Order in Petition No. 183/2015 APPROVAL OF BUSINESS PLAN FOR MYT CONTROL PERIOD FY 2016-17 to FY 2018-19

For

Electricity Department, Union Territory of Chandigarh



28th December 2015

संयुक्त विद्युत विनियामक आयोग (गोवा राज्य और संघ शासित प्रदेशों के लिए)

JOINT ELECTRICITY REGULATORY COMMISSION

for the State of Goa and Union Territories

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Before the Joint Electricity Regulatory Commission For the State of Goa and Union Territories, Gurgaon

QUORUM Shri. S.K. Chaturvedi (Chairperson) Smt. Neerja Mathur (Member)

Petition No. 183/2015

In the matter of

Approval of Business Plan for MYT Control Period from FY 2016-17 to FY 2018-19 for the Electricity Department, Union Territory of Chandigarh

And in the matter of

Electricity Department, Union Territory of Chandigarh......**the Petitioner**

ORDER

Passed On: December 28, 2015

- a. This Order is passed in respect of the Petition filed by the Electricity Department, Union Territory of Chandigarh for approval of its Business Plan for the MYT Control Period of three years commencing from April 1, 2016.
- b. 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, after previous publication the Joint Electricity Regulatory Commission issued Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi Year Distribution Tariff) Regulations, 2014 on June 30, 2014. The Commission has subsequently issued the first amendment to the said Regulations on August 10, 2015. The amendments to the Regulations have been considered appropriately. As per provision 3.1.6 of the JERC MYT Regulations 2014 dated June 30, 2014, the "Control Period" was defined as multi-year period comprising of three financial years from FY 2015-16 to FY 2017-18.

- c. However, as detailed in the last Tariff Order for FY 2015-16 issued in Petition no. 163/2015 dated April 10, 2015 the Commission in directive 10 (new directives), had ordered for deferment of the Control Period by one year and had directed to the Petitioner to submit the revised Business Plan for the period FY 2016-17 to FY 2018-19, along with requisite details as provided in JERC (Multiyear Distribution Tariff Regulations) Regulations 2014, latest by July 31, 2015. The Commission in the last Tariff Order had noted that the supporting data such as cost benefit analysis of each Scheme, financing plan, loss reduction trajectory had not been adequately submitted and therefore, had ordered for deferment of the Control Period by one year.
- d. As per provisions 5.1 (as per amendment dated 10th August 2015) and 12.1 of the JERC Multi Year Distribution Tariff Regulations, 2014, the Petitioner has filed for approval of its Business Plan for three years Control Period i.e. from FY 2016-17 to FY 2018-19 with details for each year of the Control Period before the Commission.
- e. As per provisions 5.1, 5.3 and 7.1 of the JERC Multi Year Distribution Tariff Regulations, 2014, the Business Plan shall comprise but not be limited to detailed category-wise sales and physical targets, power procurement plan, capital investment plan and financing plan. The Distribution Licensees shall project the power purchase requirement after considering effect on the sales projections of target set for Energy Efficiency (EE) and Demand Side Management (DSM) schemes. The Business Plan shall also specify the operational norms and trajectories of performance parameters for each year of the Control Period.
- f. The primary focus of the Business Plan is on identification of the various schemes/works related to meeting the power requirement of the State, improvement in performance efficiency by way of reduction in losses and improvement in quality of supply to the consumers.
- g. Since detailed Business plan has been submitted for the first time under MYT regime, lot of scrutiny, discussions, collection of additional information and data were done with regard to the Petition before finalization and approval of the Business Plan.
- h. This Order is passed by the Commission, after detailed scrutiny of the information and documents filed with the Petition, filed subsequently during the course of the technical validation session and also other information as available with the Commission.

i. After receiving the Petition, the Commission scrutinized the contents of the Petition and called for further information/data so as to take a prudent view of the Petition. The Commission also held a technical validation session of the Business Plan to determine the sufficiency of the Petition. Comments/objections/suggestions were also invited from the public/stakeholders. Public hearing was held and stakeholders present were heard. The schedule of activities performed under this quasi-judicial process were as below:

Particulars	Details
Date of Admission	September 17, 2015
Petition No.	183/2015
Technical Validation Session	Held on September 28, 2015 in JERC Office, Gurgaon
Public Hearing	Held on October 16, 2015 in the Institution of Engineers
	(India), Madhya Marg, Sector 19 A, UT Chandigarh

- j. After being satisfied reasonably regarding the availability of data, the Commission is issuing this Order mainly approving the Business Plan proposed by the Petitioner and as per observations/directives mentioned in the attached document. The Commission will further scrutinize the multi-year Tariff Petition when submitted, for assessing the other aspects of the business and issuance of multi-year Tariff Orders.
- k. The Commission has approved the Business Plan for three years Control Period FY 2016-17 to FY 2018-19 based on the information submitted by the Petitioner. Further, as per Regulation 22 of JERC MYT Regulations 2014, if the capital expenditure is required for emergency work, the licensee shall submit an application, containing all relevant information along with reasons justifying the emergent nature of the proposed work, seeking post facto approval by the Commission. The Distribution Licensee shall take up the work prior to receiving the approval from the Commission provided that the emergent nature of the scheme has been certified by its competent authority.
- The Commission, directs, that all pending RPO obligations up-to FY 2015-16 must be fulfilled by the Petitioner by March 31, 2016 and no backlog would be allowed to be carried forward to the Control Period FY 2016-17 to FY 2018-19. The Commission expects that the Petitioner would give priority to obtaining physical solar and non-solar power.
- m. The Petitioner should submit the MYT Tariff Petition for FY 2016-17 to FY 2018-19 within 30 days of the issuance of this Order. The retail Tariff proposal are to be

submitted only for the first year of Control Period namely FY 2016-17 whereas ARR calculations are to be submitted for the full Control Period FY 2016-17 to FY 2018-19.

- n. Ordered as above, read with attached document giving detailed reasons, grounds and conditions.
- o. Copy of this Order may be sent to the Petitioner, CEA and Administration of UT of Chandigarh. It shall be placed on the website of the Commission.

- हस्ताक्षिरत - - हस्ताक्षिरत -

नीरजा माथुर सुधीर चतुर्वेदी

सदस्य अध्यक्ष

संयुक्त विद्युत विनियामक आयोग (गोवा और केंद्र शासित प्रदेशों के लिए)

स्थान : गुडगाँव

दिनांक: 28 दिसंबर, 2015

सत्यापित पतिलिपि

कीर्ति तिवारी

सचिव

संयुक्त विद्युत विनियामक आयोग

(गोवा और केंद्र शासित प्रदेशों के लिए)

Table of Contents

1.	Introduction	1
1.1.	JERC Formation	1
1.2.	Electricity Department of UT Administration of Chandigarh	1
1.3.	Electricity Regulatory Process in Chandigarh	2
1.4.	JERC Multi Year Distribution Tariff Regulations, 2014	2
1.5.	Filing of Petition for approval of MYT Business Plan from FY 2016-17 to FY 2018-19	3
1.6.	Admission of Petition and Technical Validation Session	3
1.7.	Interaction with the Petitioner	4
1.8.	Public Hearing Process	5
1.9.	Notice for Public Hearing	5
1.10.	Organization of the Order	6
2.	Approach of the Order	8
2.1.	Various Provisions of JERC Multi Year Distribution Tariff Regulations, 2014	8
2.2.	Commission's approach for approval of Capital Expenditure Schemes	9
2.3.	Commission's approach for approval of various other ARR components	10
3.	Salient Features of Business Plan Petition filed by CED	11
3.1.	MYT Business Plan Petition filed by the Petitioner for FY 2016-17 to FY 2018-19	11
3.2.	Summary of the MYT Business Plan Petition	12
3.3.	Prayer to the Commission	19
4.	Summary of Objections received, Response from the Petitioner and Commission Views	20
4.1.	Regulatory Process	20
4.2.	Public Hearing	20
4.3.	Objections/Suggestions, Response of the Petitioner and Commission's Comments	20
4.3	.1. Stakeholder objections/comments	21
4.3	.2. Petitioner Response	23
4.3	.3. Commission View	27
5.	Capital Investment Plan for the MYT Control Period	30
5.1.	Details of Capital Expenditure	30
5.1	.1. 66 kV ongoing schemes	32
5.1	.2. New 66 kV Schemes	41
5.1	.3. 11 kV Ongoing and New Schemes	49
5.2.	Funding of Capital Investment Schemes	57
5.3.	Energy Efficiency and Demand Side Management	58

