



**Business Plan
for
MYT Control Period
FY 2016-17 to FY 2018-19**

Submitted to:

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

Submitted By:

DNH Power Distribution Corporation LTD.



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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)

Sr. No	Abbreviations	Descriptions
41.	MVA	Mega Volt Ampere
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

The Union Territory of Dadra and Nagar Haveli is situated in the western part of the country and is surrounded by the states of Maharashtra in the south and Gujarat in the north. The total area of territory is 491 sq. kms. There are 72 villages and the capital of territory is Silvassa. The total population as per 2011 census is 3,42,853.

This territory is having 62% tribal population and has wide range of untapped natural resources. The climate of this territory is medium and temperature range is between 25° to 40° C. The monsoon season ranges from June to Oct., winter season ranges from November to February and summer season from March to May.

There are many tourists' places in this territory. At the same time this is a highly developed industrial area. The liberalized policies of central government has benefited very much in all round development of territory.

The power demand of this territory is met from the central sector Generating Stations of Western Region as there is no power generation in this territory. After liberation the power was fed to this territory through 11 KV feeder of GEB and the demand was up to 500 KVA. Now due to rapid development of the territory the demand of power increased tremendously. The present average demand of this territory is 650 to 700 MW and peak demand is 700 MW. Due to rapid industrialization, the power demand is increasing day by day. The U.T. Dadra and Nagar Haveli has already achieved the goal of 100 % electrification by providing electricity to all the villages of the territory and also provided 100 % metering to all the categories of the consumers . The electronic tri-vector meters have been provided to all the H.T. and E.H.T. consumers of the territory.

The key duties being discharged by DNHPDCL 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 DNHPDCL, 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.
- 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 distribution system of DNHPDCL consists of 9.9 circuit km of 220 kV double circuit (D/C) lines, 279.9 km of 66 kV D/C lines, 833.7 circuit km of 11 kV lines along with 1091 distribution transformers.

At present, the UT of Dadra & Nagar Haveli gets power from 400/220 kV Substation of PGCIL Vapi, 400/200 kV Kala Substation of PGCIL (DNH).

The power demand is primarily dependent on the HT and LT industrial consumers contributing approximately 98% of the total sales. The high demand from industrial consumers is primarily due to tax holiday benefit extended by the Govt of India in UT of Dadra & Nagar Haveli which has attracted a large number of industries to set up their industry in this region.

Considering the increase in demand from large industries, the demand is likely to increase around 6000 MUs by the end of FY 2015-16. In view of the huge power requirements, DNHPDCL 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.

DNHPDCL has already signed power purchase agreements (PPAs) with NTPC for allocation of power from Barh Super Thermal Power Project (BSTPP). Besides, DNHPDCL has also shown its willingness for allocation of power for Vindychal Super Thermal Power Project (VSTPP) – V and Lara Super Thermal Power Project (LSTTP). DNHPDCL has also shown its interest for allocation of 50 MW power from the Ultra Mega Power Projects from Ministry of Power. DNHPDCL has already signed PPA with Emco Energy (GMR) to supply 200MW of power in the seven years, i.e from April, 2013.

In addition to this willingness is also given for 50 MW power each from expansion of NSPCL Bhilai power plant, Jagdishpur Thermal Power Plant and Rourkela Thermal Power Plant.

DNHPDCL has total sub-transmission capacity of 840 MVA, including 520 MVA in Kharadpada and 320 MVA Khadoli sub-stations. Total installed capacity at 66/11 kV sub-stations are 712 MVA. DNHPDCL is continuously striving for increasing its distribution capacity on account of increasing electricity demand from the HT/EHT consumers.

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, 2016 to March 31, 2019, 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 DNHPDCL is hereby filing the Business Plan for the Control Period (FY 2016-17 to FY 2018-19) based on the available data for the FY 2014-15 and data of previous 4 years.

DNHPDCL has prepared the Business Plan taking cognizance of the existing internal factors and external business environment affecting the business. DNHPDCL 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 DNH Power Distribution Corporation Limited

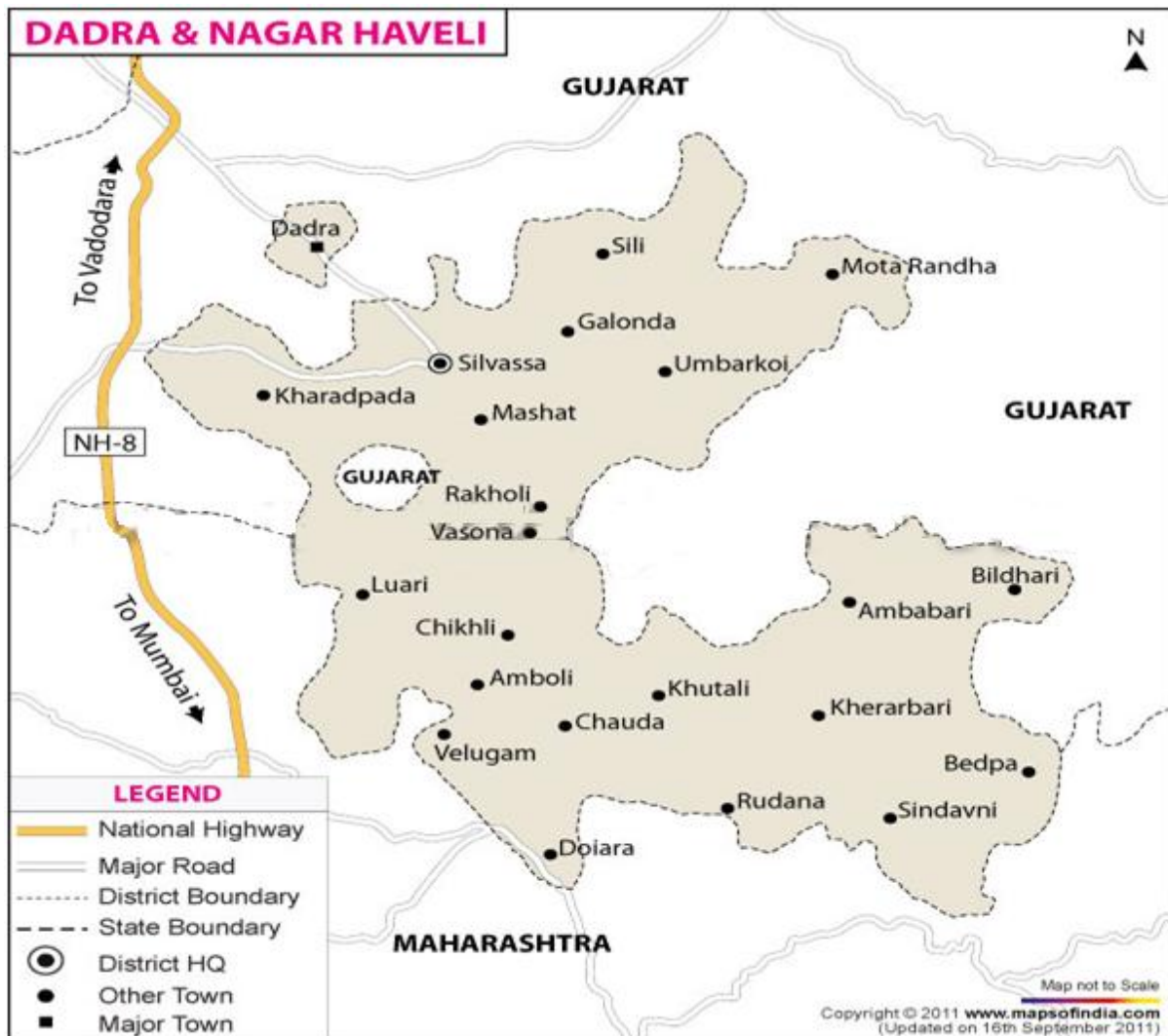
1 Mission of DNH Power Distribution Corporation Limited

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

2 Area Served

Dadra & Nagar Haveli District comprises of an area of 491 sq. Kms.

Figure 1: District map of Dadra & Nagar Haveli



3 Generation Transmission & Distribution

DNHPDCL is mainly engaged in the procurement 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, the UT of Dadra & Nagar Haveli gets power from 400/220 kV PGCIL Vapi, 400/200 kV Kala of PGCIL (DNH).

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.	Description of Line	Length in Circuit (in Kms)
01.	220 KV Line (D/C)	9.9
02.	66 KV Line	279.9
03.	11 KV Line	833.7
04.	L.T Line	1777.5
05.	Distribution Transformer Center	1091 Nos.

