

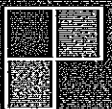
**Business Plan
for
MYT Control Period
FY 2015-16 to FY 2017-18**

Submitted to:

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

Submitted By:

DNH Power Distribution Corporation LTD.



BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION, GURGOAN

File No. _____

Case No. _____

IN THE MATTER OF:

Filing of Business plan for the MYT Control Period FY 15-18 for DNH Power Distribution Corporation Limited under Section 61, 62 and 64 of the Electricity Act, 2003

AND

IN THE MATTER OF:

DNH Power Distribution Corporation Limited,
Union Territory of Dadra and Nagar Haveli

...Petitioner

MOST RESPECTFULLY SHOWETH:

1. The DNHPDCL is in the receipt of the letter dated 30.10.2014 of the Hon'ble JERC for delay in filing the Business Plan for the MYT Control Period FY 15-18.
2. The present petition is being filed for granting condonation to the DNH Power Distribution Corporation Limited for delay in filing of the Business Plan for the MYT Control Period FY 15-18.
3. The Business Plan was to be filed by 30th September, 2014 as per the JERC (Multi Year Distribution Tariff) Regulations, 2014.
4. The DNHPDCL was not able to file the Business Plan by 30th September, 2014 as the DNHPDCL was not able to finalize the consultant for preparation of the Business Plan. The consultant was finalized by the DNHPDCL in the month of November, 2014.

5. The DNHPDCL is filing the Business Plan along with the ARR for the MYT Control Period FY 2015-16 to FY 2017-18.
6. It is respectfully submitted that the Hon'ble JERC may please condone the DNHPDCL for delay in filing the Business Plan.
7. It is respectfully submitted that the Hon'ble JERC may please admit the Business Plan for the MYT Control Period for FY 15-18 being filed herewith.
8. The Petitioner has paid the requisite fees for filing the present Business Plan.
9. The Petitioner has paid the requisite fees for condonation of delay in filing the Business Plan.

 PETITIONER,
DNH POWER DISTRIBUTION CORPORATION LIMITED

Executive Engineer(Dist.)
DNH Power Distribution Corporation Ltd.
U.T. of Dadra & Nagar Haveli, Silvassa

DATED:

PLACE:

BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION, GURGOAN

REVIEW PETITION NO. OF 2013
IN PETITION NO. OF 2013

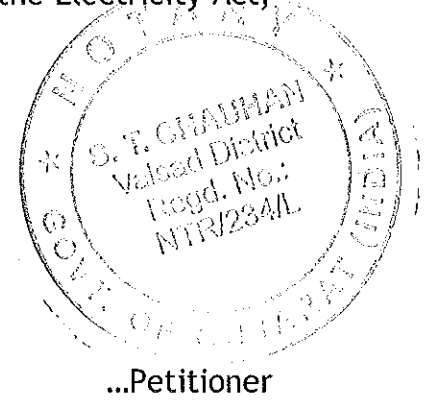
IN THE MATTER OF:

Filing of Business plan for the MYT Control Period FY 15-18 for DNH Power Distribution Corporation Limited under Section 61, 62 and 64 of the Electricity Act, 2003

AND

IN THE MATTER OF:

DNH Power Distribution Corporation Limited,
Union Territory of Dadra and Nagar Haveli



AFFIDAVIT

I Shri. Harshadbhai Mohanbhai Patel, son of Shri Mohanbhai Premabhai Patel (aged 51 years), (occupation) Government Service residing at Samarvarni, Silvassa, the deponent named above do hereby solemnly affirm and state on oath as under:

1. That the deponent is the Executive Engineer, DNH Power Distribution Corporation Limited, who is authorized by the Administration of Dadra & Nagar Haveli and is acquainted with the facts deposed as below.
2. I, the deponent name above do hereby verify that the contents of the accompanying petition are based on the records of the DNH Power Distribution Corporation Limited maintained in the ordinary course of business and believed them to be true and I believe that no part of it is false and no material facts have been concealed there from.

Details of enclosures:

Fees for condonation of delay - Rs. 10,000/- vide DD. No.
_____ dated _____

Kelly
Executive Engineer(Dist.)
DNH Power Distribution Corporation Ltd.
U.T. of Dadra & Nagar Haveli, Silvassa
For the DNH Power Distribution Corporation Limited
Petitioner
Place: Silvassa

DEPONENT

VERIFICATION

I, the deponent above-named, do hereby verify the contents of the above affidavit to be true to the best of my knowledge, no part of it is false and nothing material has been concealed therefrom.

Verified at on this day of November, 2014

Kelly
Executive Engineer(Dist.)
DNH Power Distribution Corporation Ltd.
U.T. of Dadra & Nagar Haveli, Silvassa
DEPONENT

I, Shri S.T. Chauhan, Advocate, Silvassa, 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.

Solemnly affirmed before me on this 26th day of November 2014 at _____ p.m./a.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.