5.4.	Smart Grid Initiative	59
5.5.	Unified Load Dispatch Centre	59
6.	Approval of various ARR Components for MYT Control Period FY 2016-17 to FY 2018	-1960
6.1.	Category-wise Sales, Connected Load and Consumers.	60
6.2.	Transmission and Distribution (T&D) losses	74
6.3.	Energy Efficiency	76
6.4.	Energy Requirement	77
6.5.	Aggregate Technical & Commercial (AT&C) Losses	78
6.6.	Power Procurement Plan	79
6.7.	Renewable Purchase Obligations (RPO)	84
6.8.	Status/Action plan for reorganization, restructuring and development of the electricit industry	-
6.9.	Norms for O&M Expenses	86
6.9	.1. Norms for Employee Costs	88
6.9	.2. Norms for A&G Expenses	88
6.9	.3. Norms for R&M Expenses	89
6.10.	Normative levels of Availability for Wires and Supply Business	89
7.	Directives based on the Business Plan Analysis	92
7.1.	Manpower Planning	92
7.2.	Public Awareness and Public Grievance Meetings	92
7.3.	Approval of Capital Expenditure Schemes	92
7.4.	Energy Efficiency Program	92
7.5.	Smart Grid Initiative	93
7.6.	Renewable Purchase Obligation	93
7.7.	True-up for previous years	93
7.8.	Procurement of safety equipment	93
7.9.	MYT Tariff Petition for FY 2016-17 to FY 2018-19	93
Annexu	re 1: Public Notices published by the Petitioner	94
Annexu	re 2: Public Notices published by the Commission for intimation of Public Hearing	101
Annexu	re 3: List of Stakeholders present during the Public Hearing	111

List of Tables

Table 1.1: Details of Tariff Petitions so far submitted by the Petitioner	2
Table 1.2: List of Interactions with the Petitioner	4
Table 1.3: Details of public notice published by the Petitioner	5
Table 1.4: Details of public notice published by the Commission	6
Table 3.1: Number of consumers submitted by the Petitioner for Control Period (No.)	12
Table 3.2: Sales as submitted by the Petitioner for Control Period (MU)	
Table 3.3: Power procurement plan for the Control Period FY 2016-17 to FY 2018-19	13
Table 3.4: Units to be purchased under RPO from FY 2016-17 to FY 2018-19 (MU)	
Table 3.5: T&D Losses trajectory and Energy Balance from FY 2016-17 to FY 2018-19 (MU)	15
Table 3.6: Capital expenditure proposed for the MYT Control Period (Rs. Crores)	15
Table 3.7: Funding of Capital Expenditure proposed for the MYT Control Period (Rs. Crores)	18
Table 3.8: Employee strength as submitted by the Petitioner for MYT Control Period (No.)	19
Table 5.1: Ongoing 66 kV CAPEX proposed for the MYT Control Period as submitted by the Petitioner	
(Rs. Crores)	30
Table 5.2: New 66 kV capital expenditure for the MYT Control Period as submitted by the Petitioner (R	₹s.
Crores)	
Table 5.3: 11 kV Capex proposed by the Petitioner for the MYT Control Period (Rs. Crores)	32
Table 5.4: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	33
Table 5.5: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	34
Table 5.6: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	35
Table 5.7: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	36
Table 5.8: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	37
Table 5.9: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	38
Table 5.10: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	
Table 5.11: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	40
Table 5.12: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	
Table 5.13: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	
Table 5.14: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	
Table 5.15: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	
Table 5.16: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the	
Commission (Rs. Crores)	44

Table 5.17: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)46
Table 5.18: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)47
Table 5.19: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)48
Table 5.20: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)48
Table 5.21: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)49
Table 5.22: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)50
Table 5.23: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.24: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.25: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.26: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)54
Table 5.27: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.28: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.29: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.30: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.31: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the
Commission (Rs. Crores)
Table 5.32: Funding of Capital Schemes for the Control Period as proposed by the Petitioner (Rs. Crores)
57
Table 5.33: Funding of Capital Schemes for the Control Period as approved by the Commission (Rs.
Crores)57
Table 5.34: Estimated energy savings and expenditure for Energy Efficiency Program as submitted by
the Petitioner58
Table 6.1: Category-wise energy sales FY 2009-10 to FY 2014-15 as submitted by the Petitioner (MU) 60
Table 6.2: Variation in category-wise energy sales for FY 2014-15 as submitted by the Petitioner (MU) 61
Table 6.3: Category-wise growth rate for sales considered by the Petitioner for Control Period (%) 61
Table 6.4: Category-wise number of consumers FY 2009-10 to FY 2014-15 as submitted by the
Petitioner (No.)62
Table 6.5: Growth rate in number of consumers as submitted by the Petitioner (%)62
Table 6.6: Consumer category-wise connected load from FY 2009-10 to FY 2014-15 as submitted by the
Petitioner (kW)62
Table 6.7: Growth rate in consumers category-wise connected load as submitted by the Petitioner (%) -
63

Table 6.8: Category-wise projected energy sales for the MYT Control Period as submitted by the
Petitioner (MU)63
Table 6.9: Category-wise projected consumers for the MYT Control Period as submitted by the Petitioner
(No.)64
Table 6.10: Category-wise projected connected load for the MYT Control Period as submitted by the
Petitioner (kW)64
Table 6.11: Sales from FY 2010-11 to FY 2014-15 (MU)65
Table 6.12: Historical CAGR for sales as considered by the Commission65
Table 6.13: Consumer category-wise contribution in energy sales in FY 2013-14 as submitted by the Petitioner (%)
Table 6.14: Energy sales projected by the Petitioner for the domestic category for the Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.15: Energy sales approved by the Commission for the domestic category for the Control Period FY 2016-17 to FY 2018-19 (MU)67
Table 6.16: Energy sales projected by the Petitioner for the Commercial category for the Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.17: Energy sales approved by the Commission for the commercial category for the Control Period FY 2016-17 to FY 2018-19 (MU)68
Table 6.18: Energy sales projected by the Petitioner for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.19: Energy sales approved by the Commission for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)68
Table 6.20: Energy sales projected by the Petitioner for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)69
Table 6.21: Energy sales approved by the Commission for the medium supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)69
Table 6.22: Energy sales projected by the Petitioner for the small supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)69
Table 6.23: Energy sales approved by the Commission for the small supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)70
Table 6.24: Energy sales projected by the Petitioner for the agriculture category for the Control Period FY 2016-17 to FY 2018-19 (MU)70
Table 6.25: Energy sales approved by Commission for the agriculture category for the Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.26: Energy sales projected by the Petitioner for the Public Lighting category for the Control Period FY 2016-17 to FY 2018-19 (MU)71
Table 6.27: Energy sales approved by the Commission for the Public Lighting category for the Control Period FY 2016-17 to FY 2018-19 (MU)71
Table 6.28: Energy sales projected by the Petitioner for the Bulk Supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.29: Energy sales approved by the Commission for the Bulk Supply category for the Control
Period FY 2016-17 to FY 2018-19 (MU
Control Period FY 2016-17 to FY 2018-19 (MU)
Table 6.31: Energy sales approved by the Commission for the Others-Temporary Supply category for the
Control Period FY 2016-17 to FY 2018-19 (MU)

