

Chapter 5: Power Purchase Plan

1 Power Purchase Quantum

Daman & Diu has firm and infirm allocations in Central Sector Generating Stations of NTPC, Nuclear Power Corporation of India Ltd (NPCIL), NTPC Sail Power Company Ltd (NSPCL) and Ratnagiri Gas and Power Private Limited (RGPPL).

Since first three months of FY 14-15 have already elapsed, the actual power purchase data for the same is available with the department. Therefore, the power availability for remaining nine months i.e. July 2014 to March 2015 has been estimated based on the revised allocation issued by the Western Region Power Committee (WRPC) dated August, 2014. The energy allocation from various generating stations is summarized in table below:

Table 9: Energy Allocation from Central Generating Stations

Particulars	Plant Capacity	EDDD Allocation	Avg. EDDD Allocation
	MW	MW	(%)
NTPC Stations			
KSTPP	2,100	49	2.35%
KSTPP-III	500	6	1.20%
VSTPP-I	1,260	13	1.06%
VSTPP-II	1,000	9	0.93%
VSTPP- III	1,000	11	1.13%
VSTPP- IV	500	13	2.54%
KAWAS	656	32	4.86%
JGPP	657	31	4.77%
Bhilai Unit-I &II(NTPC)	500	92	18.30%
Sipat-I	1,980	25	1.29%
Sipat-II	1,000	10	1.00%
MSTPS-I	500	13	2.54%
Subtotal	**11654**	**305**	
Eastern Region			
KHSTPP-II	1000	1.30	0.13%

Particulars	Plant Capacity	EDDD Allocation	Avg. EDDD Allocation
	MW	MW	(%)
Subtotal	**1000**	**1.30**	
NPCIL			
KAPPS	440	8.30	1.89%
TAPP 3&4	1080	12.77	1.18%
Subtotal	**1520**	**21**	
Others			
Ratnagiri	1967	38	1.93%
Subtotal	**1967**	**38**	
Grand Total	**16141**	**365**	

Actual power purchase in first three months of FY 14-15 and power allocation of 92 MW from NTPC-SAIL Bhilai power plant has been considered while estimating the power availability from this plant during FY 14-15.

Actual power purchase in first three months of FY 14-15 from Ratnagiri Gas Power Plant has been considered. However, it is expected that EDDD will not be getting any power from Ratnagiri for the rest of the FY 2014-15 and therefore no power purchase from the plant has been considered for the remaining nine months of FY 2014-15.

During the control period, it is expected that capacity from the following plants will also be allocated to EDDD. The details of the plants and the capacity to be allocated to EDDD are given in the table below:

Table 10: Energy Allocation from Upcoming Central Generating Stations for the Control Period

Particulars	Plant Capacity	EDDD Allocation	Avg. EDDD Allocation
	MW	MW	(%)
NTPC Stations			
VSTPS-V	500	2	0.40%
LARA	4,000	4	0.10%

Particulars	Plant Capacity	EDDD Allocation	Avg. EDDD Allocation
	MW	MW	(%)
MOUDA-II	1,000	6	0.60%
SOLAPUR	1,920	8	0.42%
GADARWARA	2,640	2	0.08%
Subtotal	**10060**	**22**	
NPCIL			
KAPPS (III & IV)	100	5.44	5.44%
Subtotal	**100**	**5.44**	
Grand Total	**10160**	**27.44**	

The EDDD will start getting power from VSTPS-V from FY 2015-16, MOUDA-II, Solapur and KAPPS (III&IV) from FY 2016-17 and from LARA and GADARWARA from FY 2017-18. The power purchase from the plants has been considered accordingly.

For projecting the power availability for FY 15-16 to FY 2017-18, EDDD has considered average allocation of firm and infirm power from the western region generation stations (NTPC and NPCIL) as per the allocation specified in the notification no's. WRPC/Comml-I/6/Alloc/2014/7872 dated 22.08.2014 of Western Regional Power Committee. For projecting the power purchase from eastern region NTPC generating stations, an allocation of 1.30 MW from KhSTPP has been taken into account.

Additionally, EDDD has 92 MW allocations from NSPCL Bhilai power stations. Energy availability from NSPCL Bhilai power stations for FY 15-16 to FY 2017-18 has been considered by taking 92 MW allocation from the plant.

Power purchase quantum from the NTPC stations for the nine months of the current year and FY 15-16 to FY 2017-18 has been calculated based on the installed capacity of each plant and by applying the average of previous three and half years (FY 12 to FY 14, FY 14 first three months) PLF to calculate the plant-wise gross generation. For NSPCL, an average PLF of 90% has been considered in line with the actual PLF for the first three months of FY 14-15.

For gas based generating stations i.e. Kawas (KGPP) and Gandhar (GGPP) weighted average PLF of FY 12-13, FY 2013-14 and FY 2014-15 (for the first three months) have been taken into account.

Auxiliary consumption of 9% and 3% has been considered for estimating the gross generation from coal and gas based generating stations respectively.

For FY 14-15, EDDD has considered power purchase of 4 MU and 20 MU from solar and non-solar renewable energy sources respectively as per the JERC's Procurement of Renewable Energy Regulations, 2010. The EDDD had filed a petition with the Hon'ble Commission in respect of Request for proposal documents for procurement of renewable energy of 70 MUs on yearly basis as per the case-I RE bidding guidelines for Tariff Based Competitive Bidding Process for grid connected power projects based on renewable energy sources issued by the Government of India. The Hon'ble Commission has approved RFP document for the bidding vide its Order dated 15.09.2014. The EDDD is in the process of inviting bids for the same and it is expected that from FY 2015-16 the department will be able to procure the non solar energy through this process. Therefore, for the Control Period the EDDD has considered purchase of renewable energy of 70 MUs to meet its RPO target through this route.