Table 2: Existing 66 kV Sub - Stations

Sr.No.	Sub – Station	Capacity
01.	66/11KV Amlu Sub-Station	: 3 x 15 + 2 X 20= 85 MVA
02.	66/11KV Masat Sub-Station	: 3 x 15 + 1 x 20 + 1x10 = 75 MVA
03.	66/11KV Rakholi Sub-Station	: 4 x 20 = 80 MVA
04.	66/11 KV Khadoli Sub-Station	: 3 x 10 + 4 x 15 = 90 MVA
05.	66/11KV Dadra Sub-Station	: 1 x 10 + 4 x 20 = 90 MVA
06.	66/11KV Kharadpada Sub-Station	: 2 x 16 + 1 x 20 = 52 MVA
07.	66/11 KV Silli Sub-Station	: 2 x 15 + 1 x 20 = 50 MVA
08.	66/11KV Khanvel Sub-Station	: 1 x 10 + 1 x15 = 25 MVA
09.	66/11KV Athal Sub-station	: 2 x 20 = 40MVA
10.	66/11KV Waghdhara Sub-station	: 1 x 15 + 1 x 20 = 35 MVA
11.	66/11KV Piparia Sub-station	: 2 x 20= 40 MVA
12.	66/11KV Velugam Sub-station	: 1x 15= 15 MVA
13.	66/11KV Kala Sub-station	; 1x 20 + 1x 15= 35 MVA
	Total	712 MVA

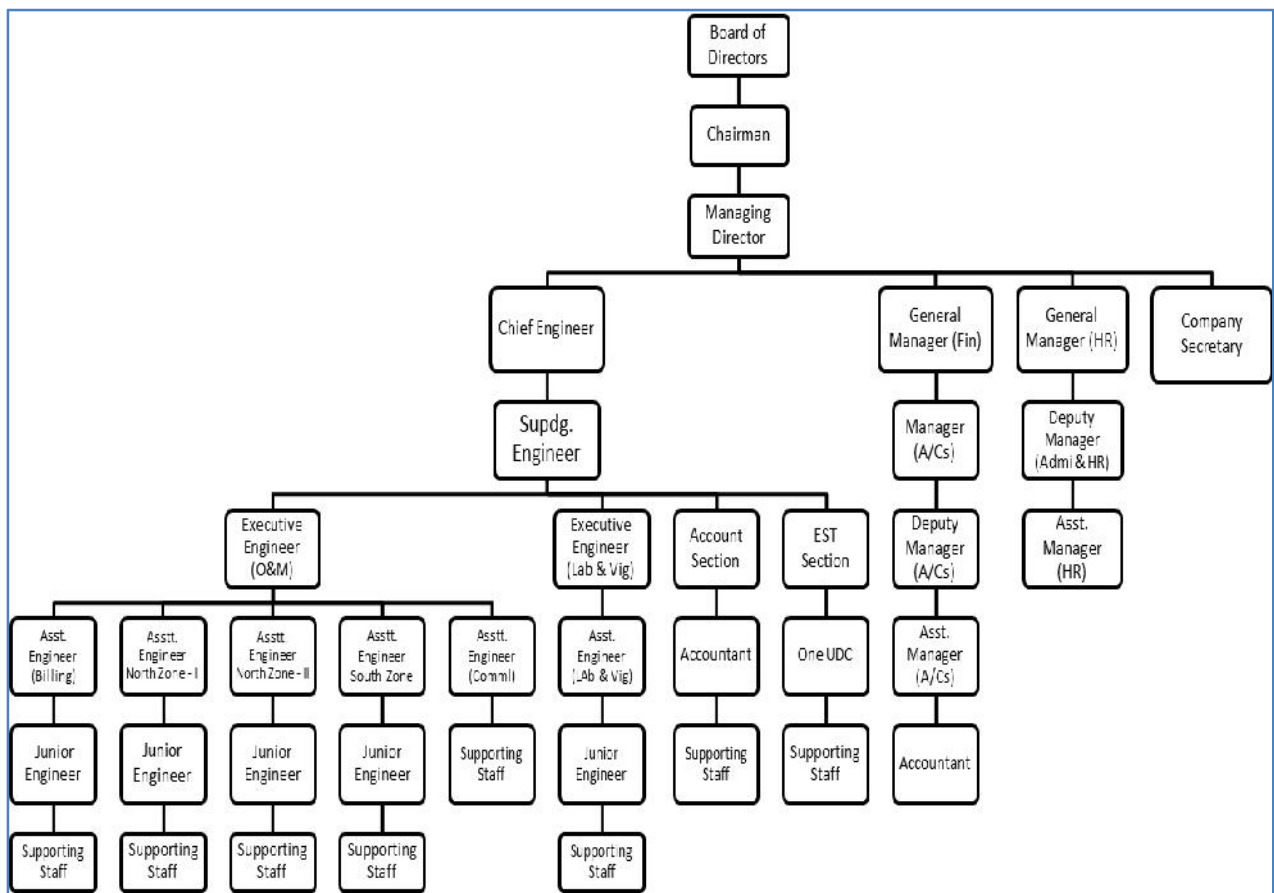
4 **Organization Structure: Roles and Responsibilities**

DNH Power Distribution Corporation Ltd is part of the Administration of Union Territory of Dadra & Nagar Haveli & headed by the Secretary (Power). Day to day work related to functioning of the Department is looked by the Executive Engineer (Elect.)/ Superintending Engineer at Division level.

Under Division there are two Division headed by the Executive Engineers, i.e. 1) Distribution Division and 2) Laboratory And Vigilance. Executive Engineer at Division Office is also helped by Technical Section headed by The Assistant Engineers, Establishment Section headed by Head Clerk and Account Section headed by the Accountant.

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.

Figure 2: Organisation structure of Dadra & Nagar Haveli Electricity Dept.



5 Power Sector of DNH

The UT of DNH does not have its own power stations and relies on power from Central Generating Stations (NTPC, NPCIL, NSPCL) to meet its demand.

Chart 1: Depicting Percentage of Energy Allocation from Central Generating Stations