Table 6.32: Category-wise energy sales approved by the Commission for the Control Period FY 2016-17
to FY 2018-19 (MU)73
Table 6.33: Category-wise number of consumers approved by the Commission for the Control Period FY
2016-17 to FY 2018-19 (No.)73
Table 6.34: Category-wise connected load approved by the Commission for the Control Period FY 2016-
17 to FY 2018-19 (kW)74
Table 6.35: T&D loss Target for CED approved by Commission from FY 2014-15 to FY 2016-17 in its
Order dated May 5, 201474
Table 6.36: T&D losses trajectory submitted by the Petitioner for the Control Period FY 2016-17 to FY
2018-19
Table 6.37: T&D losses trajectory approved by the Commission for the Control Period FY 2016-17
to FY 2018-1976
Table 6.38: Energy requirement as submitted by the Petitioner for Control Period FY 2016-17 to FY
2018-19 (MU)77
Table 6.39: Energy requirement approved by the Commission for the Control Period FY 2016-17 to FY
2018-19 (MU)78
Table 6.40: AT&C Losses approved by the Commission for the Control Period (%)78
$Table\ 6.41: Power\ procurement\ plan\ submitted\ by\ the\ Petitioner\ for\ the\ MYT\ Control\ Period\ (MU)80$
Table 6.42: Additional power procurement for the MYT Control Period as submitted by the Petitioner
(MU)82
Table 6.43: Power purchase source approved by the Commission for the Control Period FY 2016-17 to
FY 2018-19 (MW)83
Table 6.44: RPO trajectory submitted by the Petitioner for the Control Period from FY 2016-17 to FY
2018-19 (MU)85
Table~6.45: RPO~trajectory~approved~by~the~Commission~for~the~MYT~Control~Period~(MU)~86
Table 6.46: Details regarding norms for O&M Expenses submitted by the Petitioner for FY 2011-12 to FY
2014-1587
Table~6.47: Employee~Expenses~norms~as~approved~by~the~Commission~for~the~MYT~Control~Period~~88
Table 6.48: A&G Expense norms as approved by the Commission for Control Period

List of Abbreviations

Abbreviation		Full Form			
A&G	:	Administration & General Expenses			
Act	:	The Electricity Act, 2003			
ARR	:	Aggregate Revenue Requirement			
BBMB	:	Bhakra Beas Management Board			
CAGR	:	Compound Annualized Growth rate			
Capex	:	Capital Expenditure			
CC	:	Current Consumption			
CEA	:	Central Electricity Authority			
CERC	:	Central Electricity Regulatory Commission			
CGS	:	Central Generating Station			
COD	:	Commercial Operation Date			
Commission/JERC	:	Joint Electricity Regulatory Commission for the state of Goa and Union Territories			
CKt. Km	:	Circuit Kilometer			
DDUGJY	:	Deendayal Upadhyaya Gram Jyoti Yojana			
DISCOM/CED	:	Electricity Department of UT of Chandigarh			
CPSU	:	Central Public Sector Undertaking			
D/C	:	Double Circuit			
DS	:	Domestic Supply			
EA 2003	:	The Electricity Act, 2003			
FC	:	Fixed Charges			
FPPCA	:	Fuel & Power Purchase Cost Adjustment			
FY	:	Financial Year			
GFA	:	Gross Fixed Assets			
HP	:	Horse Power			
HT	:	High Tension			
IPDS	:	Integrated Power Development Scheme			
JERC	:	Joint Electricity Regulatory Commission for the state of Goa and union territories			
KVA	:	Kilo Volt Ampere			
KWh	:	Kilo Watt Hour			
LPS	:	Late Payment Surcharge			
LT	:	Low Tension			
LU	:	Lac Units			
MU	:	Million Unit			
MW	:	Mega Watt			
MYT	:	Multi Year Tariff			
NAPS	:	Narora Atomic Power Station			
NDS		Non-Domestic Supply			

Abbreviation		Full Form				
NESCL	:	NTPC Electric Supply Company Ltd.				
NFA	:	Net Fixed Assets				
NHPC	:	NHPC Limited				
NPCIL	:	Nuclear Corporation of India Limited				
NTPC	:	NTPC Limited				
NTP/Tariff Policy	:	National Tariff Policy				
NSPCL	:	NTPC-SAIL Power Corporation Limited				
0/H	:	Over head				
0&M	:	Operation & Maintenance				
PGCIL	:	Power Grid Corporation of India Ltd.				
PLF	:	Plant Load Factor				
PX	:	Power Exchange				
R-APDRP	:	Restructured Accelerated Power Development and Reforms Programme				
REC	:	Renewable Energy Certificate				
RoE	:	Return on Equity				
RPO	:	Renewable Purchase Obligation				
R&M	:	Repair & Maintenance				
RAPP	:	Rajasthan Atomic Power Project				
RE	:	Revised Estimates				
REA	:	Regional Energy Accounting				
RLDC	:	Regional Load Dispatch Centre				
SCL	:	Sanctioned Connected Load				
S/C	:	Single Circuit				
SLDC	:	State Load Dispatch Centre				
SBI CAPS	:	SBI Capital Market Limited				
SBI PLR/SBAR	:	SBI Prime Lending Rate/State Bank Advance Rate				
SJVNL	:	Satluj Jal Vidyut Nigam Limited				
TVS	:	Technical Validation Session				
T&D	:	Transmission & Distribution				
UI	:	Unscheduled Interchange				
VAR	:	Volt Ampere Reactive				
VC	:	Variable Charges				
-	•					

1. Introduction

1.1. JERC Formation

In exercise of the powers conferred by Section 83 of the Electricity Act 2003, the Central Government constituted a two member (including Chairperson) Joint Electricity Regulatory Commission for all Union Territories except Delhi to be known as "Joint Electricity Regulatory Commission for Union Territories" with headquarters at Delhi as notified vide notification no. 23/52/2003 – R&R dated May 2, 2005. Later with the joining of the state of Goa, the Commission came to be known as "Joint Electricity Regulatory Commission for the State of Goa and Union Territories" as notified on May 30, 2008. The Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Andaman & Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry) started functioning with effect from September 2008. Office of the Commission is presently located in Gurgaon, Haryana.

1.2. Electricity Department of UT Administration of Chandigarh

The Union Territory of Chandigarh, covers an area of 114 sq. km and is located in the Northern region. The Electricity Department of UT Administration of Chandigarh, hereinafter called ED Chandigarh, is a deemed licensee under Section 14 of the Electricity Act 2003, and is carrying on the business of transmission, distribution and retail supply of electricity in Chandigarh (UT). The Chandigarh Electricity Department (CED) has been allowed to function as an integrated distribution licensee of Union Territory of Chandigarh.

The department is engaged in the procurement, transmission and distribution of electricity to the various consumer categories in the Union Territory of Chandigarh. It does not have its own power generation station and completely relies on the Central Sector Generating Stations (CSGS) to meet its energy demand except for a few Solar Roof Top Plants. The total population of Chandigarh as per 2011 census was 1,055,450 with population density being 9,252 persons per sq. km.