To meet the solar obligation for the control period FY 2015-16 to FY 2017-18, the department is in the process of installing two solar plants, a 1 MW plant in Daman and a 3MW plant in Diu. It is expected that the plants will be commissioned by March, 2015. Another 6 MW solar plant is coming up in Diu and it is expected that the plant will be commissioned by the end of FY 2015-16. Therefore, for the control period the EDDD will meet its solar obligation through these three plants. The per MW unit generation form the solar plants will be approx. 1.6 MUs. A summary of the same is given in the table below:

Table 11: Expected Installed Capacity of Solar Plants for the Control Period

Solar Capacity (MW)	FY 2015-16	FY 2016-17	FY 2017-18
Daman	1	1	1
Diu	3	9	9
Total	**4**	**10**	**10**

Table 12: Expected Generation from Solar Plants for the Control Period

Solar Generation (MUs)	FY 2015-16	FY 2016-17	FY 2017-18
Daman	1.6	1.6	1.6
Diu	4.8	14.4	14.4
Total	**6.4**	**16**	**16**

For computing the power availability at the periphery, 3.60% weighted average external transmission losses have been applied on the gross power purchase for FY 14-15 and FY 2015-16 to FY 2017-18.

Table 14 below depicts the station wise power purchase for FY 14-15 and FY 2015-16 to FY 2017-18.

Table 13: Power Purchase Quantum

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
NTPC Stations				
KSTPP	347.06	344.43	344.43	344.43
KSTPP-III	43.19	41.98	41.98	41.98
VSTPP-I	93.34	93.36	93.36	93.36
VSTPP-II	64.29	65.12	65.12	65.12
VSTPP- III	82.15	79.10	79.10	79.10
VSTPP- IV	91.15	88.98	88.98	88.98
KAWAS	128.45	163.96	163.96	163.96
JGPP	137.66	177.72	177.72	177.72
Bhilai Unit-I &II(NTPC)	638.76	646.27	646.27	646.27
Sipat-I	151.10	149.09	149.09	149.09
Sipat-II	63.04	58.47	58.47	58.47
MSTPS-I	38.09	50.71	50.71	50.71
VSTPS-V	0.00	13.55	13.55	13.55
LARA	0.00	0.00	0.00	27.10
MOUDA-II	0.00	0.00	40.66	40.66
SOLAPUR	0.00	0.00	54.21	54.21
GADARWARA	0.00	0.00	0.00	13.55
Subtotal	**1878.30**	**1972.75**	**2067.61**	**2108.27**
Eastern Region				
KHSTPP-II	9.31	7.24	7.24	7.24
Subtotal	**9.31**	**7.24**	**7.24**	**7.24**
NPCIL				
KAPPS	57.26	60.12	60.12	60.12
TAPP 3&4	81.86	78.08	78.08	78.08

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
KAPPS (III & IV)	0.00	0.00	36.66	36.66
Subtotal	**139.12**	**138.20**	**174.86**	**174.86**
Others				
Ratnagiri	14.42	0.00	0.00	0.00
Subtotal	**14.42**	**0.00**	**0.00**	**0.00**
Power purchase from Other Sources				
Power purchase from Indian E. Exchange	0.00	0.00	0.00	0.00
Short term arrangement	0.00	0.00	0.00	0.00
Solar	12.50	6.40	16.00	16.00
Non Solar	56.26	70.00	70.00	70.00
Subtotal	**68.76**	**76.40**	**86.00**	**86.00**
Gross Power Purchase	**2109.91**	**2194.59**	**2335.71**	**2376.36**
External Losses	75.96	76.25	80.99	82.45
Total Power Purchase	**2033.95**	**2118.33**	**2254.72**	**2293.91**

2 Power Purchase Cost

The cost of purchase from the central generating stations for FY 14-15 and the MYT Control Period is estimated based on the following assumptions:

- The cost of power purchase for FY 14-15 are based on actual power purchase bills, received by the EDDD during the first three months of FY 14-15. Each element of the power purchase cost i.e. fixed, variable and other cost have been estimated for each generating station by considering 3 months (April 14 to June 14) actual cost incurred by the EDDD. The projection for remaining nine months has been done on pro-rata basis by considering the actual power purchase cost of the first three months of FY 14-15.
- Fixed cost for the MYT Control Period has been projected considering a 10% escalation over the estimated fixed cost for various stations for FY 14-15.

- Variable cost for each NTPC generating stations for the Control Period has been projected based on the increase in the actual average variable cost per unit for the first three months of FY 14-15.
- The EDDD has projected other charges (tax, incentives, etc) for the Control Period at similar level as estimated for full year of FY 14-15.
- For nuclear plants i.e. KAPP and TAPP single part tariff increase in the actual average variable cost per unit for the first three months of FY 14-15 have been considered for projecting the power purchase cost for the Control Period.
- For NTPC-SAIL Bhilai unit 1 & 2, fixed, variable and other charges have been projected for the entire FY 14-15 based on the actual cost for first three months of FY 14-15. An escalation of 10% has been taken to project the fixed cost for the Control Period and for projecting the variable cost the increase in the actual average variable cost per unit for the first three months of FY 14-15 has been taken into consideration.
- For power purchase from renewable energy sources, Commission's approved tariff for solar and non-solar power in the Tariff Order has been taken into account for FY 14-15. For the Control Period, the EDDD has outsourced the maintenance cost of the solar plants to BHEL and therefore its running cost has been considered under the O&M expenses. For the non solar power, Commission's approved tariff for non-solar power in the Tariff Order for FY 2014-15 has been taken into account for projecting the cost during the Control Period.