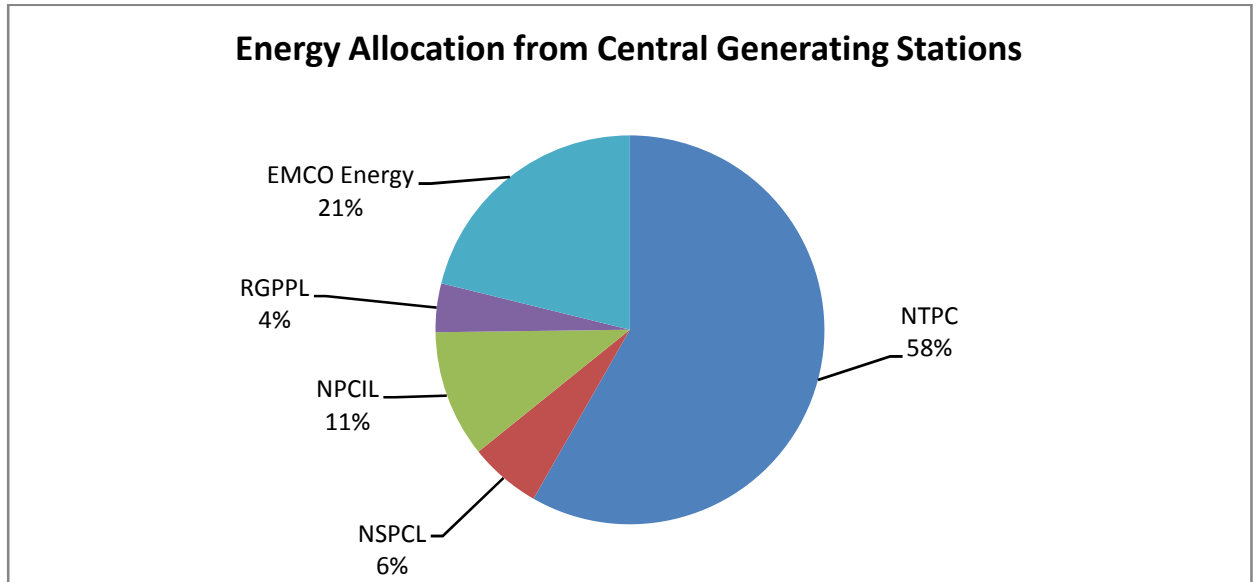


Chart 2: Depicting Increase in Growth of Consumer Numbers

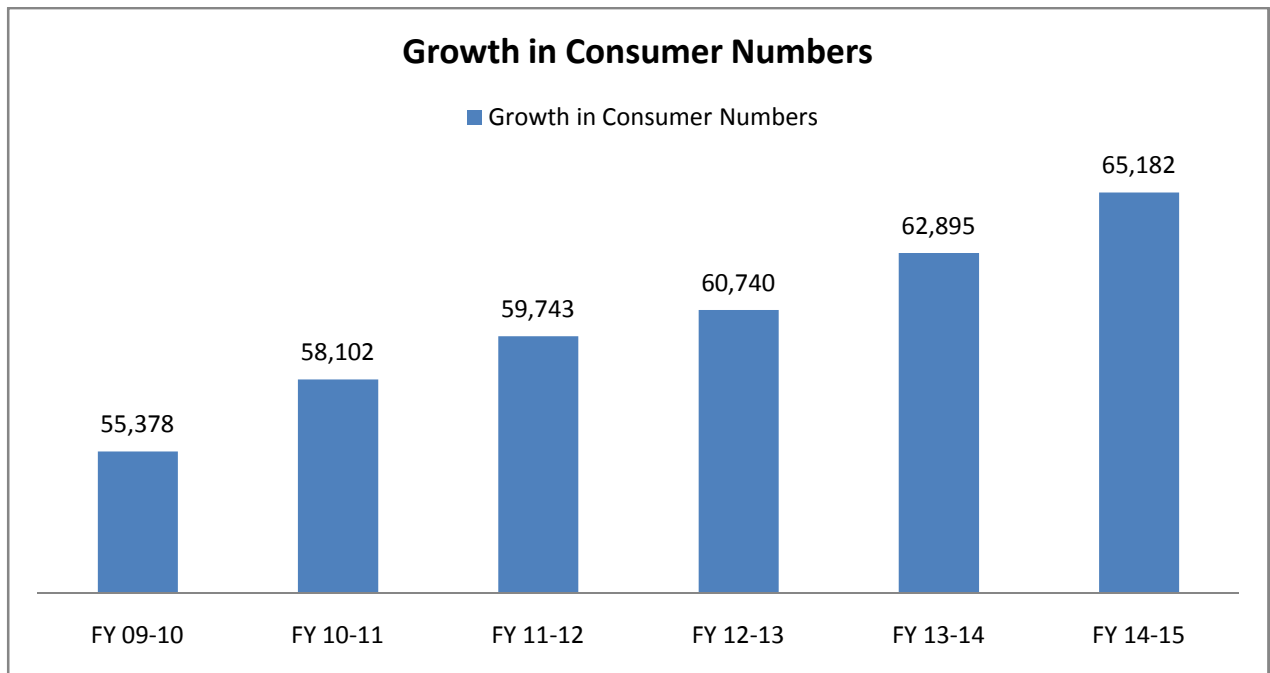


Chart 3: Depicting Consumer Mix Percentage for FY (2014-15)