The present power entitlement is 408.87 MW. The peak demand for FY 2015-16 touched 342 MW. Based on 18th EPS, the Electricity Department anticipates the Power Demand to reach 426 MW in FY 2016-17, 450 MW in FY 2017-18 and 406 MW in FY 2018-19.

Determination of Aggregate Revenue Requirement &

Retail Tariff for FY 2013-14, Review for FY 2012-13

Determination of Aggregate Revenue Requirement & Retail Tariff for FY 2014-15, Review for FY 2013-14

Determination of Aggregate Revenue Requirement

and Retail Tariff for FY 2015-16 (Petition no.

& Provisional Truing Up of FY 2011-12

& Truing Up of FY 2011-12 and 2012-13

3.

4.

5.

2013-14

2014-15

2015-16

1.3. Electricity Regulatory Process in Chandigarh

February 15,

January 20,

March 10.

2013

2014

2015

The Electricity Department of Union Territory of Chandigarh had submitted their Petitions for Determination of Aggregate Revenue Requirement and Tariff before the Commission and the Commission subsequently issued the following Tariff Orders.

Date Of Tariff S.No. For FY Filing date **Petition Covered** Order 1. 2011-12 January 13, July 16, 2011 Determination of Aggregate Revenue Requirement (ARR) and Retail Tariff for Financial Year 2011-12 2011 2. 2012-13 December May 07, 2012 Determination of Aggregate Revenue Requirement & 30, 2013 Retail Tariff for FY 2012-13 & Review for FY 2011-12

April 15, 2013

April 11, 2014

April 10, 2015

Table 1.1: Details of Tariff Petitions so far submitted by the Petitioner

1.4. JERC Multi Year Distribution Tariff Regulations, 2014

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, after previous publication the Joint Electricity Regulatory Commission issued Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi Year Distribution Tariff) Regulations, 2014 on June 30, 2014.

164/2015)

ARR Review for FY 2014-15

Provisional True-up for FY 2013-14

Business Plan FY 2015-16 to FY 2017-18

(Petition no. 126/2015)

(Petition no. 100/2013)

(Petition no. 163/2013)

As per clause 3.1.6 of these regulations, the "Control Period" is defined as multi-year period comprising of three financial years from FY 2015-16 to FY 2017-18.

However, as detailed in the last Tariff Order issued in Petition no. 163/2015 dated April 10, 2015 the Commission in directive 10 (new directives), had ordered for deferment of the Control Period by one year and had directed to the Petitioner to submit the revised Business Plan for the period FY 2016-17 to FY 2018-19, along with requisite details as provided in JERC (Multiyear Distribution Tariff) Regulations 2014, latest by July 31, 2015. The Commission in the last Tariff Order had noted that the supporting data such as cost benefit analysis of each Scheme, financing plan, loss reduction trajectory had not been adequately submitted and therefore, had ordered for deferment of the Control Period by one year.

The Commission has issued the first amendment to the JERC MYT Regulations 2014 vide notification dated August 10, 2015. As per provision 5.1 of the amendment to the said regulations, the Control Period for multi-year Tariff implementation, is from FY 2016-17 to FY 2018-19. The JERC MYT Regulations 2014 have been hereinafter referred to as the 'MYT Regulations 2014".

1.5. Filing of Petition for approval of MYT Business Plan from FY 2016-17 to FY 2018-19

As per provisions 5.1 and 12.1 of the MYT Regulations, 2014, the Petitioner is required to file for approval of the Commission its Business Plan for three years Control Period i.e. from FY 2016-17 to FY 2018-19 with details for each year of the Control Period. The Commission, in the previous Tariff Order, had directed the Petitioner to submit the revised Business Plan for the period FY 2016-17 to FY 2018-19, along with requisite details as provided in MYT Regulations 2014, latest by July 31, 2015.

The CED vide their memo no. 2306 dated 7/8/2015 sought extension in submission of the MYT Business Plan for the Control Period FY 2016-17 to FY 2018-19 till August 31, 2015. The Commission granted extension up to August 31, 2015.

The CED submitted the current Petition for approval of 'Business Plan for MYT Control Period FY 2016-17 to FY 2018-19' vide memo no. SEE/OP/C1 – 2015/210/2423 dated August 17, 2015.

1.6. Admission of Petition and Technical Validation Session

The Commission, initially, was not satisfied with the details furnished in the Petition. The Petitioner was, therefore, asked to submit additional details as per the deficiency note of the Commission vide its letter dated September 3, 2015. The response to the

deficiencies pointed out by the Commission was received vide letter dated September 14, 2015.

Only after scrutiny/analysis of the additional data submitted by the Petitioner, the Petition on Business Plan for the Control Period FY 2016-17 to FY 2018-19 was admitted on September 17, 2015 and was marked as Petition no. 183/2015.

1.7. Interaction with the Petitioner

The Order has referred at numerous places to various actions taken by the "Commission". It may be mentioned for the sake of clarity, that the term "Commission", except for the hearing and Orders, denotes Secretariat of the Commission for carrying out the technical due diligence and validation of data of the Petitions filed by the utilities, obtaining and analyzing information/clarifications received from the utilities and submitting relevant issues for consideration of the Commission.

For purpose of analysis of the Petition, the Commission's staff held discussions with the Petitioner/the Petitioner representative, obtained information/clarifications wherever required and carried out technical validation with regard to the information provided by the Petitioner. The Commission's staff interacted regularly with the Petitioner to seek clarifications and justification on various issues essential for the analysis of the Business Plan. The Commission's staff conducted Technical validation session (TVS) with the Petitioner during which discrepancies in the MYT Petition were pointed out and additional information as required by the Commission was indicated. The technical validation session was held at the Commission's office on 28 September, 2015. The Petitioner submitted its replies, as shown below, in response to the various queries raised by the Commission during the course of analysis of the Petition, which were taken into account for finalization of the Business Plan Petition.

S.No. Date **Subject** September 3, 2015 1. Request for additional information 2. September 14, 2015 Reply to Commission's Query September 28, 2015 Technical Validation Session (TVS) on Business Plan for duration FY 3. 2016-17 to FY 2018-19 4. October 1, 2015 Additional Information required from Chandigarh ED based on TVS held on 28 September, 2015 Suggestion/objection with regards to Petition filed by Chandigarh 5. October 28, 2015 Electricity Department (CED) on Business Plan for the Control Period FY 2016-17 to FY 2018-19

Table 1.2: List of Interactions with the Petitioner

1.8. Public Hearing Process

The Commission directed the Petitioner to publish the summary of the Business Plan proposal in the abridged form to ensure public participation. The public notices were published by the Petitioner for inviting objections/ suggestions from the stakeholders on the Business Plan Petition:

S .No.	Date	Language	Name of Newspaper
1.	September 26, 2015	English	Chandigarh Tribune
2.	September 26, 2015	Hindi	Dainik Bhaskar
3.	September 26, 2015	Punjabi	Punjabi Tribune
4.	October 13, 2015	Hindi	Chandigarh Bhaskar
5.	October 13, 2015	English	Chandigarh Tribune
6.	October 13, 2015	Punjabi	Punjabi Tribune

Table 1.3: Details of public notice published by the Petitioner

The Petitioner also uploaded the Petition on its website (www.chdengineering.gov.in) for inviting objections and suggestions on the Petition. Interested parties/stakeholders were requested to file their objections / suggestions on the Petition to the Commission with a copy to the Petitioner on or before October 12, 2015. The copies of public notices published are attached as **Annexure 1** to this Order. The Commission received three (3) written objections/suggestions on the Petition. The Commission forwarded these to the Petitioner for communicating its reply to the objections. It was confirmed by the Commission at the beginning of the hearing that the objectors who had sent their objections by October 12, 2015 (earlier date set for receiving the objections/comments/ suggestions) had received the reply from the CED. Some of the objectors have received the replies to their objections, even though some objectors mentioned that they received the reply but will like to raise the objections again as they are not satisfied with the reply of the CED. The replies to the objectors who presented their objections during the Public Hearing were also sent after the hearing date by the Petitioner.