Book No.: 2
Page No.: 42
Serial No.: 515
Date: 26/11/14
Certificate of Practice
Valid till: 23/7/2017

Beto
S.T. Chauhan
S. T. Chauhan
Notary Valsad District,
Yogi Smruti, Mullawadi,
Valsad-396 001,
Gujarat - INDIA.

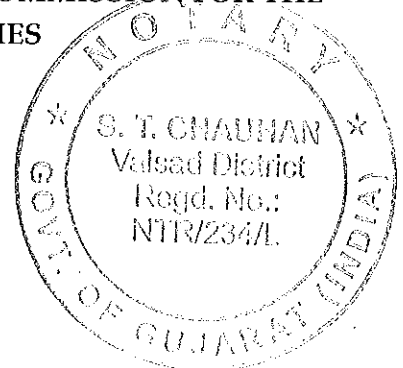
Solemnly affirmed before me
by Shri H. N. Patel
who has been identified by Shri _____
whom I know Personally

AFFIDAVIT

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

File No. _____

Case No. _____



IN THE MATTER OF: Filing of Business plan for the MYT Control Period FY 15-18
for DNH Power Distribution Corporation Limited under
Section 61, 62 and 64 of the Electricity Act, 2003

AND

IN THE MATTER OF DNH Power Distribution Corporation Limited (hereinafter
referred to as "DNHPDCL" or "The Petitioner" or "The
Department")

..... Petitioner

I, Shri Harshadbhai Mohanbhai Patel, son of Shri Mohanbhai Premabhai Patel (aged 51 years), (occupation) Government Service residing at Samarvarni, Silvassa the deponent named above do hereby solemnly affirm and state on oath as under:

1. That the deponent is the Executive Engineer, DNH Power Distribution Corporation Limited, who is authorized by the Administration of Dadra & Nagar Haveli and is acquainted with the facts deposed as below.
2. I, the deponent name above do hereby verify that the contents of the accompanying petition are based on the records of the DNH Power Distribution Corporation Limited maintained in the ordinary course of business and believed them to be true and I believe that no part of it is false and no material facts have been concealed there from.

Details of enclosures:

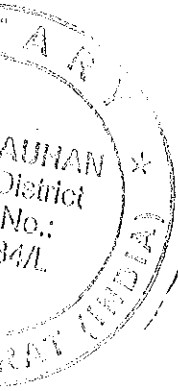
Proposal for Business Plan for the Control Period FY 15-18.

Petition fee – Rs. 1,00,000/- vide DD. No. _____ dated _____

Relig.
Executive Engineer(Dist.)
DNH Power Distribution Corporation Ltd.
U.T. of Dadra & Nagar Haveli, Silvassa
For the DNH Power Distribution Corporation Limited

Petitioner

Place: Silvassa



I, Shri S.T. Chauhan, Advocate, Silvassa, 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 26th day of November 2014 at _____ p.m/a.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.

B. S. Chauhan
S. T. Chauhan
Notary Valsad District,
Yogi Smriti, Mullawadi,
Valsad-396 001,
Gujarat - INDIA.

Book No.: 2
Page No.: 41
Serial No.: 513
Date: 26/11/14
Corner: Practice
Valid till: 25/7/2017

Solemnly affirmed before me
by Shri H. M. Patel
who has been identified by Shri _____
whom I know Personally

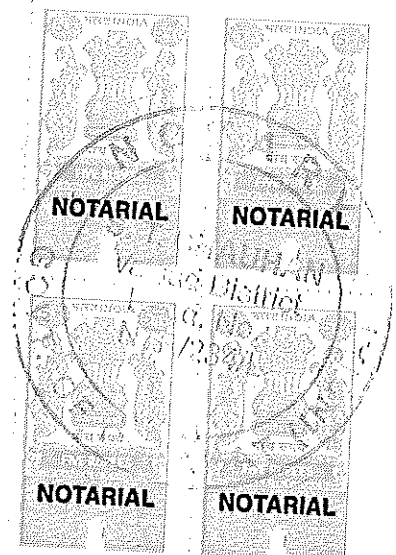


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List of Abbreviations

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

Kulip

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 580 to 600 MW and peak demand is 630 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, 269 km of 66 kV D/C lines, 830 circuit km of 11 kV lines and 1786 kms of LT lines along with 1930 transformers.

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

The present firm and non-firm power allocation of Dadra & Nagar Haveli is 1049.77 MW in the peak hours and 940.60 MW in the off-peak hours from the various Generating Stations, which includes 693.53 MW and 586.86 MW from the Central Generating stations during peak and off-peak hours respectively, 100 MW from NTPC-SAIL plant at Bhilai, 38 MW from Ratnagiri gas based power plant (RGPPL) and 200 MW from EMCO Energy Limited (GMR). The power supply from the EMCO has been started from April 2013.

The power demand is primarily dependent on the HT and LT industrial consumers contributing approximately 98% of the total sales in FY 12-13. 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 2014-15. In view of this huge power requirements, DNHPDCL had proposed a number of schemes to be implemented during FY 13-14 to FY 14-15 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 Vindhyachal 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 next seven years.