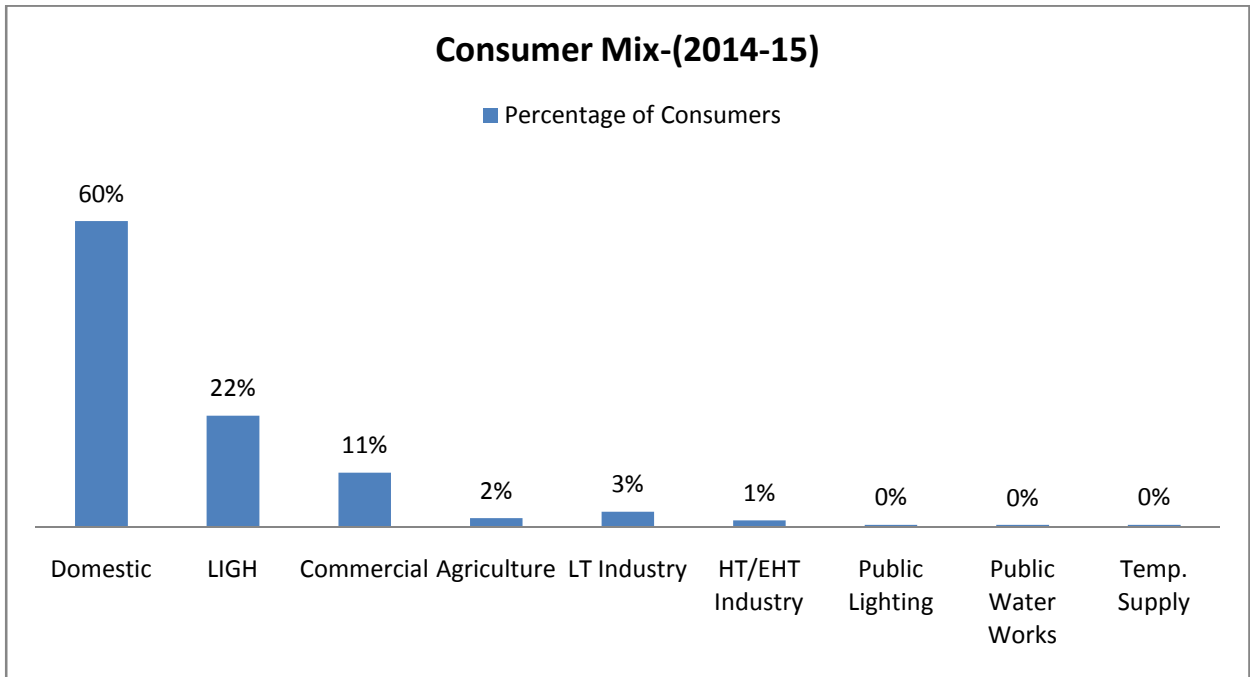


Chart 4: Depicting Consumer Growth Category Wise

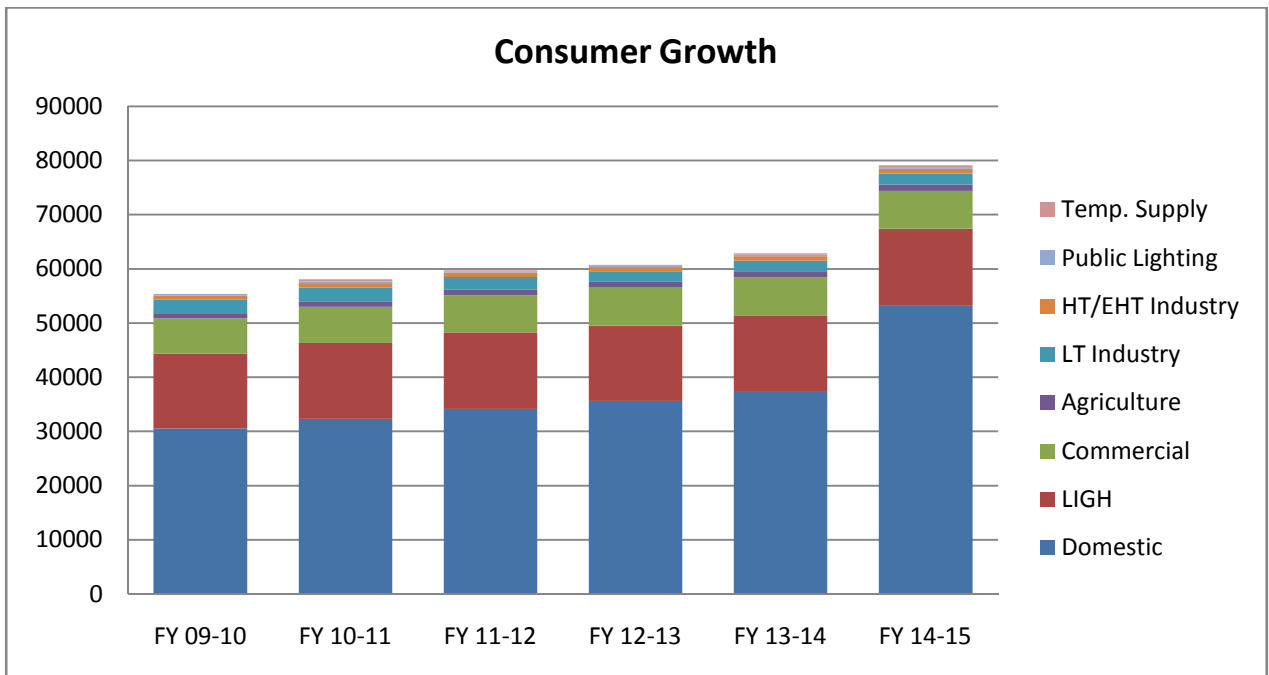


Chart 5: Depicting Year Wise Growth of Energy Sales in (MU)s

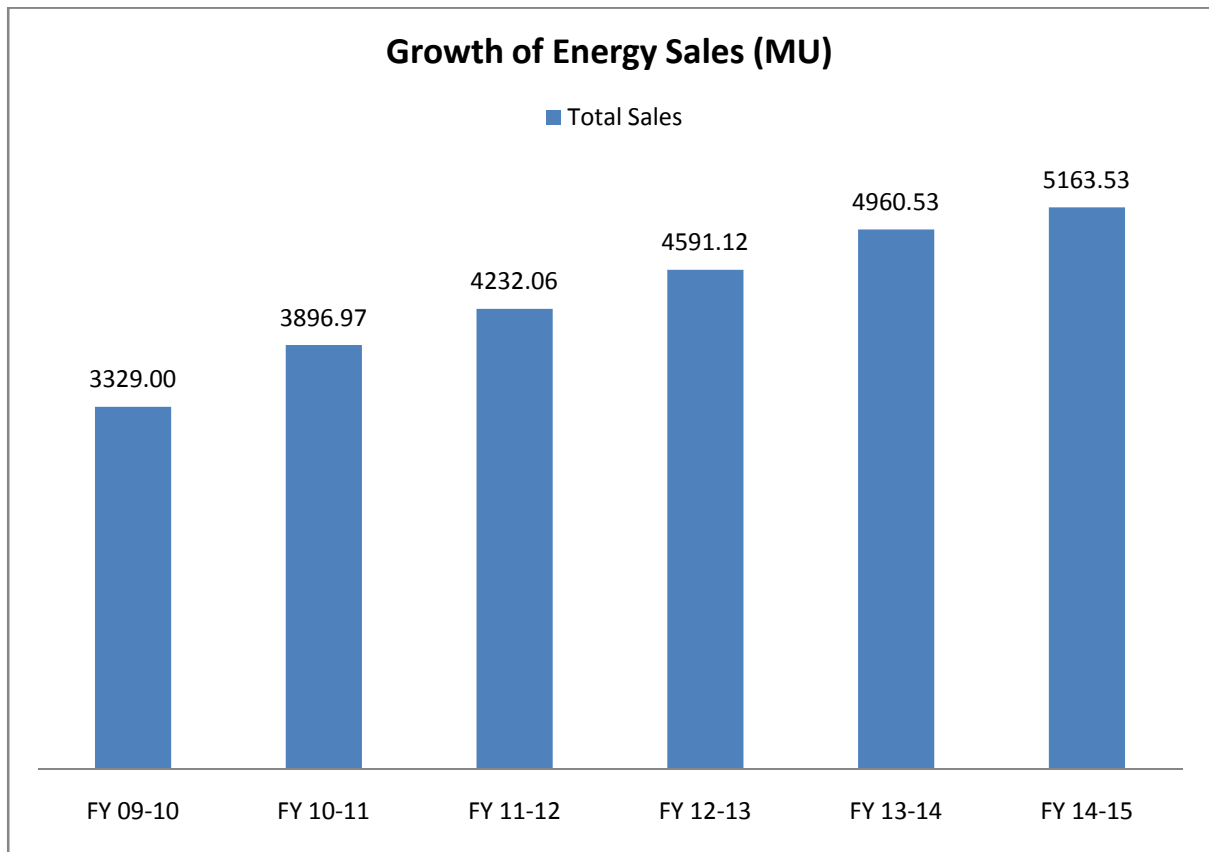
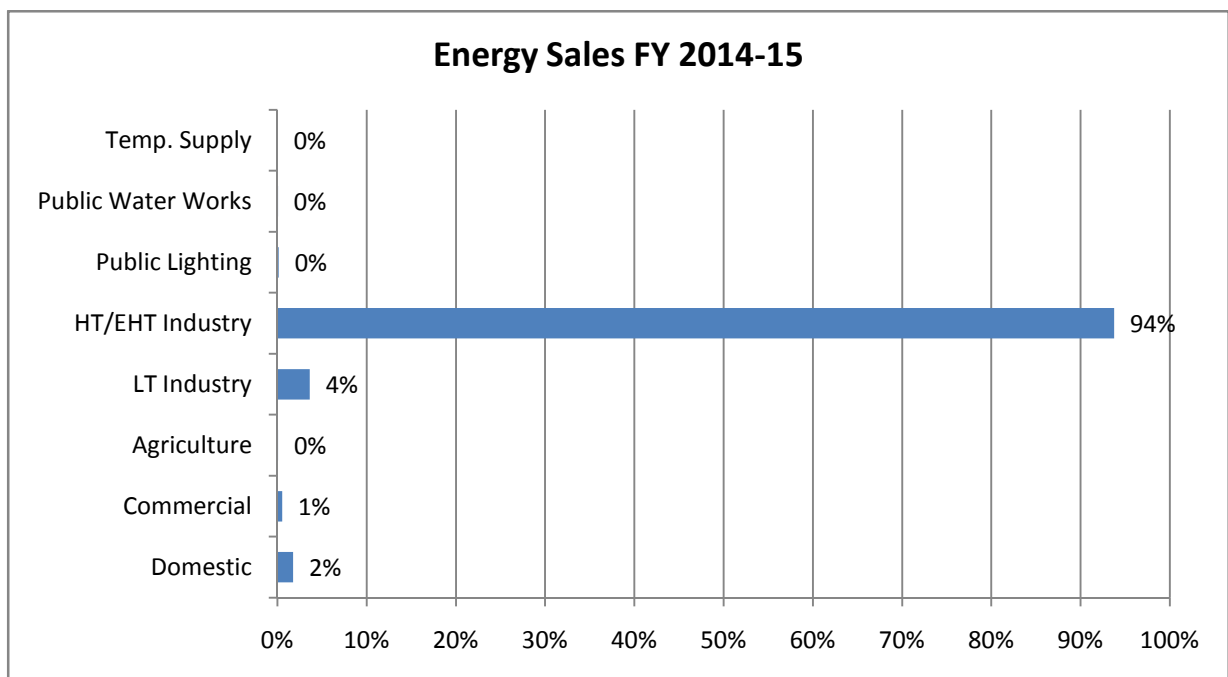


Chart 6: Depicting Percentage of Sales Category Wise



6 Future Power Allocation

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

- a. VSTPS – Stage V (500 MW) – 3.24 MW from FY 2015-16
- b. LARA (2x800 + 3x800 MW) – 5.29 MW from 2017-18
- c. GADARWARA STPP – Stage – I & II (2x660 + 2x660 MW) – 25 MW from FY 2017-18
- d. BARH – 1320 MW – 5.50 MW from FY 2017-18
- e. Dhuwaran – 1980 MW – 25 MW from FY 2017-18
- f. NSPCL Rourkela – 250 MW – 50 MW from FY 2016-17
- g. Solapur (1x660 + 2x660) – 8 MW from FY 2016-17

7 IT Initiatives

- Implementation of RACE (Revenue Administration through Computerized Energy Billing system) Software.
- Two computerized Cash Counters at Silvassa office.
- One cash counter at Khanvel Sub-division office.
- Two nos. ATP (Any Time Payment Machine) KIOSK at Silvassa office.
- Implementation of Online Bill Payment using payment gateway of Billdesk.
- Consumer can pay bills by Net-banking, Credit Card, Debit Card, Vodafone m-paisa, Airtel Money, IMPS, RTGS (E-Challan), NEFT etc.
- Another two service ECS and EBP is in testing phase and will be launched in due course.
- Recently UT Administration has launched CSC (Common Service Centre) in D&NH as identified '**Saral Seva Kendra**' at 8 Panchayat-Ghars in the UT of D&NH to facilitate electricity bill payment.
- Consumer portal for viewing and payment of bills and other information like bill view, paid history etc.
- SMS Gateway for alert message like bill generation, payment reminder and payment acknowledgement receipt.
- 100% Computerized billing for all category except LIG (Low Income Group Consumers).
- 100% Monthly HT Billing through Remote Metering / Manual Data Collection
- 100 % Monthly LT Industrial Billing through manual Meter reading

8 Physical achievements during FY 2014-15

- Establishment of new 66/11 KV, 2x20 MVA Piparai Sub-station.
- Establishment of new 66/11 KV, 1x15 MVA Velugam Sub-station.
- Establishment of new 66/11 KV, 1x15 MVA + 1x20 MVA Kala Sub-station.

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 DNHPDCL 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 DNHPDCL. These are summarized in the following table:

	Helpful <i>In achieving the objective</i>	Harmful <i>In achieving the objective</i>
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 ✓ Unavailability of natural gas ✓ Increasing Avg. CoS – ARR Gap

Strengths:

- **Quality Power Supply:** DNHPDCL has been providing quality and reliable power supply to its consumers with low voltage fluctuations and power supplied at a stable frequency.
- **Lower Losses:** DNHPDCL has been very proficient in reducing the Distribution losses to 4.78% up to 2013-14 over the last few years. DNHPDCL 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. The distribution losses of DNHPDCL are one of the lowest among the power distribution utilities in India.
- **Efficient Customer Service:** DNHPDCL 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:** DNHPDCL 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 Silvassa.

Weakness:

- **Ageing Distribution Network:** DNHPDCL 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 DNHPDCL, if adequate and timely steps are not taken.
- **Very Less Own Generation:** The own generation of DNHPDCL is limited to the upcoming solar plants. The DNHPDCL 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 DNHPDCL, the department has to resort to costly short term power purchase to supply uninterrupted power supply to the industries.
- **Inadequate Manpower:** The manpower of DNHPDCL serving the UT of Dadra & Nagar Haveli 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 Silvassa due to the tax free policy of the Government of India. As such, DNHPDCL 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. DNHPDCL feels that this shall cause hardship on its consumers.