1.9. Notice for Public Hearing

The Commission also published a public notice in the leading newspapers as given below giving due intimation to stakeholders, consumers, objectors and the public at large about the public hearing to be conducted by the Commission on October 16, 2015 at the Institute of Engineers, Sector 19 A, Chandigarh from 10:00 AM for all consumers. The details of the public notice published by the Commission are as below:

S .No.	Date	Language	Name of Newspaper
1.	September 24, 2015	Hindi	Dainik Bhaskar
2	September 24, 2015	Punjabi	Ajit
3	September 25, 2015	English	The Tribune
4	October 15, 2015	Hindi	Dainik Bhaskar

Table 1.4: Details of public notice published by the Commission

Copies of the public notice published by the Commission for intimation of public hearing are attached as **Annexure 2** to this Order. In the public notice that appeared in the newspapers dated September 24, 2015, time for receiving public comments was provided up to October 13, 2015. In the repeat public notice that was inserted in the newspapers of The Tribune and Dainik Bhaskar the time for receiving suggestions / comments was given up to the hearing time.

During the Public Hearing, each objector was provided with an opportunity to present his views on the Petition filed by the Petitioner. All those present in the hearing, irrespective of whether they had given a written objection or not, were given equal opportunity to express their views. The list of objectors / stakeholders is attached at **Annexure 3** to this Order. The list includes the objectors who gave their written objections; those who gave their written objections and presented before the Commission; and other stakeholders who did not give their written objection or prior intimation but presented before the Commission orally. The Commission has examined the issues and concerns expressed by stakeholders. The major issues raised / indicated during the public hearing, along with the comments/replies of the utility and the views of the Commission thereon, have been summarized in **Chapter 4** of this Order.

1.10. Organization of the Order

This Order is organized in the following chapters:

- **♦ Chapter 1** of the Order provides the background and brief description of the regulatory process undertaken by the Commission.
- **Chapter 2** of the Order lists out the approach of the Commission in finalization of this Order.
- ❖ Chapter 3 of the Order summarizes the salient features of the Business Plan Petition filed by CED.
- **Chapter 4** of the Order lists out various suggestions and objections raised by the objectors in writing as well as during the public hearing before the Commission.

Various suggestions and objections have been summarized, followed by the response of the Petitioner and the rulings of the Commission on the various issues.

- ❖ Chapter 5 discusses the Capital Investment Plan for the MYT Control Period FY 2016-17 to FY 2018-19, key issues and Commission's ruling on the same.
- ❖ Chapter 6 discusses the views of the Commission on various other ARR components for purpose of Business Plan approval.
- **Chapter 7** of the Order provides necessary directions of the Commission to CED.

2. Approach of the Order

2.1. Various Provisions of JERC Multi Year Distribution Tariff Regulations, 2014

Provision 5 of the MYT Regulations 2014 and the subsequent amendment to the said regulations dated August 10, 2015 states that:

- "5.1The 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, financial plan and the physical targets.
 - Provided that in case the Commission issues guidelines and formats, from time to time, the same shall be adhered to by the Distribution Licensees.
- 5.2 The capital investment plan shall show separately, on-going projects that will spill into the financial year 2016-17 and new projects (along with justification) that will commence and scheduled to be completed within or beyond the tariff period i.e. by or beyond 31.03.2019. The Commission shall consider and approve the capital investment plan for which the Distribution Licensee shall provide relevant technical and commercial details.
- 5.3 The Distribution Licensees shall project the power purchase requirement after considering effect of target set for Energy Efficiency (EE) and Demand Side Management (DSM) schemes.

Provided that the power purchase cost of the respective Distribution Licensee shall be allowed after considering the target set by the Commission for Energy Efficiency (EE) and Demand Side Management (DSM) schemes, if any, and any shortfall in meeting the target shall be disallowed by the Commission at marginal cost of power purchase of that Distribution Licensee for determination of tariff."

In view of the above CED is required to submit the following details in the Business Plan:

- 1. Category wise sales projections.
- 2. Power Procurement Plan (including purchase of RE power and REC in compliance of RPO targets)
- 3. Scheme-wise capital investment plan and financing plan
- 4. Target for Energy Efficiency and Demand Side Management schemes.

As per provision 4.2 (ii) of the MYT Regulations 2014, wherein it is stated:

A detailed Business Plan based on the Operational Norms and trajectories of performance parameters specified in these Regulations, for each year of the Control Period, shall be submitted by the applicant for the Commission's approval;

Provision 7 of the first amendment to the MYT Regulations 2014 dated August 10, 2015 states that:

The Commission shall stipulate a trajectory while approving the Business Plan for certain variables having regard to the reorganization, restructuring and development of the electricity industry in the State:

Provided that the variables for which a trajectory may be stipulated include, but are not limited to, Operation & Maintenance expense norms, supply availability and wires availability and distribution losses and collection efficiency;

In view of the above CED is required to submit the following operational norms and performance parameters:

- 1. Status/Action plan for reorganization, restructuring and development of the electricity industry in the UT (in line with the provision 7 of the MYT Regulations, 2014)
- 2. Norms for Employee Costs (in line with the provision 7 and 21 of the MYT Regulations, 2014)
- 3. Norms for R&M Expenses (in line with the provision 7 and 21 of the MYT Regulations, 2014).
- 4. Norms for A&G Expenses (in line with the provision 7 and 21 of the MYT Regulations, 2014).
- 5. Normative levels of Availability for Wires and Supply Business of the Distribution Licensee on the basis of past performance (*in line with the provision 7 and 34 (c) of the MYT Regulations, 2014*).
- 6. Trajectory of Distribution Losses (in line with the provision 7 and 17 of the MYT Regulations, 2014).
- 7. Trajectory of Collection Efficiency (in line with the provision 7 of the first amendment to the MYT Regulations, 2014 dated August 10, 2015)

2.2. Commission's approach for approval of Capital Expenditure Schemes

The primary focus of the Business Plan is on identification of the various schemes/works related to meeting the power requirement in the UT, improvement in operational efficiency of the utility by way of reduction in losses and improvement in quality of supply to the consumers, along with associated capex of the schemes, as these key parameters are the most important drivers for development of the utility. However, it is vital to carry out a prudent assessment of the capex of various schemes as it

invariably affects the Tariff of the utility, which eventually is to be borne by the retail consumers.

The Commission has, thus, reviewed the capital expenditure schemes in detail along with their financing pattern and accordingly accorded approval of schemes along with justification as detailed in Chapter 5 of this Order.

Further, as per provision 22 of MYT Regulations 2014, if the capital expenditure is required for emergency work, the licensee shall submit an application, containing all relevant information along with reasons justifying the emergent nature of the proposed work, seeking post facto approval by the Commission. The Distribution Licensee shall take up the work prior to receiving the approval from the Commission provided that the emergent nature of the scheme has been certified by its competent authority.

2.3. Commission's approach for approval of various other ARR components

The Commission, while approving the various other ARR components, as mandated by regulations to be furnished along with the Business Plan, has laid emphasis on the consideration of nature of the individual components along with the fact that the Commission's efforts should not be duplicated while approving these components at the time of finalization of the MYT Tariff Order.

Accordingly, while dealing with these various other components of ARR in Chapter 6, the Commission has detailed the rationale for approving these components. The Commission has also detailed the reasons for not considering some of these components for purposes of approval of Business Plan.