The Total Power Purchase cost from various sources for FY 14-15 and for the MYT Control Period is summarized in the Table below:

Table 14: Power Purchase Cost

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
NTPC Stations				
KSTPP	54.38	57.68	61.51	65.64
KSTPP-III	11.42	12.26	13.32	14.46
VSTPP-I	21.15	22.42	23.79	25.25
VSTPP-II	15.01	16.27	17.52	18.87
VSTPP- III	20.41	21.74	23.67	25.76
VSTPP- IV	25.38	26.94	28.97	31.16

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
KAWAS	49.79	61.04	63.55	66.26
JGPP	56.10	68.19	70.75	73.55
Bhilai Unit-I &II(NTPC)	240.41	244.70	248.94	254.76
Sipat-I	53.17	58.65	65.16	72.43
Sipat-II	20.60	20.83	21.89	23.06
MSTPS-I	27.01	36.67	43.19	51.04
VSTPS-V	0.00	4.65	4.17	4.07
LARA	0.00	0.00	0.00	8.86
MOUDA-II	0.00	0.00	12.36	10.98
SOLAPUR	0.00	0.00	21.09	19.03
GADARWARA	0.00	0.00	0.00	4.92
Subtotal	**594.82**	**652.05**	**719.87**	**770.12**
Eastern Region				
KHSTPP-II	4.01	3.99	4.53	5.16
Subtotal	**4.01**	**3.99**	**4.53**	**5.16**
NPCIL				
KAPPS	13.50	14.35	14.52	14.71
TAPP 3&4	23.18	22.35	22.59	22.83
KAPPS (III & IV)	0.00	0.00	8.72	8.72
Subtotal	**36.67**	**36.69**	**45.84**	**46.26**
Others				
Ratnagiri	37.34	41.03	45.08	49.55
Subtotal	**37.34**	**41.03**	**45.08**	**49.55**
Power purchase from Other Sources				
Power purchase from Indian E. Exchange	0.00	0.00	0.00	0.00
Short term arrangement	0.00	0.00	0.00	0.00
Solar	11.25	0.00	0.00	0.00

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
Non Solar	22.50	28.00	28.00	28.00
Subtotal	33.75	28.00	28.00	28.00
Gross Power Purchase	706.60	761.75	843.32	899.08

3 Transmission and Other Charges

Transmission charges payable to PGCIL are based on the total capacity allocation in the transmission network. EDDD has a mix of firm and infirm capacity allocations from various Central Generating Stations which is revised by the Ministry of Power at regular intervals. Therefore, considering the changing capacity allocation, EDDD has estimated the transmission charges for FY 14-15 based on the actual transmission charges for three months of FY 14-15 and pro-rata allocation of the same for remaining nine months.

For projecting the PGCIL transmission charges for the Control Period, an escalation of 10% over the estimated FY 14-15 transmission charges has been considered in view of the increase in transmission charges. Further, EDDD has taken into account the additional capacity share in the new stations while estimating the Inter-State transmission charges for ensuing year.

Table 15: Total Power Purchase Cost for the Control Period

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
Gross Power Purchase Cost	706.60	761.75	843.32	899.08
PGCIL charges	73.34	80.67	88.74	97.61
WRLDC	0.54	0.59	0.65	0.65
MSTCL	6.89	7.58	8.34	9.17
Total Power Purchase Cost (including Transmission Cost)	787.36	850.59	941.05	1006.52

Chapter 6: T&D Loss Trajectory and Energy Balance

The EDDD would like to submit that the system improvement works executed every year under the planned schemes as well as increase in energy sales quantum to the HT consumers have resulted in the reduction of T & D losses in its distribution area.

EDDD has achieved T&D los level of 9.06% for the FY 2013-14 as against the target of 9.25% given by the Hon'ble Commission in the Tariff Order for the FY 2013-14. Reduction of T&D below 10% involves significant amount of capital expenditure and it is EDDD's endeavor to bring the T&D loss level further down in the subsequent years. Further, the Hon'ble Commission had set a T&D loss level target of 8.70% for the FY 2014-15 in the Tariff Order dated 1st May, 2014. The EDDD proposes to reduce the T&D losses to 8.70% for FY 14-15. The loss reduction trajectory for the Control Period is as given in the table below:

Table 16: Proposed T&D Loss Trajectory

	FY 14 Actual	FY 15 RE	FY 16 Projected	FY 17 Projected	FY 18 Projected
T&D Losses	9.06 %	8.70%	8.60%	8.50%	8.40%

Based on the proposed loss levels and projected energy requirement and availability within the state, the Energy Balance is presented in the following table:

Table 17: Energy Balance

Particulars	FY 2013-14 (Actual)	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
Energy sales within the state (MUs)	1,754.08	1,617.56	1,751.12	1,896.09	2,053.48
Distribution Losses					
%	9.06%	8.70%	8.60%	8.50%	8.40%
MU	174.66	154.14	164.77	176.14	188.31
Energy required at state periphery(MUs)	1928.74	1771.70	1915.88	2072.22	2241.79
Surplus power sale(MUs)	22.76	262.25	202.45	182.49	52.12
Transmission losses(MUs)	68.85	75.96	76.25	80.99	82.45
Energy Available	**2020.35**	**2109.91**	**2194.59**	**2335.71**	**2376.36**

Chapter 7: Capital Investment Plan

1 Capital Investment plan of EDDD

As has been discussed above, the (EDDD) is engaged in the procurement, transmission and distribution of electricity to the various consumer categories in the Union Territory of Daman and Diu. Apart from the upcoming solar plants, it does not have its own power generation station and completely rely on the Central Sector Generating Stations (CSGS) in Western Region to meet its energy demand.

Based upon the above mandate the CAPEX Plan proposals (scheme wise) for FY 15-16 to FY 17-18 under the MYT Control Period FY 2015-18 have been formulated by EDDD in order to effect better planning, budgeting and monitoring at macro & micro levels. The schemes are divided under the following two categories:

A. Ongoing Schemes
B. New Schemes

A. Ongoing Schemes

Table 18: Ongoing Schemes

Sr.No.	Name of Scheme	Total Estimated amount for the Control Period (Rs. Lakh)	Proposed Expenditure in Rs. Lakh.		
			2015-16	2016-17	2017-18
1	Improvement and Renovation of 220 KV Sub-station	500	200	200	100
2	Establishment of 1x160 MVA + 2x50MVA, 220/66 KV Sub-station at Ringanwada, Nani Daman alongwith associated 220KV D/C line from 220 KV lines for Ringanwada Sub-station in Daman	4045	3000	1045	0
3	Normal Development and Release of Service Connection	1350	450	450	450
4	Providing Underground power Distribution system in Daman & Diu city/rural and extension of the scheme to Industrial Estate.	3750	1250	1250	1250