- **Unavailability of natural gas:** DNHPDCL has share allocation from gas run generation stations like Ratnagiri, Kawas etc. Due to non availability of gas to run these stations the DNHPDCL is getting very less energy from these plants and DNHPDCL has to resort to short term purchase of power to meet its demand.
- **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 4 years.

Table 3: Past Years' Load Growth

Consumer Category	FY 11-12	FY 12-13	FY 13-14	FY 14-15
kVA	Actual	Actual	Actual	Actual
Domestic	60,610.79	75,277.00	85,016.98	106,147.80
LIG/ Kutir Jyoti	-	1,110.00	1,150.00	1,422.00
Commercial	20,496.36	21,897.00	28,234.26	35,543.17
Agriculture	3,836.33	3,750.00	4,330.84	5,217.49
LT Industry	108,569.36	74,409.00	87,090.53	106,349.80
HT/EHT Industry	869,606.00	903,736.00	1,081,678.00	1,126,669.00
Public Lighting	1,603.81	1,177.00	1,593.69	2,232.64
Public Water Works	-	-	0.00	1,979.55
Temp. Supply	3,467.36	889.00	2,523.81	3,661.54
Total	1,068,190.01	1,082,245.00	1,291,618.11	1,389,222.99

To project the load growth for the different consumer categories, normalized CAGR has been considered 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 2016-17 to FY 2018-19)

Consumer Category	FY 15-16	FY 16-17	FY 17-18	FY 18-19	CAGR
kVA	RE	Projected	Projected	Projected	
Domestic	116,762.58	128,438.84	141,282.72	155,410.99	10.00%
LIG/Kutir Jyoti	1,478.88	1,538.04	1,599.56	1,663.54	4.00%
Commercial	37,320.33	39,186.34	41,145.66	43,202.95	5.00%
Agriculture	5,478.36	5,752.28	6,039.90	6,341.89	5.00%
LT Industry	111,667.29	117,250.65	123,113.19	129,268.85	5.00%

Consumer Category	FY 15-16	FY 16-17	FY 17-18	FY 18-19	CAGR
kVA	RE	Projected	Projected	Projected	
HT/EHT Industry	1,199,902.49	1,277,896.15	1,360,959.40	1,449,421.76	6.50%
Public Lighting	2,288.46	2,345.67	2,404.31	2,464.42	2.50%
Public Water Works	2,078.53	2,182.45	2,291.58	2,406.16	5.00%
Temporary	3,844.62	4,036.85	4,238.69	4,450.62	5.00%
Total	1,480,821.53	1,578,627.27	1,683,075.00	1,794,631.17	

2 Consumer Growth

The Table 4 below summarizes the category wise growth in consumers over the past 5 years.

Table 5: Past Years' Consumer Growth

Consumer Category	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15
	Actual	Actual	Actual	Actual	Actual
Domestic	32326	34,170	35,656	37,294	38,970
LIGH	14000	14,110	13,870	14,097	14,223
Commercial	6683	6,852	7,007	7,070	6,986
Agriculture	1023	1,048	1,077	1,125	1,179
LT Industry	2548	2,306	1,866	1,912	2,001
HT/EHT Industry	811	830	859	872	887
Public Lighting	289	227	237	274	310
Public Water Works	0	0	0	0	307
Temp. Supply	422	200	168	251.0	319.0
Total	58,102	59,743	60,740	62,895	65,182

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 2016-17 to FY 2018-19)

Consumer Category	FY 15-16	FY 16-17	FY 17-18	FY 18-19	CAGR
	Projected	Projected	Projected	Projected	
Domestic	40972	43076	45289	47615	5.14%
LIGH	14287	14351	14415	14480	0.45%
Commercial	7136	7289	7445	7604	2.14%
Agriculture	1224	1271	1320	1370	3.83%
LT Industry	2101	2206	2316	2432	5.00%
HT/EHT Industry	915	943	973	1003	3.13%
Public Lighting	326	342	359	377	5.00%
Public Water Works	322	338	355	373	5.00%
Temp. Supply	335	352	369	388	5.00%
Total	67,617	70,168	72,841	75,642	

3 Energy Sales Growth

Table 7 below presents the category-wise energy sales for the past 5 years.

Table 7: Past Years' Energy Sales Growth

Sales (MUs)	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15
Domestic	54.13	53.74	70.13	80.64	90.43
Commercial	20.69	27.81	26.87	29.79	27.05
Agriculture	2.26	3.00	3.36	4.40	4.31
LT Industry	147.23	152.19	161.66	176.52	187.51
HT/EHT Industry	3668.28	3990.20	4,322.68	4661.27	4,840.64
Public Lighting	2.74	5.12	4.45	5.89	7.76
Public Water Works	0.00	0.00	0.00	0.00	3.23
Temp. Supply	1.64	0.00	1.97	2.01	2.60
Total Sales	3,896.97	4,232.06	4,591.12	4,960.53	5,163.53

The DNHPDCL is of the view that the factors affecting the actual consumption of electricity are numerous and often beyond the control of the utility including factors such as Government Policy, economic climate, weather conditions and force majeure events like natural disasters, etc. DNHPDCL, therefore for projecting the category-wise consumption for the MYT Control Period has

considered the past growth trends in each of the consumer category including growth trend in number of consumers and connected load.

The energy sales for the Control period have been determined based on CAGR for past years and actual energy sales in various consumer categories. Since the energy sales in each category depends upon a number of factors like growth in economy, climate, Government policies, etc, normalization in sales has been undertaken in order to remove any wide fluctuations.

A CAGR of 4.50% has been considered for estimation of sales in the HT/EHT industry category.

For the domestic consumers, the DNHPDCL has projected the energy sales for MYT control period by applying a Compounded Annual Growth Rate (CAGR) of 14.45% on the estimated sales for FY 15-16. Whereas, a CAGR of 11.90% has been considered for estimation of sales in commercial category.

For the agriculture and LT industry, the DNHPDCL has projected the energy sales for the MYT control period by applying a CAGR of 10.04% and 9.01% on the estimated sales for FY 15-16.

The following Table summarizes category wise projected energy sales for the MYT Control Period for DNHPDCL. As can be observed, the overall energy sales in UT of Dadra & Nagar Haveli are significantly dependent upon LT and HT/EHT industrial consumption.

The DHPDCL submits to the Hon'ble Commission to approve the energy sales forecasted herein.

Table 8: Projected energy sales during Control Period (FY 2016-17 to FY 2018-19)

Consumer Category	FY 15-16	FY 16-17	FY 17-18	FY 18-19	CAGR considered for projections
MUs	Revised Estimate	Projected	Projected	Projected	
Domestic	103.50	118.46	135.57	155.17	14.45%
Commercial	30.27	33.87	37.90	42.41	11.90%
Agriculture	4.74	5.22	5.74	6.32	10.04%
LT Industry	204.40	222.83	242.91	264.79	9.01%
HT/EHT Industry	5,058.46	5,286.10	5,523.97	5,772.55	4.50%
Public Lighting	9.62	11.92	14.76	18.29	23.90%
Public Water Works	3.40	3.57	3.74	3.93	5.00%
Temp. Supply	2.80	3.01	3.24	3.49	7.59%
Total Sales	5,417.19	5,684.96	5,967.84	6,266.95	

Chapter 5: Power Purchase Plan**1 Power Purchase Quantum**

Dadra & Nagar Haveli has firm and infirm allocated share in Central Sector Generating Stations (CSGS) of NTPC, Nuclear Power Corporation of India Ltd (NPCIL), and NTPC Sail Power Company Ltd (NSPCL).

The power availability for FY 15-16 has been estimated based on the revised allocation issued by the Western Region Power Committee (WRPC) vide NO.WRPC/Comml-I/6/Alioc/2015/3828 dated:- 24/04/2015. The energy allocation from various generating stations is summarized in table below:

Table 9: Energy Allocation from Central Generating Stations

Name of the plant	Weighted average infirm allocation	Weighted Average Firm allocation	Weighted average total allocation
KSTPP	52.63	-	52.63
KSTPS -3	20.28	2.20	22.48
VSTPP-I	38.10	5.00	43.10
VSTPP-II	28.79	4.00	32.79
VSTPP- III	28.79	6.00	34.79
VSTPP- IV	40.37	5.55	45.92
KAWAS	56.24	25.00	81.24
GGPP	56.75	2.00	58.75
Sipat – I	79.93	9.00	88.93
Sipat – II	27.37	4.00	31.37
KHSTPP – II	3.50	3.50	3.50
Mauda I (MSTPS)	40.37	5.55	45.92
NPCIL – KAPS	10.53	2.00	12.53
NPCIL - TAPP 3&4	35.61	7.00	42.61
Total	519.26	80.80	596.56
NSPCL Bhilai	0.00	100.00	100.00

Name of the plant	Weighted average Infirm allocation	Weighted Average Firm allocation	Weighted average total allocation
RGPPL		38.00	38.00
EMCO Energy Ltd. (GMR Group)		200.00	200.00

It is expected that DNHPDCL will not be getting any power from Ratnagiri for FY 2015-16 and therefore no power purchase from the plant has been considered.