3. Salient Features of Business Plan Petition filed by CED

3.1. MYT Business Plan Petition filed by the Petitioner for FY 2016-17 to FY 2018-19

In line with the MYT Regulations 2014, CED submitted the Petition for Business Plan for the period from FY 2015-16 to FY 2017-18 last year; however as per the Tariff Order dated April 10, 2015, the Commission deferred the implementation of MYT Regulations 2014 by one year due to insufficiency of details provided in the Business Plan. Supporting data such as scheme-wise cost benefit analysis, financing plan, loss trajectory etc. had not been adequately submitted. The Commission carried out the approval of ARR & Tariff for FY 2015-16 as per the JERC (Terms & Conditions for Determination of Tariff) Regulations 2009. The Commission as per Order dated April 10, 2015 directed the Petitioner to submit the revised Business Plan for the Control Period FY 2016-17 to FY 2018-19 along with the requisite details as per the MYT Regulations 2014 latest by July 31, 2015.

The CED has now submitted the MYT Business Plan for the Control Period of three (3) years FY 2016-17 to FY 2018-19, in accordance with the MYT Regulations, 2014. The Business Plan Petition contains Sales, estimated number of Consumers and Consumer Load Growth projections, Power Availability, T&D Loss Trajectory and Energy Balance, Manpower Planning, Capital Investment Plan and other initiatives such as Energy Efficiency and Demand Side Management, CGRF Expense details and Smart Grid Initiative of the Petitioner. The following sections of this Chapter highlight the salient features of MYT Business Plan submitted by the Petitioner. The detailed computation/analysis adopted by the Petitioner in forecasting various components of the MYT Business Plan are presented in Chapter 4 and Chapter 5 of this Order.

The CED has prepared the MYT Business Plan by taking into consideration existing parameters and external business environment affecting its electricity supply business. The key objectives of the MYT Business Plan submitted by CED are:

- Providing a tool for strategic planning and management The primary objective of the Business Plan is to analyze and anticipate the future requirements and strategically plan for the requisite capital investments, means of financing the schemes and various associated costs, and document them which would serve as an effective tool for monitoring and execution of future works. It is important to project the growth in transmission and distribution network infrastructure commensurate with the energy demand required for fueling the economic growth targets of the UT.
- Meeting the regulatory compliance of submission of a Business plan as mandated by the Joint Electricity Regulatory Commission, MYT Regulations, 2014
- Support in decision making leading to better operational efficiency: The Business Plan is prepared so as to be useful for the Management, associated stakeholders,

Commission and various government bodies. The future projections in the plan would help the department in decision making and taking proactive actions, and thus improving the overall operational efficiency of the transmission and distribution network infrastructure.

3.2. Summary of the MYT Business Plan Petition

Important highlights of MYT Business Plan Petition submitted by CED are presented below:

Sales growth projections:

The Petitioner has submitted that it has projected the sales and consumers on the basis of actual sales figures from FY 2009-10 to FY 2013-14 and un-audited sales figures for FY 2014-15 and accordingly arrived at the category-wise sales and consumers for the Control Period FY 2016-17 to FY 2018-19. The CAGR as consider for projecting the number of consumers and energy sales of FY 2015-16 is based on the un-audited consumer number and category wise sales of FY 2014-15.

The category wise number of consumers and energy sales for the Control Period are presented below.

Table 3.1: Number of consumers submitted by the Petitioner for Control Period (No.)

Sl. No.	Category	Projected	Projected			
		FY 15	FY 17	FY 18	FY 1	
1	Domestic	188 707	194 369	200 200	206	

Sl. No.	Catagory	Projected	Projected		
31. NO.	Category	FY 15	FY 17	FY 18	FY 19
1.	Domestic	188,707	194,369	200,200	206,206
2.	Commercial	22,586	23,038	23,498	23,968
3.	Large Supply	108	108	108	108
4.	Medium Supply	1,245	1,295	1,346	1,400
5.	Small Power	1,275	1275	1,275	1,275
6.	Agriculture	121	121	121	121
7.	Public Lighting	930	977	1,026	1,077
8.	Bulk Supply	592	592	592	592
9.	Other Temporary Supply	620	620	620	620
10.	Total	216,184	222,394	228,786	235,367

Table 3.2: Sales as submitted by the Petitioner for Control Period (MU)

Sl. No.	Catagomy	Projected		Projected	
31. NU.	Category	FY 15	FY 17	FY 18	FY 19
1.	Domestic	791.59	870.75	957.83	1053.61
2.	Commercial	513.87	539.57	566.54	594.87
3.	Large Supply	115.03	115.03	115.03	115.03
4.	Medium Supply	107.36	108.43	109.52	110.61
5.	Small Power	19.57	19.57	19.57	19.57
6.	Agriculture	1.75	1.84	1.93	2.03

Sl. No.	Category	Projected	Projected		
		FY 15	FY 17	FY 18	FY 19
7.	Public Lighting	22.54	23.21	23.91	24.62
8.	Bulk Supply	86.51	86.51	86.51	86.51
9.	Other Temporary Supply	6.78	6.78	6.78	6.78
10.	Total	1665.00	1771.69	1887.62	2013.64

In sum, the overall energy sales are projected to grow by 4% during the Control Period. Most of the energy sales growth is expected from Domestic and Commercial categories.

Power procurement Plan:

The Petitioner has projected power procurement plan based on its existing allocation from the central generating stations and shared stations. The Petitioner has also assumed that the existing firm and non-firm allocations from various power stations will remain un-changed during the Control Period. The Power Procurement Plan for FY 2016-17 to FY 2018-19 submitted by the Petitioner is shown in the table below.

Table 3.3: Power procurement plan for the Control Period FY 2016-17 to FY 2018-19

CL N.	No new Constant	Allocation	Entitlement	FY 17	FY 18	FY 19
Sl. No.	Name of project	%	MW	MU	MU	MU
1	NTPC					
1.1	Anta GPS	1.830	7.67	34.29	34.29	34.29
1.2	Auraiya GPS	1.190	7.89	23.98	23.98	23.98
1.3	Dadri GPP	0.910	7.55	30.45	30.45	30.45
1.4	Dadri II TPP	0.260	2.55	16.92	16.92	16.92
1.5	Kahalgaon II	0.200	3.00	17.94	17.94	17.94
1.6	Rihand I	1.240	12.40	84.08	84.08	84.08
1.7	Rihand II	1.050	10.50	70.04	70.04	70.04
1.8	Rihand III	0.825	8.25	55.03	55.03	55.03
1.9	Singrauli	0.240	4.80	34.70	34.70	34.70
1.10	Unchahar I	0.570	2.39	16.64	16.64	16.64
1.11	Unchahar II	0.990	4.16	28.90	28.90	28.90
1.12	Unchahar III	0.760	1.60	11.90	11.90	11.90
1.13	Jhajjar (Aravali)	0.320	4.80	19.49	19.49	19.49
1.14	Koldam Hydo	1.375	11.00	42.84	42.84	42.84
2	NHPC					
2.1	Chamera I	3.900	21.06	64.16	64.16	64.16
2.2	Chamera II	1.440	4.32	21.34	21.34	21.34
2.3	Chamera III	1.241	1.49	13.59	13.59	13.59
2.4	Dhauliganga	1.360	3.94	15.25	15.25	15.25
2.5	Dulhasti	1.110	4.33	20.91	20.91	20.91
2.6	Parbathi III	1.240	6.45	24.21	24.21	24.21
2.7	Salal	0.270	1.86	8.24	8.24	8.24
2.8	Sewa II	1.470	1.76	7.76	7.76	7.76
2.9	Tanakpur	1.280	1.20	5.73	5.73	5.73
2.10	Uri-I	0.600	2.88	15.34	15.34	15.34
2.11	Uri II	0.600	1.44	6.66	6.66	6.66