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 622 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, 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 DNHPDCL 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.

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

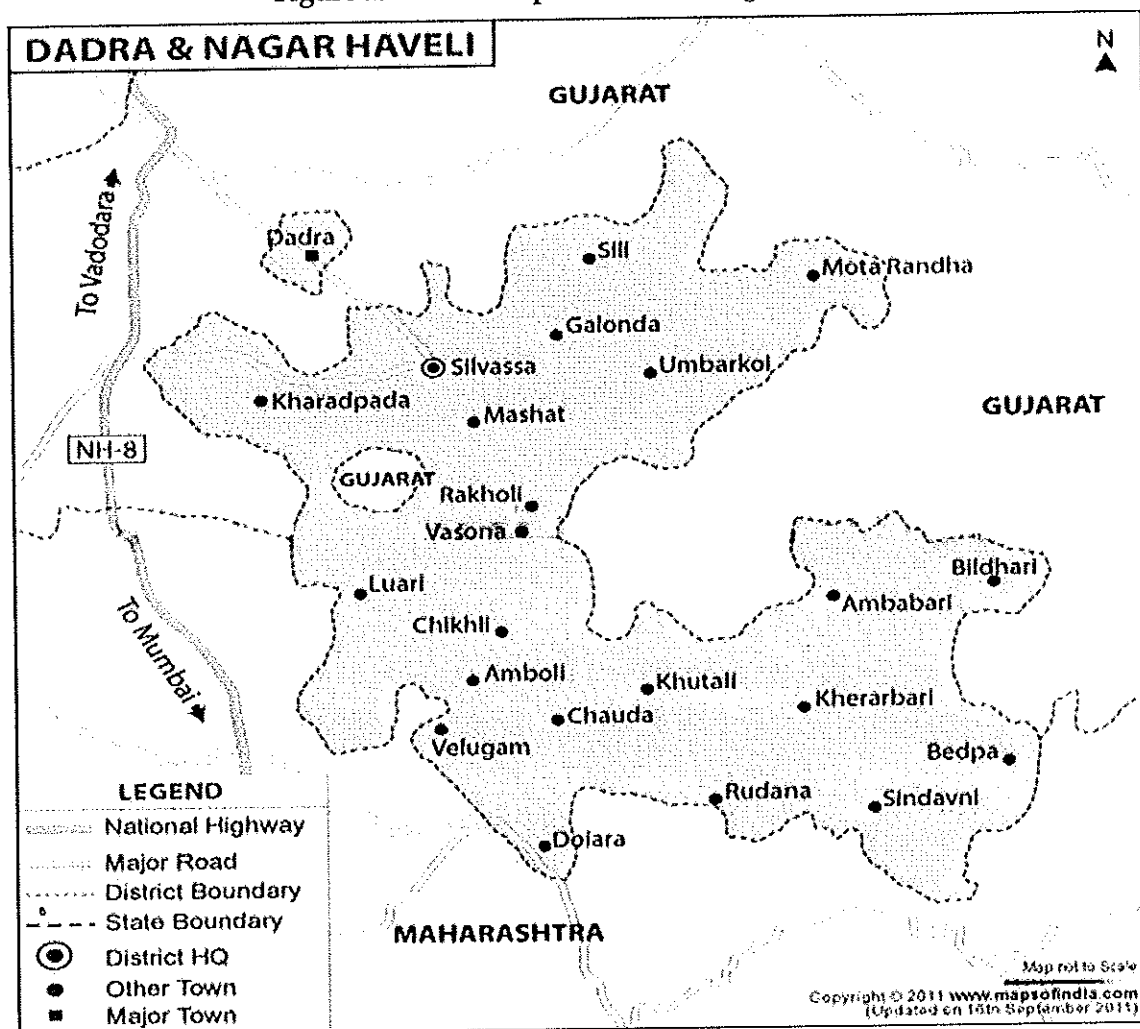
1 Mission of DNH Power Distribution Corporation Limited

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



aly.

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 present firm and non-firm power allocation of Dadra & Nagar Haveli is 1049.77 MW in the peak hours and 940.60 MW in the off-peak hours from the various Generating Stations, which includes 693.53 MW and 586.86 MW from the Central Generating stations during peak and off-peak hours respectively, 100 MW from NTPC-SAIL plant at Bhilai, 38 MW from Ratnagiri gas based power plant (RGPP) and 200 MW from EMCO Energy Limited (GMR).

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	269
03.	11 KV Line	830
04.	L.T Line	1775
05.	Distribution Transformer Center	896 Nos.