Sr.No.	Name of Scheme	Total Estimated amount for the Control Period (Rs. Lakh)	Proposed Expenditure in Rs. Lakh.		
			2015-16	2016-17	2017-18
5	Augmentation of 66/11 KV existing Sub-stations at Daman and Diu	2000	600	1000	400
6	Construction of control room and office Building at Daman & Diu	200	100	50	50
7	Providing Off-grid solar PV system and Solar street lights in Daman and Diu	800	400	200	200
8	Installation of Solar PV-Lighting system on places of common use such as Panchayat Building, Community Halls, Schools etc	200	80	60	60
9	Electrification of Tribal area and providing Street Lighting in village road in Daman	50	25	15	10
10	Replacement of LT O/H line by LT ABC Bunch conductor in rural areas of Daman and Diu for a distance of 15 Kms	350	150	100	100
11	Replacement of existing ACSR Panther Conductor of 66KV Varkund-Dalwada, Kachigam-Dabhel, Dalwada-Dabhel line HI TASCR - 160 sq.mm Conductor	300	100	100	100
12	Providing improved metering system, Communication, MRT facilities and special tools & Plants/Workshop in Diu	346	100	120	126
13	Scheme for Augmentation of capacity from 1x100+1x50+1x160 MVA to 1x100+1x50+2x160 MVA at 220/66 kV Substation at Magarwada Daman	400	400	0	0
	Total	**14291**	**6855**	**4590**	**2846**

1. **Name of Scheme: Improvement and Renovation of 220 KV S/S.**

Cost Rs.2500.00 Lakh.

Objective of the Scheme:

The scheme provides replacement of old Sub stations equipments to ensure proper functions of 220/66 KV S/S in the futures.

Salient Features:

The existing 220/66 KV S/S at Magarwada, Moti Daman was commissioned in the year 2003. Due to heavy salinity climate in Daman the S/S equipments like breakers, isolators and other items are corroded and required to be replaced for better performance and proper functioning of the S/S.

2. **Name of Scheme: Scheme for establishment of 1x160 MVA + 2 x 50 MVA 220 / 66 KV S/S at Ringanwada, Nani Daman along with associated 220 KV D/C line from 220 KV Lines for Ringanwada S/S in Daman**

Cost Rs.4045.00 Lakh.

Objective of the Scheme:

The scheme will provide second 220 KV power source to the UT of Daman and will improve the voltage regulation of the electrical system and reduce the line losses by ensuring extra High voltage transmission of lines. It will improve power supply and will ensure stand by feeding arrangement in case major breakdown on 220 KV Magarwada Circuit.

Salient Features:

The existing 220/66 KV S/S at Magarwada is loaded to its optimum capacity in the end of 11th Five Year Plan and there will not be any left over clearance for meeting the load growth financial year 2011-12 onwards as all loads of the existing S/S to the tune of 250 MVA shall be loaded over Magarwada S/S. Considering the load growth in Daman the maximum load at the end of 11th Five Year Plan will be 300 MWs. So the Department has proposed to establish another 220/66 KV, 1x160 MVA + 2x50 MVA S/S at Ringanwada.

At present the Department has imposed weekly staggering to all Industrial Feeders to cop up with the present loadings on the S/S's. By implementing this scheme, the regular staggering can be removed and more and more Industrial loads can draw round the clock on the system without facing any interruption of power supply and thirst the line losses can be reduced to the least possible and the Department can earn more revenue due to sale of power to the industrial and other sectors of consumers.

Due to the above reason and in order to meet the forth coming load growth and pending application for Industrial connections, there will be extreme need for implementing a new 220/66 KV, 1x160 MVA + 2x50 MVA S/S at Ringanwada.

3. **Name of Scheme: Normal Development Works and Release of Service Connections**

Cost Rs.1500.00 Lakh.

Objective of the Scheme:

The purpose of the same is to:
Provide additional distribution network with transformer centers & associated HT/LT service lines for arranging power supply to various categories of HT&LT consumers. Augment existing power distribution system by adding new transformer centers.

Salient Features:

The scheme for Normal Development Works & Release of Service connection is basically scheme for the additions made in the existing electrical network to cope with the loads on the system due to release of various type of service connections to the consumers in the UT. The Department receives several applications from LT Domestic, LTC, LT Ag., LT Industrial and HT Industrial consumers throughout the year and releases these loads from existing system. Due to above growth in the existing system, the voltage regulation and loading of the system constantly goes on increasing up to limits beyond which it cannot cater the loads without erecting transformer centre, lines and other related accessories.

Therefore, the main objective of works proposed under ND & SC scheme are to erect few transformer centers, LT/HT lines and service connection lines etc., to cope with prospective loads coming during the year. The works under this scheme are carried out on the basis of 15% revenue return per annum as per its terms & conditions.

4. **Name of Scheme: Providing Underground power Distribution system in Daman & Diu city / rural areas and extension of the scheme to Industrial Estates**

Cost Rs.12500.00 Lakh.

Objective of the Scheme:

The main objective of this scheme is to provide total U/G cable power distribution system and removing O/H lines to render uninterrupted and stable power supply to urban, rural and industrial areas of Daman & Diu. All the Industrial feeders are proposed for conversion in to U/G system during the 12th Five Year Plan 2012-2017.

Salient Features:

The department has completed the work of Underground cable power distribution system in most of the city area of Nani Daman, Moti Daman and Diu. Further the Department has also completed some portion of rural as well as Industrial areas during the 11th Five Year Plan. The remaining portion of city, rural and Industrial area are to be converted in to U/G system by the end of 12th Five Year Plan which will yield additional revenue due to sale of Power to Industrial consumers on account of increase of power supply reliability index to 99.5%.

Daman city is urban area with congested roads and buildings. It is situated at sea-shore and subjected to heavy rains, salty whether and cyclonic wind every year. On implementation of the said scheme, the Department will be able to reduce the power interruption, line losses and ensure beautification of city areas of Daman.

The Department has proposed to replace LT Cables of various S/S's in City areas and replacement of OLTC 11 KV Breaker by SF-6 Breakers to ensure trouble free operations in future as the existing U/G system is very old and required to be modified.

The objective of the scheme is to provide total underground cable power distribution for the small but beautiful city of Diu, which is developed as a major tourist center in the Saurashtra region. Diu city is located just on the sea-shore as a small island, connected to main land by long creek. The GOI has identified Diu as one of the major tourist center in India. Since Diu city is subject to heavy rain, salty weather and frequent cyclones, it has become necessary to provide the city / rural with Underground cable system, so that reliable power supply and beauty of the City is maintained.