Cl No	Name of pusings	Allocation	Entitlement	FY 17	FY 18	FY 19
Sl. No.	Name of project	%	MW	MU	MU	MU
3	NPCIL					
3.1	NAPP	1.760	7.74	43.19	43.19	43.19
3.2	RAPP (#3 and #4)	0.792	3.48	23.62	23.62	23.62
3.3	RAPP(#5 and #6)	1.720	7.57	51.31	51.31	51.31
4	SJVNL					
4.1	Nathpa Jhakri	0.950	14.25	65.89	65.89	65.89
4.2	Rampur (UQ)	0.390	1.61	7.24	7.24	7.24
5	ВВМВ					
5.1	BBMB 3.5 %	3.500	171.50	188.71	188.71	188.71
5.2	BBMB 1 LU	-	1 LU per day	36.50	36.50	36.50
5.3	BBMB 10 LU	-	10 LU per	365.00	365.00	365.00
			day			
5.4	Pong	3.500	12.60	57.38	57.38	57.38
5.5	Dehar	3.500	34.65	111.19	111.19	111.19
6	THDC					
6.1	Koteshwar	0.780	2.80	10.13	10.13	10.13
6.2	Tehri	1.020	9.40	34.63	34.63	34.63
	Total			1,684.34	1,684.34	1,684.34

In addition to procurement of power from the Central Generating Plants and shared sources, the Petitioner has also committed to procure power under the Renewable Energy Purchase Obligation (RPO) notified by the Commission for the MYT Control Period A summary of projected procurement of power from the renewable energy sources or RECs for any shortfall for the Control Period is presented in the following table:

Table 3.4: Units to be purchased under RPO from FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Description	FY 17	FY 18	FY 19
1.	Solar	20.37	28.31	37.26
1.1	Power planned to be procured from NET Metering mode (MU)	7.00	11.21	16.82
1.2	Power planned to be procured from GROSS Metering mode (MU)	2.80	7.01	14.01
1.3	RPO to be met with REC (MU)	10.56	10.09	6.42
2	Non-Solar	49.61	52.85	56.38
2.1	Total power to be procured / REC to meet non-Solar Obligations	49.61	49.61	49.61
3	Total Solar and Non-Solar	69.98	109.47	130.89

T&D losses trajectory and energy balance:

Based on projected energy requirements and availability of power within the UT of Chandigarh, the Petitioner has submitted the Transmission and Distribution (T&D) loss trajectory and energy balance from FY 2016-17 to FY 2018-19.

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.	Energy Requirement			
1.1	Energy Sales (MU)	1,771.69	1,887.62	2,013.64
1.2	T&D Loss (%)	14.00%	13.75%	13.50%
1.3	Loss (MU)	288.42	300.92	314.27
1.4	Total Energy Required at UT Periphery (MU)	2,060.11	2,188.54	2,327.91
2	Energy Available			
2.1	Units Procured (MU)	1,684.34	1,684.34	1,684.34
2.2	Inter-State Transmission Loss (%)	3.00%	3.00%	3.00%
2.3	Transmission Loss (MU)	50.53	50.53	50.53
2.4	Net Energy Available at UT Periphery	1,633.81	1,633.81	1,633.81
3	Power Available within UT			
3.1	Power planned to be procured from NET Metering Mode (In MU)	7.01	11.21	16.82
3.2	Power planned to procure from Gross Metering Mode (In MU)	2.8	7.01	14.02
4	Total Energy Available	1,643.62	1,652.03	1,664.64
5	Demand Supply (Gap) / Surplus	(416.49)	(536.52)	(663.26)

Table 3.5: T&D Losses trajectory and Energy Balance from FY 2016-17 to FY 2018-19 (MU)

The Petitioner has projected a demand supply gap of 416.49 MU, 536.52 MU, and 663.26 MU for FY 2016-17, FY 2017-18, FY 2018-19 respectively. To meet this gap, CED has proposed to procure additional 40 MW power from SJVL Rampur generating station and through bilateral agreement / power exchange.

Capital Investment Plan:

The Petitioner has submitted year-wise capital expenditure plan and capitalization schedule for the Control Period. The year-wise capital expenditure plan can be categorized into investments in new transmission infrastructure to support the demand requirements or power evacuation from generation projects, and system augmentation & strengthening including renovation and modernization to maintain the performance of the existing system. The proposed capital expenditure and capitalization schedule for the Control Period is summarized below:

Sl. No. FY 2016-17 FY 2017-18 FY 2018-19 Description 1. Ongoing/spillover work 1.1 66 kV work 1.1.1 Turnkey execution of 66 kV Transmission Line from T-off point to the proposed 66 kV Grid Substation in 0.53 0.53 0.00 Institutional Area, Village Sarangpur, Chandigarh.

Table 3.6: Capital expenditure proposed for the MYT Control Period (Rs. Crores)

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.1.2	Turnkey Execution for 2 Nos. 66 kV			
	Line bays at 66/11 kV Grid Substation	0.27	0.27	0.36
	in Institutional Area, Village	0.27	0.27	0.00
	Sarangpur, U.T., Chandigarh			
1.1.3	Providing 2x20MVA 66/11kV Grid			
	Sub-Station in the Institutional Area of	0.21	0.00	0.00
	Village Sarangpur in UT Chandigarh.			
1.1.4	Providing 2x20MVA, 66/11kV Grid	0.48	0.00	0.00
	Sub-Station at Raipur Kalan	0.40	0.00	0.00
1.1.5	Up-gradation of Transformation			
111.0	Capacity at 66/11 kV S/ Stn. by			
	replacing existing 2X12.5 MVA with 2			
	X 20 MVA T/F, 66/11 kV T/F and	0.20	0.15	0.00
	shifting and re-installation of 2X12.5			
	MVA T/S at existing 66/11 kV S/Stn.			
	at Civil Sectt. Sec. 1 and Sec.12. Chd			
1.1.6	Up-gradation of existing 33 kV Grid			
1.1.0	Sub Station to 66 KV voltage level by			
	providing 1 X 30 MVA, 66/11 KV			
	power transformer along with	0.85	0.00	0.00
	associated transmission line Sec. 34-C			
	Chandigarh			
	Chandigarn			
1.1.7	Prov. New 66/11 KV 16/20 MVA			
	Power Transformer on existing bay at	0.82	0.00	0.00
	66Kv/11KV Grid S/Stn. Sector-47,	0.02	0.00	0.00
	Chd.			
1.1.8	Providing 11KV automatic capacitor			
	bank at various existing 66KV Grid	0.58	0.00	0.00
	S/Stn., in Chandigarh.			
1.1.9	Conversion of existing 66 KV S/C			
	Transmission Line and Underground			
	Cable from 220 KV Substation,	2.00	3.37	0.00
	Kishangarh to Sector -12, Chandigarh			
	to D/C Transmission Line.			
1.1.10	Sub-total (1.1)	5.95	4.33	0.36
1.2	Ongoing and new schemes of 11 kV			
1 2 1	work			
1.2.1	General Service Connection (GSC) and	2.30	2.40	2.30
	Industrial Service Connection (ISC)	2100	2.10	2.00
4.0.0	and other normal development			
1.2.2	Strengthening of distribution system	1.80	1.80	1.70
	by Providing 11 kV Underground	1.00	1.00	1./0
	power distribution system			
1.2.3	Strengthening of distribution system			
	by providing/Augmentation 11/.400	2.20	2.20	2.13
	KV, 315/200/100 KVA Distribution			
	Transformers along with LT ACB			
1.2.4	Providing and Augmentation of the LT	0.10	0.10	0.27
	O/H ACSR conductors			
1.2.5	Providing 11 kV /LT Aerial Bunched	1.30	1.40	1.30
	Cables			