Table 2: Existing 66 kV Sub - Stations

Sr.No.	Sub - Station	Capacity
01.	66/11KV Amli Sub-Station	: $3 \times 15 + 2 \times 20 = 85$ MVA
02.	66/11KV Masat Sub-Station	: $3 \times 15 + 1 \times 20 + 1 \times 10 = 75$ MVA
03.	66/11KV Rakholi Sub-Station	: $4 \times 20 = 80$ MVA
04.	66/11 KV Khadoli Sub-Station	: $3 \times 10 + 4 \times 15 = 90$ MVA
05.	66/11KV Dadra Sub-Station	: $1 \times 10 + 4 \times 20 = 90$ MVA
06.	66/11KV Kharadpada Sub-Station	: $2 \times 16 + 1 \times 20 = 52$ MVA
07.	66/11 KV Silli Sub-Station	: $2 \times 15 + 1 \times 20 = 50$ MVA

Sr.No.	Sub - Station	Capacity
08.	66/11KV Khanvel Sub-Station	: $1 \times 10 + 1 \times 15 = 25$ MVA
09.	66/11KV Athal Sub-station	: $2 \times 20 = 40$ MVA
10.	66/11KV Waghdhara Sub-station	: $1 \times 15 + 1 \times 20 = 35$ MVA
11.	66/11 KV Piparia Sub-Station	: $2 \times 20 = 40$ MVA
	Total	662 MVA

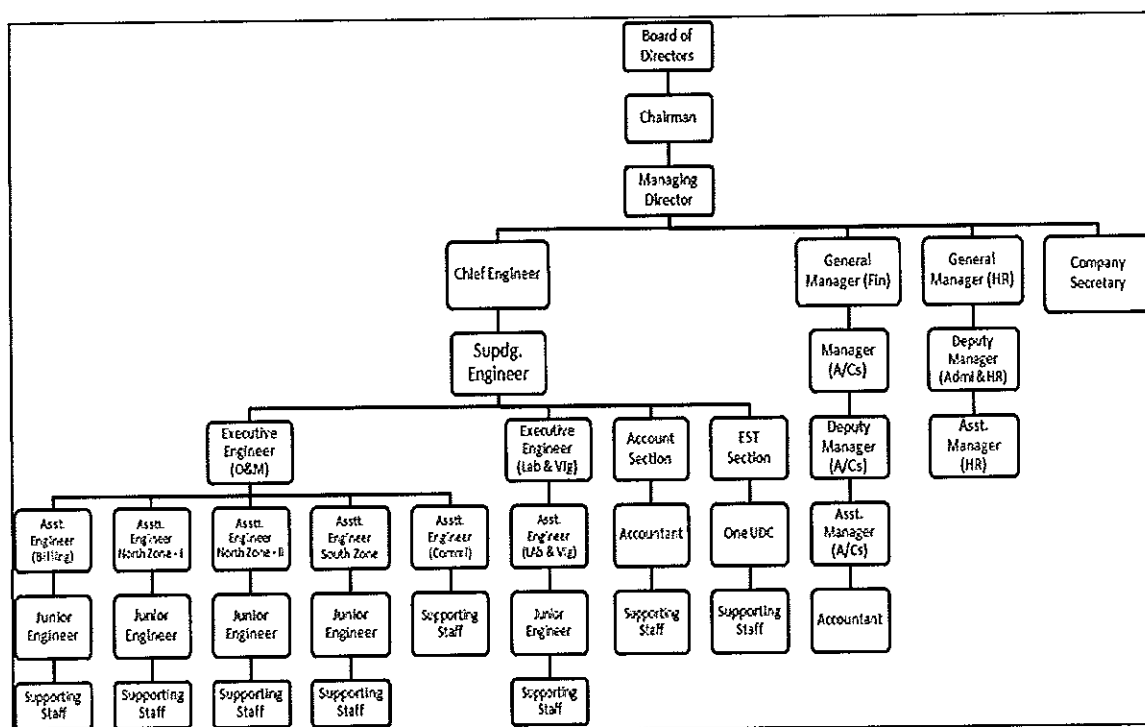
4 Organization Structure: Roles and Responsibilities

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.) 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 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:

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

6 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).
- 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 5 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

7 Physical achievements during FY 2013-14

- Establishment of new 66/11 KV, 2x20 MVA Athal Sub-station.
- Establishment of new 66/11 KV, 2x20 MVA Vaghdhara Sub-station.
- Interconnecting 220 kV line from 400 kV Kala S/s of PGCIL to 220 kV Khadoli S/s of ED-DNH.

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 3 years. The highest growth of 18.43% has been seen in the domestic category. Overall growth for the UT has been 9.96%.