As at present there are 8 Substation (i.e. Magarwada, Dabhel, Ringanwada, Varkund, Dalwada, Bhimpore, Kachigam and Malala) in U.T. of Daman & Diu and in all this substations load is increasing day by day which affects its efficiency therefore to increase the efficiency of these substations there is a need to install capacitor bank in each substation.

5. Name of Scheme: Scheme for Augmentation of 66/11 KV existing S/S at Daman / Diu

Cost Rs.3400.00 Lakh.

Objective of the Scheme:

The scheme provides for system improvement of 66/11 KV S/S by augmentation of transformation capacity of power transformers and Switch yard equipments and providing 66 KV Base at S/S's.

Salient Features:

The main objective of this scheme is to meet the increasing industrial as well as other categories of load during the 12th five year plan period and to clear the pending application for industrial connection as well as to provide power to meet the increased loads in Daman & Diu sectors.

The existing power transformers of Sub-stations are loaded up to their optimum capacity and regular weekly staggering on each and every feeder has to be imposed. This Department has to augment the existing capacities of transformers at Dabhel, Varkund, Magarwada and Ringanwada Sub-stations.

Moreover, after enhancement of the capacity of the Sub-stations, the regular staggering can be removed and more and more industrial loads can run round the clock on the system without facing any interruption of power supply and thus the line losses can be reduced to the least possible and the Department can earn more revenue due to sale of power to the Industrial and other sectors of consumers.

Due to the above reasons and in order to meet any eventuality of emergent situation arising out of failure of any of the existing transformers and to ensure as an standby unit.

6. **Name of Scheme: Construction of control room and office building at Daman & Diu**

Cost Rs.600.00 Lakh.

Objective of the Scheme:

This scheme is for construction of office building and control room at Daman & Diu.

Salient Features:

The existing control room and office building at 66/11 KV S/S in Diu and Dabhel, Daman are very old and the construction of the new building is very vital.

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Hence both the buildings are to be demolished and construct new building. Similarly the office building at Nani Daman and Govt. Quarter adjacent to the Quarter is also not in a condition so it is proposed to construct new office building and Govt. Quarter during the 12th Five Year Plan. The central store situated at Kachigam is not sufficient for keeping the line materials, transformers, poles and other materials; hence it is proposed to purchase about 5 acre land and construct central store building along with all equipments during the 12th Five Year Plan.

Hence the scheme is very essential on financial as well as technical point of view.

7. **Name of Scheme: Scheme for providing off-grid solar PV system and solar street lights in Daman and Diu.**

Cost Rs.1867.00 Lakh.

Objective of the Scheme:

The scheme will provide off grid solar PV system in all Govt. offices, schools, colleges, Panchayats in Daman and Diu, providing solar water Heaters in all Govt. quarter buildings, providing solar street light on tribal roads and conversion of existing district major road street lights into solar street light.

Salient Features:

With over 300 clear sunny days available annually in India, there is a huge potential to tap, store and retrieve solar power. Government of India has launched the Jawaharlal Nehru National solar Mission (JNNSM) as a major initiative to promote ecologically sustainable growth on setting up an enabling environment for solar penetration in the country. The Ministry of new and Renewable Energy (MNRE), Government of India has introduced a scheme for solar Off-grid to promote commercial marketing of solar energy system and devices by extending financial incentives.

Apart from above as per notification No.JERC-14/2010 from joint Electricity Regulatory Commission, it is obligatory for each distribution licensee to purchase 0.40% of the total consumption of all the consumers in its area during the year from solar system.

8. **Name of Scheme: Installation of Solar PV-Lighting system on places of common use such as Panchayat Building, Community Hall Schools etc.**

Cost Rs.253.00 Lakh.

Objective of the Scheme:

Reducing the financial burden on electricity bills of non-governmental organizations. To popularize the non-conventional energy sources.

9. **Name of Scheme: Electrification of Tribal area and providing Street Lighting in village road in Daman**

Cost Rs.115.00 Lakh.

Objective of the Scheme:

All tribal villages are electrified. The scheme provides for:

1. Providing bunch conductor for LT line.
2. To provide U/G cable street lighting system on all village roads.

Salient Features:

All the Tribal villages of Daman & Diu UT are 100% electrified. The roads leading to tribal villages are also provided with street lighting system. But due to growth by construction of new houses in the Tribal areas of the UT, the Department has proposed to provide bunch conductor to all LT lines of Tribal areas.

The main objectives of this scheme is to extend LT lines for covering newly constructed houses and to provide underground cable network street lighting systems on such localities.

10. **Name of Scheme: Replacement of LT O/H line by LT ABC Bunch conductor in rural areas of Daman and Diu for a distance of 15 Kms**

Cost Rs.500.00 Lakh.

Objective of the Scheme:

The objective of the scheme is to replace the LT O/H line by LT ABC bunch conductor. Many a times the LT O/H lines snap and can prove dangerous for the people living in the near vicinity. Therefore, this scheme has been proposed.

11. **Name of Scheme: Scheme for Replacement of Existing ACSR Panther Conductor of 66 KV Varkund – Dalwada, Kachigam – Dabhel and Dalwada – Dabhel link line By HI**

TASCR – 160 Sq.mm Conductor and Providing 12 Nos. Multi Ckt. Tower (Small Base type).

Cost Rs.1500.00 Lakh.

Objective of the Scheme:

The scheme provides for replacement of existing panther conductor to HI TASCR – 160 Sq. mm conductor and Providing 12 Nos. Multi Ckt. Tower (Small Bases Type)

Salient Features:

The existing 66 KV Magarwada – Kachigam, Magarwada – Varkund, Varkund- Dalwada, Dalwada – Dabhel, Kachigam – Dabhel and Kachigam – Dalwada link line are heavily loaded and since these lines are more than 8 years old, the rate of deterioration of existing ACSR Panther conductor has been increased due to overheating as these lines run through creek area which may cause severe breakdown of lines resulting in to power failure in Daman District. More over the load on the Sub station fed by these lines are increasing day by day as so many applications demanding power are pending. Considering the present scenario, it is expected that the load on these line will exceed 600 Amperes and there is no other alternate provision for diversion of load from these lines. Hence, to avoid this, it is proposed to replace existing ACSR conductor by high capacity TACS 160 SQMM conductor for this 66 KV lines.