The Government of India, Ministry of Power has allocated 2% (38 MW) power to DNHPDCL on a long term basis from RGPPL. The DNHPDCL has executed PPA with RGPPL and Transmission Service Agreement (TSA) with MSETCL for transmission of above allocated power of RGPPL. The state of Maharashtra has 95% share allocation from RGPPL and they are not scheduling power due to non-availability of natural gas to this project. Due to non-availability of technical minimum schedule to run the plant, presently there is no generation from the plant. Therefore, for the MYT Control Period, DNHPDCL has not considered any power purchase from RGPPL. However, as per the terms of the PPA signed with RGPPL, DNHPDCL will have to pay the capacity charges for the allocated capacity share from the plant. Therefore the fixed charges have been considered for the MYT Control Period from RGPPL.

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

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

Particulars	Plant Capacity	DNHPDCL Allocation	Avg. DNHPDCL Allocation
	MW	MW	(%)
NTPC Stations			
VSTPS-V	500	3.24	0.65%
LARA	4,000	5.29	0.13%
Gadarwara	2640	25	0.95%
BARH	1320	5.50	0.42%
Dhuwaran	1980	25	1.26%
Kharagaon	1320	25	1.89%
Subtotal	11260	89.03	
NSPCL Rourkela	250	50	20.00%
Grand Total	11510	139.03	

Additionally, the DNHPDCL is procuring power from EMCO Energy Limited (GMR) power plant in Maharashtra. DNHPDCL will receive 200 MW power from EMCO in during the MYT Control Period. For projection of power purchase from EMCO, DNHPDCL has project 90% PLF and 9% auxiliary consumption for the Control Period.

Power purchase quantum from the NTPC stations for the MYT Control Period has been calculated based on the installed capacity of each plant and by applying the average of previous two years PLF to calculate the plant-wise gross generation. For NSPCL, an average PLF of 90% has been considered

For gas based generating stations i.e. Kawas (KGPP) and Gandhar (GGPP) weighted average PLF of the last two years have been taken into account.

Auxiliary consumption of 9% and 3% has been considered for coal and gas based generating stations, respectively.

The DNHPDCL will procure renewable energy certificates of 100 MUs each during the FY 2015-16 and FY 2016-17, 30 MUs during the FY 2017-18 and 25 MUs during FY 2018-19 to fulfill its non solar renewable power obligation.

To meet the solar obligation for the control period FY 2016-17 to FY 2018-19, the department is in the process of installing solar plants of capacity 3.37 MW. The per MW unit generation form the solar plants will be approx. 1.60 MUs. Further, the DNHPDCL will procure 8 MUs solar power from JNNSM 5 MW solar plant and will procure 120 MUs from solar power procurement under case – I bidding during the FY 2016-17 and FY 2017-18. Therefore, for the Control Period the DNHPDCL has considered purchase of solar renewable energy of 4.58 MUs during FY 2015-16, 132.58 MUs during FY 2016-17 and 150.50 MUs during FY 2017-18 and 150.50 MUs during FY 2018-19 to meet its solar RPO target through this route.

For computing the power availability at the periphery, 3.56% external transmission losses have been applied on the gross power purchase for the MYT Control Period.

Table 13 below depicts the station wise power purchase for FY 14-15 and FY 2015-16 to FY 2017-18.

Table 11: Power Purchase Quantum

Particulars MUs	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
NTPC Stations				
KSTPS	366.05	366.05	366.05	366.05
KSTPS 3	156.37	156.37	156.37	156.37
VSTPP-I	303.09	303.09	303.09	303.09
VSTPP-II	230.58	230.58	230.58	230.58
VSTPP- III	244.65	244.65	244.65	244.65

Particulars MUs	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
VSTPP- IV	322.87	322.87	322.87	322.87
KGPP	417.88	417.88	417.88	417.88
GGPP	332.81	332.81	332.81	332.81
Sipat-I	524.09	524.09	524.09	524.09
Sipat-II	184.84	184.84	184.84	184.84
Mauda	14.87	14.87	14.87	14.87
VSTPS-V	21.95	21.95	21.95	21.95
LARA	0.00	0.00	35.84	35.84
Gadarwara	0.00	0.00	169.40	169.40
BARH	0.00	0.00	37.27	37.27
Dhuwaran	0.00	0.00	169.40	169.40
FSTPS	0.00	0.00	0.00	0.00
KhSTPS I	0.00	0.00	0.00	0.00
RSTPS	0.00	0.00	0.00	0.00
TSTPS	0.00	0.00	0.00	0.00
KHSTPP-II	19.52	19.52	19.52	19.52
Subtotal - NTPC	3139.56	3139.56	3551.47	3551.47
NSPCL - Bhilai	758.93	758.93	758.93	758.93
NSPCL – Rourkela	0.00	361.13	361.13	361.13
NPCIL				
KAPS	91.31	91.31	91.31	91.31
TAPS	258.87	258.87	258.87	258.87
Subtotal	350.17	350.17	350.17	350.17
Others				
RGPPL	0.00	0.00	0.00	0.00
Tata Power - Haldia	0.00	0.00	0.00	0.00
EMCO Energy Ltd. (GMR Group)	1529.50	1529.50	1529.50	1529.50
Subtotal	1529.50	1529.50	1529.50	1529.50
Power purchase from				

Particulars MUs	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
<u>Other Sources</u>				
Indian E. Exchange/Bilateral	0.00	0.00	0.00	0.00
UI	0.00	0.00	0.00	0.00
Solar	4.58	132.58	150.50	150.50
Non Solar	170.00	170.00	170.00	170.00
RPO provisioning				
Subtotal	174.58	302.58	320.50	320.50
Total Power Purchase	5952.75	6441.88	6871.70	6871.70
External Losses	211.92	216.47	231.78	231.78
Availability at DNHPDCL Periphery	5740.83	6225.40	6639.93	6639.93

2 Power Purchase Cost

The cost of purchase from the central generating stations for FY 15-16 and the MYT Control Period is estimated based on the following assumptions:

- The Government of India, Ministry of Power has allocated 2% (38 MW) power to DNHPDCL on a long term basis from RGPPL. The DNHPDCL has executed PPA with RGPPL and Transmission Service Agreement (TSA) with MSETCL for transmission of above allocated power of RGPPL. The state of Maharashtra has 95% share allocation from RGPPL and they are not scheduling power due to non-availability of natural gas to this project. Due to non-availability of technical minimum schedule to run the plant, presently there is no generation from the plant. Therefore, for the period April 2014 to March 2015 DNHPDCL has not considered any power purchase from RGPPL. However, as per the terms of the PPA signed with RGPPL, DNHPDCL will have to pay the capacity charges for the allocated capacity share from the plant. Therefore the fixed charges have been considered.
- Fixed cost for the MYT Control Period has been projected considering a 5% 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 of FY 14-15.
- The DNHPDCL has projected other charges (tax, incentives, etc) for the Control Period at similar level as estimated for full year of FY 15-16.
- For nuclear plants i.e. KAPP and TAPP single part tariff increase in the actual average variable cost per unit have been considered for projecting the power purchase cost for the Control Period.

- For NTPC-SAIL Bhilai unit 1 & 2, fixed an escalation of 5% 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 has been taken into consideration.
- For power purchase from renewable energy sources, for the Control Period, the DNHPDCL has outsourced the maintenance cost of the solar plants to BHEL. For the purchase through Case – I bidding, Commission’s approved tariff for non-solar power in the Tariff Order for FY 2015-16 has been taken into account for projecting the cost during the Control Period. The Total Power Purchase cost from various sources for the MYT Control Period is summarized in Table below:

The Total Power Purchase cost from various sources for FY 15-16 and for the MYT Control Period is summarized in the Table below:

Table 12: Power Purchase Cost

Particulars Crs.	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
NTPC Stations				
KSTPS	61.73	65.62	67.76	72.26
KSTPS 3	38.32	39.00	40.80	43.43
VSTPP-I	86.55	96.23	107.18	119.56
VSTPP-II	64.13	70.30	77.17	84.82
VSTPP- III	77.79	82.85	88.32	94.23
VSTPP- IV	112.79	123.63	135.64	148.94
KGPP	187.22	212.78	242.11	275.77
GGPP	175.07	204.74	239.91	281.66
Sipat-I	176.21	178.17	182.21	188.26
Sipat-II	62.73	62.49	63.16	64.65
Mauda	76.09	90.12	110.37	140.79
VSTPS-V	7.53	6.76	6.59	8.78
LARA	0.00	0.00	11.72	8.39
Gadarwara	0.00	0.00	61.49	39.13
BARH	0.00	0.00	14.35	14.35
Dhuwaran	0.00	0.00	65.22	65.22
FSTPS	0.00	0.00	0.00	0.00
KhSTPS I	0.00	0.00	0.00	0.00
RSTPS	0.00	0.00	0.00	0.00