Table 3: Past Years' Load Growth

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

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 2015-16 to FY 2017-18)

Consumer Category kVA	FY 14-15 R E	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected	CAGR
Domestic	88,548.01	97,402.81	107,143.09	117,857.40	10.00%
LIG/Kutir Jyoti	1,210.00	1,258.40	1,308.74	1,361.09	4.00%
Commercial	31,260.81	32,823.85	34,465.04	36,188.30	5.00%

Consumer Category kVA	FY 14-15 R E	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected	CAGR
Agriculture	4,372.33	4,590.95	4,820.49	5,061.52	5.00%
LT Industry	90,244.45	94,756.67	99,494.51	104,469.23	5.00%
HT/EHT Industry	1,107,921.00	1,179,935.87	1,256,631.70	1,338,312.76	6.50%
Public Lighting	1,642.58	1,683.64	1,725.74	1,768.88	2.50%
Public Water Works	1,418.23	1,489.14	1,563.60	1,641.78	5.00%
Temporary	2,773.52	2,912.20	3,057.81	3,210.70	5.00%
Total	1,329,390.93	1,416,853.53	1,510,210.71	1,609,871.64	

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 09-10 Actual	FY 10-11 Actual	FY 11-12 Actual	FY 12-13 Actual	FY 13-14 Actual
Domestic	30523	32326	34,170	35,656	37,294
LIGH	13847	14000	14,110	13,870	14,097
Commercial	6495	6683	6,852	7,007	7,070
Agriculture	968	1023	1,048	1,077	1,125
LT Industry	2485	2548	2,306	1,866	1,912
HT/EHT Industry	771	811	830	859	872
Public Lighting	289	289	227	237	274
Public Water Works	0.0	0	0	0	0
Temp. Supply	-	422	200	168	251.0
Total	55,378	58,102	59,743	60,740.0	62,895.0

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 R E	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected	CAGR
Domestic	37,944	39893	41942	44096	5.14%
LIGH	14,153	14216	14280	14344	0.45%
Commercial	6,834	6980	7130	7283	2.14%
Agriculture	1,134	1177	1223	1269	3.83%
LT Industry	1,962	2060	2163	2271	5.00%
HT/EHT Industry	879	906	935	964	3.13%
Public Lighting	287	301	316	332	5.00%
Public Water Works	259	272	286	300	5.00%
Temp. Supply	263.0	276	290	304	5.00%
Total	63,715.0	66,083	68,565	71,165	

3 Energy Sales Growth

The following table summarizes category wise actual energy sales from FY 09-10 to FY 13-14 for all the consumer segments. As can be seen, DNHPDCL's overall energy sales are significantly dependent upon HT/EHT Industries to the extent of around 96%. Energy sold to various consumer categories over the past 5 years have grown at approximately 10% p.a., mainly contributed by increase in the industrial LT and HT/EHT sales.

Table 7: Past Years' Energy Sales Growth

Sales (MUs)	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
Domestic	47.00	54.13	53.74	70.13	80.64
Commercial	19.00	20.69	27.81	26.87	29.79
Agriculture	3.00	2.26	3.00	3.36	4.40
LT Industry	125.00	147.23	152.19	161.66	176.52
HT/EHT Industry	3131.00	3668.28	3990.20	4,322.68	4661.27
Public Lighting	2.50	2.74	5.12	4.45	5.89
Public Water Works	0.00	0.00	0.00	0.00	0.00
Temp. Supply	1.50	1.64	0.00	1.97	2.01
Total Sales	3329.00	3,896.97	4,232.06	4,591.12	4,960.53

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 6.50% 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 14-15. 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 14-15.

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 2015-16 to FY 2017-18)

Consumer Category MUs	FY 14-15 Approved	FY 14-15 Revised Estimate	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected	CAGR considered for projections
Domestic	91.09	101.43	116.09	132.86	152.06	14.45%
Commercial	35.71	28.38	31.76	35.54	39.77	11.90%

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Consumer Category MUs	FY 14-15 Approved	FY 14-15 Revised Estimate	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected	CAGR considered for projections
Agriculture	4.91	4.38	4.82	5.31	5.84	10.04%
LT Industry	186.26	189.73	206.82	225.46	245.78	9.01%
HT/EHT Industry	5060.10	4,843.53	5,158.36	5,493.66	5,850.75	6.50%
Public Lighting	6.63	6.73	8.33	10.33	12.80	23.90%
Public Water Works	0.00	2.80	2.94	3.09	3.25	5.00%
Temp. Supply	2.91	0.27	0.29	0.31	0.34	7.59%
Total Sales	5,387.61	5,177.26	5,529.44	5,906.57	6,310.58	

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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).

Since first six 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 six months i.e. September 2014 to March 2015 has been estimated based on the revised allocation specified in the notification no's. WRPC/Comm-I/6/Alloc/2014/7872 dated 22.08.2014 of Western Regional Power Committee. A summary of the same is given in the 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	53.99	-	53.99
KSTPS -3	20.77	2.20	22.97
VSTPP-I	39.25	5.00	44.25
VSTPP-II	29.66	4.00	33.66
VSTPP- III	29.66	6.00	35.66
VSTPP- IV	41.52	5.55	47.07
KAWAS	56.24	25.00	81.24
GGPP	56.75	2.00	58.75
Sipat - I	82.24	9.00	91.24
Sipat - II	28.19	4.00	32.19
KHSTPP - II	3.50	3.50	3.50
Mauda I (MSTPS)	41.53	5.55	47.08
NPCIL - KAPS	10.80	2.00	12.80

Name of the plant	Weighted average Infirm allocation	Weighted Average Firm allocation	Weighted average total allocation
NPCIL - TAPP 3&4	36.52	7.00	43.52
Total	530.61	80.80	607.91
NSPCL Bhilai		100.00	100.00
RGPPL		38.00	38.00
EMCO Energy Ltd. (GMR Group)		200.00	200.00

Actual power purchase in first six months of FY 14-15 and power allocation of 100 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 six months of FY 14-15 from Ratnagiri Gas Power Plant has been considered. However, it is expected that DNHPDCL 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.