Hence the scheme is very essential on financial as well as technical point of view.

12. **Name of Scheme: Providing improved metering system, Communication, MRT facilities & Special Tools & Plants / Workshop in Daman & Diu**

Cost Rs.396.00 Lakh.

Objective of the Scheme:

The main objective of the scheme is to provide AMR metering system to all HT and LT Industries, PLCC meter to LTD & LTC consumers, installation of computer to all Sub Division and section in the Electricity Department and providing Mobile Phones to all Junior Engineers, Assistant Engineers, Sub stations, Complaint Centre and MRT facilities to Daman & Diu.

Salient Features:

The department has provided AMR metering system to major HT Industries and SCADA system to all S/S's during the 11th Five Year Plan. Now this scheme is taken up for completing the remaining works urgently to ensure proper billings and reduce line losses. By introducing of AMR metering system and PLCC metering system, the department can collect the data of metering installed at the consumers premises at its local office directly without manual movement of meter reduces to the site. Apart from that, the monthly meter readings of the meter installed at consumer premises can be obtained by the department at its office itself and as such to & fro trips of meter readers can be saved. This system of collecting billing data provides reliable cost effective solution to the meter reading system and various data such as load pattern, power factor, demand utilized, energy consumed, peak hours, loading and tampering if any, of the consumer metering can be traced at the office of the department at any time. The special tools to be provided under the scheme are fault detector, earth tester, CT PT testing kit, relay testing kit, transformer testing kit, single phase and three phase energy meter tester.

The department has introduced to provide centralized A/C system to the office of the Electricity Department, Daman and installations of computer at all Substation and sections in the Electricity Department for proper and smooth functioning of the department. The department has also introduced to provide mobile phone to all Junior Engineers, Assistant Engineers, Sub stations, Complaint Centre of Daman & Diu.

To implement that the department can earn more revenue, hence it is justified that the scheme is quite essential for this UT for the 12th Five Year Plan.

13. Name of Scheme: Scheme for Augmentation of capacity from 1x100+1x50+1x160 MVA to 1x100+1x50+2x160 MVA at 220/66 kV Substation at Magarwada Daman

Cost Rs.861.00 Lakh.

Objective of the Scheme:

The existing transformers at **220/66 kV Substation at Magarwada Daman are** overloaded. New connections are not being released due to the capacity constraint faced due to overloading of the transformers. Therefore, the EDDD is augmenting the existing capacity from **1x100+1x50+1x160 MVA to 1x100+1x50+2x160 MVA** to release the new connections.

B. New Schemes

Table 19: New Schemes

Sr.No.	Name of Scheme	Total Estimated amount for the Control Period (Rs. Lakh)	Proposed Expenditure in Rs. Lakh.		
			2015-16	2016-17	2017-18
1	Establishment of 2 x100 MVA, 220/66 KV Sub-station at Dabhel, Nani Daman	4800	0	2000	2800
2	Establishment of 66/11 KV, 2x20 MVA GIS Sub-station alongwith associated line at Dabhel, Daman	2500	500	1500	500
3	Establishment of new hybrid bay in Sub-stations(i.e Dalwada, Bhimpore, Dabhel, Kachigam, Magarwada)	450	0	250	200
4	Scheme for inter connection of 66KV line from Zari Sub-station to Eurocaustic and replacement of Panther conductor from Kachigam Sub-station to EPL	800	300	300	200
5	Scheme for Construction of new Government Quarter for Executive Engineer	6	2	2	2
6	Providing Solar Lighting system and Solar water heater to different classes of consumers of UT of Daman & Diu	165	55	55	55
7	Replacement of electromechanical energy meters in Daman & Diu	530	300	150	80
8	Procurement of Capacitor Bank in Existing Sub-station in Daman & Diu	200	100	50	50
9	Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman	2500	0	1000	1500
10	Installation of 6 MWp On-grid connected Solar PV Power plant at Malala, Diu	5100	3000	2100	0
11	Strengthening of 11 KV Feeders in Daman and Diu	900	300	300	300
12	Scheme of integrated solution for Electrical Network Modeling & Distribution Analysis Software	1900	500	700	700

Sr.No.	Name of Scheme	Total Estimated amount for the Control Period (Rs. Lakh)	Proposed Expenditure in Rs. Lakh.		
			2015-16	2016-17	2017-18
13	Installation of grid connected wind energy	10000	1000	4500	4500
	Total	**29851**	**6057**	**12907**	**10887**

1. **Name of Scheme: Scheme for establishment of 2x100 MVA 220/66 KV S/S at Dabhel, Nani Daman.**

Cost Rs.4800.00 Lakh.

Objective of the Scheme:

The scheme will provide second 220 KV power source to the UT of Daman and will improve the voltage regulation of the electrical system and reduce the line losses by ensuring extra High voltage transmission of lines. It will improve power supply and will ensure stand by feeding arrangement in case major breakdown on 220 KV Magarwada S/S, Dabhel S/S will be connected to CTU networks.

Salient Features:

At present Dabhel Substation is connected with 220/66 kV Magarwada Substation through double circuit 66 KV line via 66 kV Kachigam line and present load on this circuit is 140 MW considering feature demands during 12th Five Year Plan period, near load will be up to 180 MW. This demand cannot be catered from existing system. Therefore Department has proposed to establish 220/66 KV, 2x100 MVA Substation at Dabhel and same Substation will be connected to Magarwada 400/220 KV Substation (PGCIL). By implementing this scheme Daman district will be connected to CTU system and reliability of Power supply will be increased and line losses can be reduced.

Hence the scheme is very essential on financial as well as technical point of view.

2. **Name of Scheme: Scheme for establishment of 66/11 KV 2x20 MVA GIS S/S along with associated line at Dabhel, Daman.**

Cost Rs.2500.00 Lakh.