Particulars Crs.	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
TSTPS	0.00	0.00	0.00	0.00
KHSTPP-II	4.96	4.53	4.47	4.81
Subtotal – NTPC	1131.13	1237.21	1518.44	1655.06
NSPCL – Bhilai	289.69	303.65	318.79	421.98
NSPCL - Rourkela	0.00	142.40	149.60	198.71
NPCIL				
KAPS	21.11	21.09	21.06	21.04
TAPS	72.73	72.61	72.49	72.36
Subtotal	93.84	93.70	93.55	93.40
Others				
RGPPL	14.03	15.43	16.97	18.67
Tata Power - Haldia	0.00	0.00	0.00	0.00
EMCO Energy Ltd. (GMR Group)	683.08	714.22	750.44	803.68
Subtotal	697.10	729.64	767.41	822.35
<u>Power purchase from Other Sources</u>				
Indian E. Exchange/Bilateral	0.00	0.00	0.00	0.00
UI	0.00	0.00	0.00	0.00
Solar	0.00	70.40	70.40	70.40
Non Solar	83.00	83.00	72.50	83.00
RPO provisioning				
Subtotal	83.00	153.40	142.90	142.15
Misc. Arrears				
Total Power Purchase	2294.76	2660.00	2990.69	3333.64

3 Transmission and Other Charges

Transmission charges payable to PGCIL are based on the total capacity allocation in the transmission network. DNHPDCL has a mix of firm and infirm capacity allocation from various Central Generating Stations which is revised by the Ministry of Power at regular intervals. Therefore, considering the changing capacity allocation, DNHPDCL has estimated the transmission charges. For the MYT Control

Period the transmission charges payable to the ED-DNH (Transmission Division) have also been considered by the DNHPDCL.

For projecting the PGCIL transmission charges for the Control Period, an escalation of 8% over the estimated FY 15-16 transmission charges has been considered in view of the increase in transmission charges. Further, DNHPDCL has taken into account the additional capacity share in the new stations while estimating the Inter-State transmission charges for ensuing year.

Table 13: Total Power Purchase Cost for the Control Period

Particulars	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
MUs	RE	Projected	Projected	Projected
Total Power Purchase	2294.76	2660.00	2990.69	3333.64
PGCIL CHARGES	164.22	177.36	191.55	206.87
POSOCO	0.90	0.98	1.05	1.14
WRPC	0.00	0.00	0.00	0.00
Reactive charges	1.56	1.68	1.82	1.96
MSTCL	3.78	4.08	4.41	4.76
Others	15.00	16.20	17.50	18.90
Total Power Purchase Cost (including Transmission Cost)	2480.23	2860.30	3207.02	3567.28

Chapter 6: T&D Loss Trajectory and Energy Balance

The DNHPDCL has achieved a significant reduction in transmission & distribution losses. The DNHPDCL would like to submit that the system improvement works executed every year under the plan schemes as well as increase in energy sales quantum at higher voltages has resulted in the reduction of T & D losses.

DNHPDCL has achieved T&D loss level of 4.78% for the FY 2014-15 as against the target of 4.70% given by the Hon'ble Commission in the Tariff Order for the FY 2014-15. DNHPDCL has considered the T&D loss of 4.70% for FY 15-16 and the MYT Control Period. Reduction of T&D below 4.70% will involve significant amount of capital expenditure and it is DNHPDCL's endeavour to bring the T&D loss level further down in the subsequent years. The loss reduction trajectory for the Control Period is as given in the table below:

Table 14: Proposed T&D Loss Trajectory

	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
	Actual	Actual	Projected	Projected	Projected	Projected
T&D Losses	4.78 %	4.78%	4.70%	4.70%	4.70%	4.70%

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 15: Energy Balance

Particulars	FY 2014-15 (Actual)	FY 2015-16 (RE)	FY 2016-17 (Projected)	FY 2017-18 (Projected)	FY 2018-19 (Projected)
Energy sales within the state (MUs)	5,163.53	5,417.19	5,684.96	5,967.84	6,266.95
Distribution Losses					
%	4.78%	4.70%	4.70%	4.70%	4.70%
MU	257.50	267.16	280.37	294.32	309.07
Energy required at state periphery(MUs)	5,421.03	5,684.35	5,965.33	6,262.16	6,576.02
Surplus power sale(MUs)	106.46	56.48	260.08	377.77	63.91
Transmission losses(MUs)	204.04	211.92	216.47	231.78	231.78
Energy Available	5731.53	5952.75	6441.88	6871.70	6871.70

Chapter 7: Capital Investment Plan

1 Capital Investment plan of DNHPDCL

As has been discussed above, the DNHPDCL is engaged in the procurement, transmission and distribution of electricity to the various consumer categories in the Union Territory of Dadra and Nagar Haveli. 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 16-17 to FY 18-19 under the MYT Control Period FY 2016-19 have been formulated by DNHPDCL 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

The ongoing schemes have been given in the table below:

Table 16: Ongoing Schemes

Sr.No.	Name of Scheme	Total estimated amount for MYT Control Period (Lakh)	Proposed Expenditure in Lakh.		
			2016-17	2017-18	2018-19
1	Establishment of various capacity of Solar Power plants	1359	815.4	407.7	135.9
2	Construction of new corporate office building of DNHPDCL	1800	800	500	500
3	Erection of various capacity of new distribution transformer, extension of HT/LT line work, releasing of new service connection of all type of category under Normal Development scheme	300	100	100	100
4	Upgradation and modernization of network	1100	660	330	110
	Total	4559	2375.4	1337.7	845.9

1. Name of Scheme: Establishment of various capacity of Solar Power plants.

Cost Rs.1359.00 Lakh.

Salient Features:

To meet its renewable purchase obligations and to promote the renewable energy generation the DNHPDCL is coming up with solar plants of cumulative capacity of 3.37 MW. It is expected that generation will start from the plants from April 2015.

2. Name of Scheme: Construction of new corporate office building of DNHPDCL.

Cost Rs.1800.00 Lakh.

Salient Features:

The construction work is under execution by OI DC. State Load Dispatch center (SLDC) is to be established on second floor of the corporate office building by PGCIL under Western Regional SCADA up gradation project by PGCIL. State Data Center (SDC) and UT WAN project of the Administration will be set up in the building.

3. Name of Scheme: Erection of various capacity of new distribution transformer, extension of HT/LT line work, releasing of new service connection of all type of category under Normal Development scheme.

Cost Rs.300.00 Lakh.

Salient Features:

The following works are being taken up under this Scheme:-

1. Erection /Extension of HT Line Works
2. Erection /Extension of LT Line Works
3. Erection of Distribution Transformer Centre
4. Release of Service Connections to various categories of consumers.
5. System improvement works.
 - (a) Strengthening of Electric lines.
 - (b) Augmentation of Transformer Centre.
 - (c) Providing capacitor Banks
 - (d) Feeder bifurcation and 11 KV link line at new 66 KV sub-stations.

Works are under progress in at all Sub Divisional areas.

4. Name of Scheme: Upgradation and modernization of network.**Cost Rs.1100.00 Lakh.****Salient Features:**

The scheme has been undertaken to upgrade and modernize the present LT distribution network of DNHPDCL to cater to the growing energy demand of the UT of Dadra and Nagar Haveli.

B. New Schemes**Table 17: New Schemes**

Sr.No.	Name of Scheme	Total Estimated amount (Lakh)	Proposed Expenditure in Lakh.		
			2016-17	2017-18	2018-19
1	Augmentation of 66/11 Athal Substation from 2X20 MVA to 3x20 MVA	300	200	100	0
2	Underground cabling system with new 66/11 KV GIS substation in SMC area	1000	500	300	200
3	Scheme for integrated solution for Electrical network modeling and distribution analysis software with allied study of power sector in the territory	3500	1400	1400	700
4	Up gradation and modernization of existing 66/11 KV substation at village Aml, Khadoli and Masat	1500	500	500	500
5	Scheme for Smart Grid in SMC Area of Silvassa	3000	1800	900	300
6	Establishment of new solar power plant of 22 MW	15141	3000	3000	4000
7	Distribution Transformer metering with AMR	400	200	100	100
8	Provision of capacitor bank to various substations	500	300	200	0.00
9	Procurement of fully automatic meter test bench	300	200	100	0.00
10	Augmentation of transformer 2x20 MVA to 3x20 MVA at	400	200	200	0.00

Sr.No.	Name of Scheme	Total Estimated amount (Lakh)	Proposed Expenditure in Lakh.		
			2016-17	2017-18	2018-19
	Waghdhara substation				
11	Establishment of new 66/11 kV , 2x20 MVA substation at Sayali	2000	800	600	600
12	Establishment of new 66/11 kV, 2x20 MVA substation at Silli	2000	800	600	600
13	Establishment of new 66/11 kV, 2x20 MVA substation at Dapada/Vasona	2000	800	600	600
14	Establishment of new 66/11 kV, 2x20 MVA substation at Naroli	2000	800	600	600
15	Upgradation and strengthening of distribution network.	9000	3600	3600	1800
	Total	43041	15100	12800	10000

1. Name of Scheme: Augmentation of 66/11 Athal Substation from 2X20 MVA to 3x20 MVA.

Cost Rs.300.00 Lakh.