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
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	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%
Subtotal	10440	64.03	
NSPCL Rourkela	250	50	20.00%
Grand Total	10690	114.03	

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 one and half years 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 six months of FY 13-14.

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

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

The DNHPDCL had filed a petition with the Hon'ble Commission in respect of Request for proposal documents for procurement of non solar renewable energy of 170 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 28.08.2014. The DNHPDCL 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. Further, the DNHPDCL will also procure renewable

energy certificates of 100 MUs each during the FY 2015-16 and FY 2016-17 and 30 MUs during the FY 2017-18 to fulfill its non solar renewable power obligation.

To meet the solar obligation for the control period FY 2015-16 to FY 2017-18, the department is in the process of installing solar plants of capacity 3.37 MW. It is expected that the plants will be commissioned by March, 2015. The per MW unit generation from 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 5.39 MUs during FY 2015-16, 133.39 MUs during FY 2016-17 and 149.39 MUs during FY 2017-18 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

Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
NTPC Stations				
KSTPS	373.31	375.52	375.52	375.52
KSTPS 3	275.17	159.73	159.73	159.73
VSTPP-I	294.99	311.15	311.15	311.15
VSTPP-II	227.34	236.68	236.68	236.68
VSTPP- III	241.99	250.74	250.74	250.74
VSTPP- IV	324.04	330.96	330.96	330.96
KGPP	308.81	417.88	417.88	417.88
GGPP	218.95	332.81	332.81	332.81
Sipat-I	584.52	537.65	537.65	537.65
Sipat-II	203.47	189.72	189.72	189.72
Mauda	55.65	14.87	14.87	14.87
VSTPS-V	0.00	21.95	21.95	21.95

Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
LARA	0.00	0.00	0.00	35.84
Gadarwara	0.00	0.00	0.00	169.40
BARH	0.00	0.00	0.00	37.27
Dhuwaran	0.00	0.00	0.00	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	18.38	19.52	19.52	19.52
Subtotal - NTPC	3126.62	3199.17	3199.17	3611.08
NSPCL - Bhilai	724.17	758.93	758.93	758.93
NSPCL - Rourkela	0.00	0.00	361.13	361.13
NPCIL				
KAPS	88.01	93.27	93.27	93.27
TAPS	298.69	264.40	264.40	264.40
Subtotal	386.70	357.67	357.67	357.67
Others				
RGPPL	0.07	0.00	0.00	0.00
Tata Power - Haldia	0.00	0.00	0.00	0.00
EMCO Energy Ltd. (GMR Group)	1471.05	1529.50	1529.50	1529.50
Subtotal	1471.13	1529.50	1529.50	1529.50
Power purchase from Other Sources				
Indian E. Exchange/Bilateral	0.00	0.00	0.00	0.00
UI	32.75	0.00	0.00	0.00
Solar	32.33	5.39	133.39	149.39
Non Solar	145.47	170.00	170.00	170.00
RPO provisioning				
Subtotal	210.55	175.39	303.39	319.39

Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
Total Power Purchase	5919.17	6020.66	6509.79	6937.70
External Losses	210.72	214.34	218.89	234.13
Availability at DNHPDCL Periphery	5708.45	5806.33	6290.90	6703.57

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:

- Per unit variable cost, fixed cost and other charges have been considered at the same level as actual from April to September 2014.
- Power purchase arrear for the remaining six months has been considered as nil as DNHPDCL has no prior information of arrear bills from the generators and transmission companies.
- DNHPDCL received its full quota of 200 MW from EMCO for the first six months from April 2014 to September 2014. Therefore, the revised estimate for the period October 2014 to March 2015 for EMCO has been made by considering 200 MW supply.
- 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 October 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 for the period October 2014 to March 2014 as per the fixed charges paid during the first six months of FY 2014-15.
- For FY 14-15, DNHPDCL has considered power purchase of 32.33 MU and 145.47 MU from solar and non-solar renewable energy sources respectively as

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per the JERC's Procurement of Renewable Energy Regulations, 2010. Further, DNHPDCL has provisioned Rs. 37.49 Crore against the RPO backlog to be met by DNHPDCL for the period FY 2010-11 to FY 2013-14.