Objective of the Scheme:

The scheme provides for erection of 66 KV line and 66/11 KV, 2x20 MVA GIS S/S along with all associated equipments at Dabhel area in order to share the enhanced loading of Dabhel existing 66/11 KV S/S and to meet future load growth to improve regulation.

Salient Features:

The 66 kV Dhabel S/s is presently fed from 66 kV Magarwada Dhabel vis Kachigam line. Being a lengthy 66 kV feeder the losses are on a higher side. In order to lower the losses and provide a stable and reliable power to the industries and residential consumers at Dabhel it is proposed to establish the 66/11 KV 2x20 MVA GIS S/S. Also, at present in Daman all the 07 Nos. S/S's at Kachigam, Dalwada, Dabhel, Varkund Ringanwada, Magarwada and Bhimpore are loaded up to their optimum capacity. As Daman is a small UT with limited financial and technical sanction powers, it is generally not proper to load the S/S by more than 80% capacity and also always some spare capacity has to be maintained to avoid heavy load shedding in the eventuality of outage of any power transformers.

Considering the present load growth it is expected that the Maximum demand of Daman area could be around 400 MWs at the end of 12th Five Year Plan. Keeping in view of the loading of existing S/S and future load, it is essential to establish a new 66/11 KV GIS S/S at Dabhel, Daman to cope up with the forth coming loading of this area.

At this present condition major industries are connected with existing Dabhel S/S therefore it has been loaded more than 80% and therefore it is very hard to cope up with this load and since the substation is old there is no new space for expansion. After commissioning of this S/S some loads from existing Dabhel S/S can be shifted to this new 2 X 20 MVA GIS S/S which will help in reducing load in existing substation and same will also help in increase reliability of power.

Hence it is proposed to establish new 66/11 KV, 2x20 MVA GIS S/S at Dabhel, Daman to cater the future load in the said areas during the Control Period and to earn more revenue to the Department by sale of more power to Industrial as well as other category of consumers.

3. **Name of Scheme: Scheme for establishing new hybrid bay in Substations (i.e. Dalwada, Bhimpore, Dabhel, Kachigam, Magarwada (220/66)).**

Cost Rs.450.00 Lakh.

Objective of the Scheme:

The scheme provides establishing new hybrid bay in 66/11 KV Substations (i.e. Dalwada, Bhimpore, Dabhel, Kachigam) and in 220/66 KV Magarwada substation.

Salient Features:

The existing 66/11 KV substations (i.e. Dalwada, Bhimpore, Dabhel & Kachigam) & 220/66 KV substation (Magarwada) are heavily loaded (almost 70 %) then its capacity and load is increasing day by day so to cope up with existing demand new transformers as well as bays has to be installed. Which requires extra space which does not available in the substation therefore department is going to adopt new technology i.e. hybrid bay system, as its occupy half the space of current installed bay and provide better efficiency and less maintenance then current system.

It's costing will be 20 % higher than existing bays but keeping in mind less space consumption and low maintenance cost the overall cost is justified.

4. **Name of Scheme: Scheme for inter connection of 66 KV line from Zari SS to Eurocaustic and replacement of Panther conductor from Kachigam S/S to EPL**

Cost Rs.800.00 Lakh.

Objective of the Scheme:

Scheme for inter connection of 66 KV line from Zari SS to Eurocaustic and replacement of Panther conductor from Kachigam S/S to EPL.

Salient Features:

The proposed 66 kV Zari S/s will be connected from 220/66 kV Magarwada S/s. The 66 kV Zari S/s is isolated. One of the consumers i.e. EPL is connected from 66 kV Kachigam S/s/ it is proposed to connect Eurocaustic to the 66 kV Zari S/s and replace the existing 66 kV panther conductor between Kachigam and Eurocaustic.

This will reduce the load of existing substation and at same time will increase the efficiency of power transfer.

5. **Name of Scheme: Scheme for Construction of new Government Quarter for Executive Engineer**

Cost Rs.6.00 Lakh.

Objective of the Scheme:

This scheme produces to construction of Government Quarters for Executive Engineer.

Salient Features:

This scheme produces to construction of Government Quarters for Executive Engineer, Daman.

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6. **Name of Scheme: Providing Solar lighting system and Solar water heater to different classes of consumer of U.T. of Daman and Diu.**

Cost Rs.165.00 Lakh.

Objective of the Scheme:

The scheme will provide Solar lighting system and solar water heater to different classes of consumers in U.T of Daman and Diu.

Salient Features:

Ensuring affordable, adequate and uninterrupted power supply to domestic & other consumers, remains one of the major challenges. With over 300 clear sunny days available annually in India, there is a huge potential to tap, store & retrieve Solar Power - much more than current power requirement. The scheme envisage providing of back ended subsidy to the extent of 30 % of the cost to the consumers belonging to above poverty line (APL) category, in line with the provision made by the Government of India in the Jawaharlal Nehru Solar Mission (JNNSM). However, to provide further incentive to the consumers of below poverty line category (BPL) to use such non conventional energy device, it is proposed to provide 50 % back ended subsidy to them. It is proposed to provide one solar lantern of 13 Watts capacity and one solar water heater of capacity 100 lts to each of the consumers.

7. **Name of Scheme: Replacement of electromechanical energy meters in Daman & Diu**

Cost Rs.530.00 Lakh.

Objective of the Scheme:

The objective of the scheme is to replace all electromechanical meters with electronic meters in the UT of Daman & Diu.

8. **Name of Scheme: Procurement of Capacitor Bank in Existing Sub-station in Daman & Diu**

Cost Rs.200.00 Lakh.

Objective of the Scheme:

The objective of the scheme is to improve the power factor at the 66 kV substations. Due to poor power factor, the EDDD has to pay the reactive energy charges. With the installation of

the capacitor bank, the EDDD proposes to reduce the reactive energy by improving the power factor.

9. Name of Scheme: Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman

Cost Rs.2500.00 Lakh.

Objective of the Scheme:

The scheme provides for erection of 66 KV line and 66/11 KV GIS S/S along with all associated equipments at Bhimpore area in order to share the enhanced loading of existing 66/11 KV S/S and to meet future load growth to improve regulation.