Salient Features:

The present 2x20 MVA capacity of the Athal substation will be augmented to 3x20 MVA to meet the growing demand in the UT of Dadra and Nagar Haveli.

2. Name of Scheme: Underground cabling system with new 66/11 KV GIS substation in SMC area.

Cost Rs.1000.00 Lakh.

Salient Features:

The main features of the scheme are:

- 66KV, 2 x 20MVA, GIS SUB-Station.
- Underground Cabling of the Silvassa SMC Area.

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 Silvassa.

3. Name of Scheme: Scheme for integrated solution for Electrical network modeling and distribution analysis software with allied study of power sector in the territory.

Cost Rs.3500 Lakh.

Salient Features:

The main features of the scheme are:

- Consumer Indexing, GIS Mapping and Asset Database Management System.
- Establishment of Customer Care Centers
- Meter Data Acquisition System
- Workflow Management, Document Management, Business Intelligence etc.

4. Name of Scheme: Up gradation and modernisation of existing 66/11 KV substation at village Amlı, Khadoli and Masat.

Cost Rs.1500.00 Lakh.

Salient Features:

The Existing 66/11 KV Substation at Amlı, Khadoli and Masat were established in the year 1978, 1988 and 1994. It is proposed to upgrade these sub-stations by replacing existing breaker, CT, Relay etc.

5. Name of Scheme: Scheme for Smart Grid in SMC Area of Silvassa.

Cost Rs.3000.00 Lakh.

Salient Features:

Dadra and Nagar Havelı Power Distribution Corporation Ltd, Silvassa entrusted Power Grid Corporation of India Ltd. (POWERGRID) to prepare a project report for implementation of Smart Grid technologies in Silvassa Municipal Corporation (SMC) area. The development of smart grid will be undertaken to address issues of energy efficiency and AT&C losses and will also help in technology upgradation of the distribution system of DNHPDCL.

6. Name of Scheme: Establishment of new solar power plant of 22 MW.

Cost Rs.15141.00 Lakh.

Salient Features:

To meet its renewable purchase obligations and to promote the renewable energy generation the DNHPDCL is coming up with solar plants of cumulative capacity of 22 MW. Land is being identified.

7. Name of Scheme: Distribution Transformer metering with AMR.

Cost Rs.400.00 Lakh.

Salient Features:

The metering of the distribution transformers is proposed to be done which will help the department in better energy accounting of the distribution area of DNHPDCL.

8. Name of Scheme: Provision of capacitor bank to various substations.

Cost Rs.500.00 Lakh.

Salient Features:

The load is increasing day by day in the various substations which affect the efficiency. Therefore, to increase the efficiency of these substations there is a need to install capacitor bank in each substation which will also help in maintaining the PF.

9. Name of Scheme: Procurement of fully automatic meter test bench.

Cost Rs.200.00 Lakh.

Salient Features:

As per the regulations of the JERC the meter of the premises with connected load more than 500 kVA needs to be tested twice every year and the premises with connected load less than 500 kVA needs to be tested once every year. Moreover, the meters of the domestic consumers are also tested. Therefore, the DNHPDCL is in the process to procure fully automatic meter test bench to meet the growing need of meter testing in the distribution area of DNHPDCL.

10. Name of Scheme: Augmentation of transformer 2x20 MVA to 3x20 MVA at Waghdhara substation

Cost Rs.400 Lakh.

Salient Features:

The scope of this scheme is to augment the capacity of the present transformer from 2X20 MVA to 3X20 MVA at Waghdhara substation to meet the growing demand in the UT of Dadra and Nagar Haveli.

11. Name of Scheme: Establishment of new 66/11 KV, 2x20 MVA Sayali substation.

Cost Rs.2000 Lakh.

Salient Features:

The scope of this scheme is to establish on 66/11KV sub-station with two 20MVA Transformer It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli.

12. Name of Scheme: Establishment of new 66/11 KV, 2x20 MVA Silli substation.

Cost Rs.2000 Lakh.

Salient Features:

The scope of this scheme is to establish on 66/11KV sub-station with two 20MVA Transformer It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli.

13. Name of Scheme: Establishment of new 66/11 KV, 2x20 MVA Dapada/Vasona substation.

Cost Rs.2000 Lakh.

Salient Features:

The scope of this scheme is to establish on 66/11KV sub-station with two 20MVA Transformer It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli.

14. Name of Scheme: Establishment of new 66/11 KV, 2x20 MVA Naroli substation.

Cost Rs.2000 Lakh.

Salient Features:

The scope of this scheme is to establish on 66/11KV sub-station with two 20MVA Transformer It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli.

15. Name of Scheme: Upgradation and strengthening of distribution network.

Cost Rs.9000.00 Lakh.

Salient Features:

The scheme has been undertaken to upgrade and strengthen the present LT distribution network of DNHPDCL to cater to the growing energy demand of the UT of Dadra and Nagar Haveli.

2 Details of Schemes for Energy Efficiency and Demand Side Management:-

DNHPDCL has filled petition for seeking approval of the Hon'ble Commission for implementation of Domestic Efficient Lighting Program (DELP) for LED bulbs in the Union territory of Dadra & Nagar Haveli under Demand Side Management programme.

The major points covered under the program are as follows:-

1. EESL will provide 2 LED bulbs each to all Petitioners Domestic Consumers in the entire Licensee area.
2. LED will be given at an upfront cost of Rs. 10 each. The balance cost towards the actual price of the LED bulb will be recovered from the consumer's electricity bill over a period of 10 months subject to maximum of Rs. 10 for each LED bulb every month.
3. The total annual savings of energy is around 5.77 million KWh which, at the average power purchase cost of Rs 3.66 per KWh, will lead to annual cost savings of Rs. 2.11 Crores.
4. The implementation of DELP in its entire area of operation would result into reduction in power procurement cost of Rs. 6.34 crores over a period of three years.

Segregated Details for the following items:-

A) Actual and proposed expenses related to safety of man power i.e procurement of safety equipments, training etc.

The actual expenses of FY 2015-16 were not available as the figures are in lum-sum amount and were not able to be bifurcated for this scheme but DNHPDCL has proposed expenses related to safety of man power for the Control Period shown in the table below :-

Years	Value
FY 2016-17	50 lakhs
FY 2017-18	50 lakhs
FY 2018-19	50 lakhs

B) Actual and proposed expenses related to CGRFs.

The actual expenses for CGRF are Rs-17.58 Lakhs. Also the proposed figures for the CGRFs have been escalated at a rate of 10% for the Control Period that is shown below in the table:-

Years	Value
FY 2016-17	21.27 Lakhs
FY 2017-18	23.39 Lakhs
FY 2018-19	25.73 Lakhs

C) Proposed expenses for the projects/schemes related to implementation of Smart Grid and Smart Meters.

DNHPDCL has proposed scheme for SMART GRID in SMC area of Silvassa. Proposed expenses of the scheme have been shown below in the table:-

Years	Value
FY 2016-17	1800 lakhs
FY 2017-18	900 lakhs
FY 2018-19	300 lakhs

D) Proposed expenses for training/skilling/reskilling of the man power:-

The proposed expenses for training/skilling/reskilling of the man power for the control period have been shown below in the table:-

Years	Value
FY 2016-17	50 lakhs
FY 2017-18	50 lakhs
FY 2018-19	50 lakhs

E) Other Schemes

- DNHPDCL has proposed one GIS substation of 66/11 kV, 2x20 MVA along with underground cabelling at Silvassa town area and also proposed augmentation of existing substation of 66/11 kV to strengthening the distribution network.
- The DNHPDCL has also awarded work to WAPCOS for the preparation of DPR for strengthening and up gradation of existing distribution network under the GOI schemes of IPDS/DDUGJY.

3 Proposed Trajectory of Availability of Wheeling Business (wires availability) and Supply Business (supply availability):-

The proposed trajectory of availability of Wheeling Business (wires availability) and Supply Business (supply availability) will be submitted along with the Tariff Petition for the MYT Control Period.