- 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 for the first six months 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 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 six 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 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 for the first six months of FY 14-15 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 2014-15 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 14-15 and for the MYT Control Period is summarized in the Table below:

Table 12: Power Purchase Cost

Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
NTPC Stations				
KSTPS	59.31	66.06	72.69	79.99
KSTPS 3	38.06	32.09	33.27	35.66

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Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
VSTPP-I	65.66	74.85	82.29	90.50
VSTPP-II	51.91	58.45	64.22	70.61
VSTPP- III	61.40	65.41	68.49	71.85
VSTPP- IV	91.76	101.53	111.17	121.73
KGPP	120.72	165.66	181.62	199.13
GGPP	110.82	173.39	204.62	241.91
Sipat-I	184.49	185.17	193.76	203.40
Sipat-II	71.15	70.54	72.35	74.56
Mauda	74.87	65.14	79.76	101.84
VSTPS-V	0.00	7.53	6.76	6.59
LARA	0.00	0.00	0.00	11.72
Gadarwara	0.00	0.00	0.00	61.49
BARH	0.00	0.00	0.00	14.35
Dhuwaran	0.00	0.00	0.00	65.22
FSTPS	(0.19)	0.00	0.00	0.00
KhSTPS I	(0.00)	0.00	0.00	0.00
RSTPS	(0.95)	0.00	0.00	0.00
TSTPS	0.00	0.00	0.00	0.00
KHSTPP-II	7.60	4.19	3.70	3.59
Subtotal - NTPC	936.61	1068.42	1173.86	1453.70
NSPCL - Bhilai	282.99	302.77	316.05	330.59
NSPCL - Rourkela	0.00	0.00	146.26	153.18
NPCIL				
KAPS	20.37	21.56	21.54	21.51
TAPS	83.07	72.42	71.27	70.13
Subtotal	103.44	93.98	92.81	91.65
Others				
RGPPL	27.28	29.98	32.98	36.28
Tata Power - Haldia	0.00	0.00	0.00	0.00

Source	FY 2014-15 (RE)	FY 2015-16 (Projected)	FY 2016-17 (Projected)	FY 2017-18 (Projected)
EMCO Energy Ltd. (GMR Group)	632.29	666.92	696.44	730.89
Subtotal	659.57	696.90	729.42	767.17
Power purchase from Other Sources				
Indian E. Exchange/Bilateral	0.00	0.00	0.00	0.00
UI	12.58	0.00	0.00	0.00
Solar	30.07	0.00	70.40	79.20
Non Solar	21.82	83.00	83.00	72.50
RPO provisioning	37.49			
Subtotal	101.96	83.00	153.40	151.70
Misc. Arrears				
Total Power Purchase	2084.58	2246.65	2612.62	2948.42

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.

DNHPDCL has estimated the transmission charges for FY 14-15 based on the actual transmission charges for six months of FY 14-15 and pro-rata allocation of the same for remaining six months. For projecting the PGCIL transmission charges for the MYT Control Period, escalation of 10% over the estimated FY 14-15 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 the MYT Control Period.

Table 13: 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

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Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
MUs	RE	Projected	Projected	Projected
Total Power Purchase	2084.58	2246.65	2612.62	2948.42
PGCIL CHARGES	159.21	171.95	185.70	200.56
POSOCO	0.79	0.85	0.92	0.99
WRPC	0.00	0.00	0.00	0.00
Reactive charges	2.89	3.12	3.37	3.63
MSTCL	3.50	3.78	4.08	4.41
Others	0.00	15.00	16.20	17.50
Total Power Purchase Cost (including Transmission Cost)	2250.96	2441.34	2822.89	3175.51

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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 2013-14 as against the target of 4.70% given by the Hon'ble Commission in the Tariff Order for the FY 2013-14. DNHPDCL has considered the T&D loss of 4.75% for FY 14-15. Reduction of T&D below 4.75% 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 Actual	FY 15 RE	FY 16 Projected	FY 17 Projected	FY 18 Projected
T&D Losses	4.78 %	4.75%	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 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)	4,960.53	5,177.26	5,529.44	5,906.57	6,310.58
Distribution Losses					
%	4.78%	4.75%	4.70%	4.70%	4.70%
MU	249.27	258.18	272.70	291.30	311.23
Energy required at state periphery(MUs)	5,209.80	5,435.45	5,802.14	6,197.87	6,621.81
Surplus power sale(MUs)	31.52	273.00	4.19	93.03	81.76
Transmission losses(MUs)	192.49	210.72	214.34	218.89	234.13
Energy Available	5419.86	5919.17	6020.66	6509.79	6937.70

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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 15-16 to FY 17-18 under the MYT Control Period FY 2015-18 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.		
			2015-16	2016-17	2017-18
1	Establishment of various capacity of Solar Power plants	1359	815.4	407.7	135.9
2	Establishment of new 66/11 KV, 2x15 MVA Velugam substation	1076.75	646.05	323.025	107.675
3	Establishment of new 66/11 KV, 2x15 MVA Kala substation	894.72	536.832	268.416	89.472
4	Construction of new corporate office building of DNHPDCL	1100	660	330	110

Sr.No.	Name of Scheme	Total estimated amount for MYT Control Period (Lakh)	Proposed Expenditure in Lakh.		
			2015-16	2016-17	2017-18
5	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	800	480	240	80
6	Upgradation and modernization of network	1100	660	330	110
	Total	6330.47	3798.282	1899.141	633.047

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: Establishment of new 66/11 KV, 2x15 MVA Velugam substation.