10. Name of Scheme: Installation of 6 MWp On-grid connected Solar PV Power plant at Malala, Diu

Cost Rs.5100.00 Lakh.

Objective of the Scheme:

The objective of the scheme is to tap the solar energy available in the UT of Daman & Diu and to become more reliable in power generation. Also, with the commissioning of this plant, the total solar generation in Diu will be around 9 MW which will be enough to cater to the power demand of the consumers of Diu and make Diu. It will also help the EDDD in fulfilling its RPO obligation.

11. Name of Scheme: Strengthening of 11 KV Feeders in Daman and Diu

Cost Rs.900.00 Lakh.

Objective of the Scheme:

Earlier, power supply to consumers having contracted load between 100 kVA to 1500 kVA was at 11 kV and for more than 1500 kVA at 66 kV. However, as per the Tariff Order for FY 2014-15, the power supply to consumers having contracted load between 100 KVA to 4000 KVA (including licensee common feeders and express feeders/dedicated feeders) shall generally be at 11 KV and for more than 4000 KVA up to 25000 KVA at 66 KV. Hence, to strengthen the 11 kV feeders to cater to the enhanced load, this scheme has been launched.

12. Name of Scheme: Scheme of integrated solution for Electrical Network Modeling & Distribution Analysis Software

Cost Rs.1900.00 Lakh.

Objective of the Scheme:

EDDD has proposed the implementation of various IT Infrastructure Schemes and has on its own has initiated partial implementation of various activities such as GIS mapping, Automatic Meter Reading etc. It is proposed to utilize the facilities available with EDDD and integrate the same with proposed solution.

13. Name of Scheme: Installation of grid connected wind energy

Cost Rs.10000.00 Lakh.

Objective of the Scheme:

The objective of the scheme is to tap the tap the wind energy available in the UT of Daman & Diu and to become more reliable in power generation. This will also help in promotion of clean energy and will also help the EDDD to meet the regulatory compliance of the Hon'ble JERC regarding the renewable power purchase obligation.

2 Capitalization

The capitalization of new schemes has been considered at 40% of the planned capital expenditure in the same year while the balance 60% has been capitalized in subsequent year. A summary of the capital expenditure and capitalization for FY 14-15 and the Control Period is summarized in Table below:

Table 20: Capital Expenditure and Capitalization for the Control Period

Capital Expenditure & Capitalization	FY 14-15	FY 15-16	FY 2016-17	FY 2017-18
(Rs. Crore)	Revised Estimate	Projected	Projected	Projected
Capital Expenditure	100.88	129.12	174.97	137.33
Asset Capitalization	57.17	94.69	133.69	143.40
Capital Work in Progress	71.74	106.17	147.45	141.38

3 Gross Fixed Asset

EDDD had Rs. 337.42 Crore of Opening Gross Fixed Assets (GFA) in FY 14-15. EDDD has further proposed capital expenditure of Rs. 100.88 Crore during FY 14-15.

Based on the actual capitalization of the first three months and estimated addition in GFA during the remaining nine months of FY 14-15, assets amounting to Rs. 57.17 Crore have been estimated to be added in the GFA during FY 14-15.

Chapter 8: Financing of the Capital Schemes

1 Financing of Capital Schemes

The entire capital expenditure of EDDD since its inception has been funded by the Central Government through budgetary support each year. Therefore, the department does not have any loan liabilities. However, EDDD is now migrating from a Government owned utility to a commercial utility under the Electricity Act, 2003, it has come under the direction of the Joint Electricity Regulatory Commission. It has been assumed that EDDD would work as a separate commercial utility and therefore would be utilizing the debt facilities in the coming years. Assets capitalized during FY 14-15 and the Control Period have been considered based on normative debt-equity ratio of 70:30 as per the JERC (Terms and Conditions for Determination of Tariff) Regulations, 2009.

2 Depreciation

Depreciation is charged on the basis of straight-line method, on the GFA in use at the beginning of the year and addition in assets during the financial year. The depreciation is based on the original cost of the Gross Fixed Assets. Based on the CERC norms, EDDD has applied the following depreciation rates as specified by CERC in the Tariff Regulations for FY 2009-14.

Asset Category	Depreciation Rate %
Plant & Machinery	5.28%
Buildings	3.34%
Vehicles	9.50%
Furniture & Fixtures	6.33%
Computers & Others	6.33%
Land	0.00%

Depreciation for the current year and the Control Period is determined by applying aforesaid category-wise assets depreciation rates on the opening balance of Gross Fixed assets and average of the addition during the year projected for FY 14-15 and the Control Period. The EDDD would like to submit to the Hon'ble Commission that it has computed the depreciation based on the closing value of GFA for FY 2013-14 as given in the fixed asset register and the estimated capitalization for FY 14-15 and the Control Period.

Similarly, based on the capital expenditure plan as detailed above, Rs. 94.69, Rs. 133.69 and Rs. 143.40 is proposed to be capitalized during the FY 2015-16, FY 2016-17 and FY 2017-18.

A summary of the Opening and Closing GFA and capitalization has been summarized in table below:

Table 21: Opening and Closing GFA for the Control Period

(Rs. Crore)

Particulars	Opening GFA	Additions during the Year	Closing GFA
FY 2014-15 (Revised Estimate)	337.42	57.17	394.58
FY 2015-16 (Projected)	394.58	94.69	489.28
FY 2016-17(Projected)	489.28	133.69	622.96
FY 2017-18(Projected)	622.96	143.40	766.36

Table 22: Depreciation for the Control Period

(Rs. Crore)

Particulars	FY 14-15	FY 15-16	FY 16-17	FY 17-18
	Revised Estimate	Projected	Projected	Projected
Opening GFA	337.42	394.58	489.28	622.96
Additions	57.17	94.69	133.69	143.40
Closing GFA	**394.58**	**489.28**	**622.96**	**766.36**
Average GFA	366.00	441.93	556.12	694.66
Depreciation Amount	17.88	21.89	27.92	35.23
Average Depreciation Rate	*4.50%*	*4.50%*	*4.50%*	*4.60%*