Cost Rs.1076.75 Lakh.

Salient Features:

The scope of the work is to establish one 66/11KV sub-station with 1 x 15MVA transformer with 39M/c tower, 7 D/C tower and 2 H frame structures. It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli. This work is awarded to GETCO on deposit basis.

3. Name of Scheme: Establishment of new 66/11 KV, 2x15 MVA Kala substation.

Cost Rs.894.72 Lakh.

Salient Features:

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The scope of this scheme is to establish on 66/11KV sub-station with two 15MVA Transformer and erection of 33 towers of 66KV D/C Line. It will help the DNHPDCL to meet the future load growth in the UT of Dadra and Nagar Haveli.

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

Cost Rs.1100.00 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.

5. 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.800.00 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.

6. 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.		
			2015-16	2016-17	2017-18
1	Augmentation of 66/11 KV Athal Substation	200	100	100	0
2	Underground cabling system with new 66/11 KV GIS substation in SMC area	9921	5952.6	2976.3	992.10
3	Scheme for integrated solution for Electrical network modelling and distribution analysis software with allied study of power sector in the territory	1556.54	933.924	466.962	155.65
4	Up gradation and modernisation of existing 66/11 KV substation at village Amli, Khadoli and Masat	1500	500	500	500
5	Scheme for Smart Grid in SMC Area of Silvassa	3000	1800	900	300.00
6	Establishment of new solar power plant of 22 MW	15141	3000	3000	4000.00
7	Distribution Transformer metering with AMR	200	100	100	0.00
8	Provision of capacitor bank to various substations	500	300	200	0.00
9	Procurement of fully automatic meter test bench	200	200	0.00	0.00
	Total	31818.54	12586.524	8143.262	5947.754

1. Name of Scheme: Augmentation of 60/11 Athal Substation.

Cost Rs.200.00 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.9921.00 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.1556.54 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 Amli, Khadoli and Masat.

Cost Rs.1500.00 Lakh.

Salient Features:

The Existing 66/11 KV Substation at Amli, 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.

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

Cost Rs.3000.00 Lakh.

Salient Features:

Dadra and Nagar Haveli 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.200.00 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.

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 18: Capital Expenditure and Capitalization for the Control Period

Capital Expenditure & Capitalization (Rs. Crore)	FY 14-15 RE	FY 15-16 Projected	FY 2016-17 Projected	FY 2017-18 Projected
Capital Expenditure	50.66	163.85	100.42	65.81
Asset Capitalization	25.29	85.79	107.25	89.31
Capital Work in Progress	33.75	111.81	104.98	81.48

3 Gross Fixed Asset

The Commission in its last Tariff Order has approved the opening GFA, addition of assets and closing GFA for FY 14-15 at Rs. 367.96 Crore, Rs. 114.74 Crore and Rs. 482.70 Crore respectively.

DNHPDCL had Opening Gross Fixed Assets (GFA) of Rs. 424.90 Crore in FY 13-14. DNHPDCL has further added assets worth Rs 4.82 Crore during FY 13-14. The closing GFA by the end of FY 13-14 stands at Rs. 429.73 Crore.

Based on the actual capitalization of the first six months and estimated addition in GFA during the remaining six months of FY 14-15, assets amounting to Rs. 25.29 Crore have been estimated to be capitalized during FY 14-15.

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Based on the capital expenditure plan as detailed above for the MYT Control Period, Rs. 85.79 Crore, Rs. 107.29 Crore and Rs. 89.31 Crore 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 for FY 14-15 and for the MYT Control Period has been given below:

Table 19: Opening and Closing GFA for the Control Period

Particulars (Rs. Crore)	Opening GFA	Additions during the Year	Closing GFA
FY 2014-15 (Revised Estimate)	429.73	25.29	455.02
FY 2015-16 (Projected)	455.02	85.79	540.81
FY 2016-17(Projected)	540.81	107.25	648.06
FY 2017-18(Projected)	648.06	89.31	737.37

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Chapter 8: Financing of the Capital Schemes

1 Financing of Capital Schemes

As DNHPDCL is working as a separate commercial utility it 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, DNHPDCL has applied the following depreciation rates as specified by CERC in the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014

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 MYT 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 each year projected for FY 14-15 and the Control Period. The DNHPDCL 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.

Table 20: Depreciation for the Control Period

Particulars	(Rs. Crore)			
	FY 15-16 RE	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected

Particulars	FY 15-16 RE	FY 15-16 Projected	FY 16-17 Projected	FY 17-18 Projected
Opening GFA	429.73	455.02	540.81	648.06
Additions	25.29	85.79	107.25	89.31
Closing GFA	455.02	540.81	648.06	737.37
Average GFA	442.37	497.91	594.44	692.72
Depreciation Amount	22.50	25.44	30.53	35.33
Average Depreciation Rate	4.95%	4.70%	4.71%	4.79%

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