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.2.6	Providing improved metering system,			
	communication , Special tools , testing	0.90	0.90	0.82
	equipment, Vehicles, sky lift, safety	0170	0.70	0.02
	devices office equipment etc.			
1.2.7	Improvement and augmentation of	0.60	0.60	. = .
	66/11 kV existing Substations and 11	0.60	0.60	0.73
	kV Indoor substations			
1.2.8	Installation of LT Shunt Capacitors on	0.50	0.60	0.47
	the existing distribution transformers			
1.2.9	Replacement of the electro	0.60	0.00	0.58
	mechanical meters to static meters.			
1.2.10	Sub-total (1.2)	10.30	10.00	10.30
2	New Schemes			
2.1	66 kV schemes			
2.1.1	Providing 1x30MVA 66/11KV			
	additional Power TF At 66kv Grid Sub	3.00	2.22	0
	Station Sec-39 UT Chandigarh			
2.1.2	Replacement of 14 Nos. MOCB with	4.00	1.14	0
	SF6, Breakers at 66KV Grid	4.00	1.14	0
2.1.3	Conversion of existing 33KV Sub			
	Station Sector-18 to 66KV Sub Station			
	Sector-18 by Providing GIS 2x20MVA,			
	66/11KV Power Transformer along	4.09	13.64	9.56
	with 66 kV associated 66 kV T/L with			
	underground cable from 66 kV Sector-			
0.1.1	26 to 66 kV Sector 18.			
2.1.4	Providing 2x20MVA, 66 / 11KV Gas			
	Insulated Sub Station at Sector-26 UT	5.54	18.49	12.95
	Chandigarh along with 66 KV D/C line	5.5 1	10.17	12.73
	from 66 kV I.T park to 66KV Grid Sub			
215	Station Sector-26 UT Chandigarh.			
2.1.5	Providing 66 KV Transmission Line	ا د د	.	.
	along with associated 66 KV line bays to upcoming 66 KV Grid Substation at	1.65	5.51	3.87
2.1.6	Raipur Kalan UT Chandigarh Execution of laying of 66 KV U/G			
2.1.0	Cable from Sector 32 Grid Sub Station	0.54	0.40	0.540
	to Sector 34 Grid Sub Station,	2.56	3.42	2.562
	Chandigarh.			
2.1.7	Sub-total (2.1)	20.84	44.42	28.94
3	Grand Total (1.1+1.2+2.1)	37.10	58.75	39.60
	Granu Ivai (1.1+1.4+4.1)	37.10	30./3	39.00

CED has planned to finance the entire capital expenditure for the Control Period through equity infusion by GOI through budgetary support without any external borrowings. The Petitioner has envisaged no loan borrowings by the Chandigarh Electricity Department for the capital expenditure. The Petitioner has further requested the Commission that since the entire capital expenditure in the various schemes shall be infused by the Government of India, the funding of the various schemes in line with the provision 24 be approved.

Based on the above premise, the Petitioner has submitted the following financing plan for its capital expenditure for the Control Period.

Sl. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1.	Proposed Capital Expenditure	37.10	58.75	39.60
2.	Actual Funding			
2.1	100% Equity from GoI	58.75	39.60	58.75
3.	Proposed Funding in line with			
	Regulation 24 (b) of JERC MYT			
	Regulations			
3.1	Equity (30%)	11.13	17.62	11.88
3.2	Debt (Normative Debt in excess of	25.97	41.12	27.72
	30% equity)	23.97	41.12	27.72
4.	Total Funding	37.10	58.75	39.60

Table 3.7: Funding of Capital Expenditure proposed for the MYT Control Period (Rs. Crores)

The Petitioner has further submitted that for 66 kV and above works are being executed by the Central Executing Agencies such as PGCIL, NESCL etc. as "Deposit Work" on cost plus basis and funds with respect to these projects are deposited by the Chandigarh Administration. The competent authority allocated the funds under 4801 Plan Head to CED.

The Petitioner has requested the Commission to approve the capital expenditure, source-wise funding and capitalization for the MYT Control Period.

Manpower Planning:

The Petitioner has submitted that year-wise manpower requirement for the Control Period based on the employee strength was approved by the Commission in its Order dated December 29, 2014. In its manpower plan, CED has divided the organizational structure into three verticals i.e. Commercial, Distribution (Operation & Maintenance), Power System (33 kV & above) each headed by Superintendent Engineer (SE) Finance and Administration. These three verticals will be under one Chief Engineer. Number of posts of Executives (Assistant Engineer & above) will be increased from 30 to 59 on regular basis and number of posts of Non-executive (JE and below) including Group-D will be reduced from 1750 to 1431 with further direction that 760 posts will be filled up on regular basis and 671 on outsource basis. CED has also submitted that, it has initiated the process of hiring two additional Chief Engineer (CE) - one CE to implement the National Policy on Renewable energy as per the approval of the Commission and other CE for implementation of SCADA system in the UT of Chandigarh. CED has further submitted that the department has also planned to carry out recruitment for 70 posts in the ensuing year and intends to carry out recruitment for vacant positions vis-à-vis JERC approved posts during the first year of the Control Period.

Based on the above, CED has proposed the following manpower plan for the Control Period.

Table 3.8: Employee strength as submitted by the Petitioner for MYT Control Period (No.)

Sl. No.	Category	Ensuing Projections	Projected		
		FY 15	FY 17	FY 18	FY 19
1.	No. of employees as on 1st April	1014	1028	1455	1455
2.	No. of employees added during the year	70	463	35	36
3.	Total number of employees (1+2)	1084	1491	1491	1491
4.	Number of employees retired/retiring during the year	56	36	36	42
5.	Number of employees at the end of the year (3-4)	1028	1455	1455	1499

3.3. Prayer to the Commission

The Electricity Department, Government of Chandigarh (CED) had prayed the Commission to:

- 1. Admit the Business Plan of ED-Chandigarh for the Control Period FY 2016-17 to FY 2018-19 in accordance with Joint Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2014
- 2. Pass any other Order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.
- 3. Permit ED-Chandigarh to make further submissions, addition and alteration to this Business Plan as may be necessary from time to time.
- 4. Condone any inadvertent omissions/errors/shortcomings/delay and permit CED to add/change/modify/alter this filing and make further submissions as may be required at a future date.
- 5. Pass such further and other Orders, as the Hon'ble Commission may deem fit and proper keeping in view the facts and circumstances of the case.

4. Summary of Objections received, Response from the Petitioner and Commission Views

4.1. Regulatory Process

On admitting the Business Plan for the MYT Control Period, the Commission had directed the Petitioner to make copies of the Petition available to the public, upload the Petition on the website and also publish in the newspapers in abridged form duly inviting comments/objections from the public as per provisions of the MYT Regulations 2014 as amended.

4.2. Public Hearing

The public hearing was held at Chandigarh on October 16, 2015 at the Hall of Institute of Engineers, Sector 19 A, Chandigarh from 10.00 AM for all categories of consumers. During the public hearing, some persons who had submitted the objections in writing presented their objections/suggestions in person before the Commission. Other participants from the general public, who did not submit written objections earlier, were also given an equal opportunity to offer their views/suggestions in respect of the Business Plan proposal of CED for the MYT Control Period. The list of objectors is attached as **Annexure 3** to this Order.

At the beginning of the hearing, the Commission ascertained from the stakeholders that those who had filed the written objection before the date of the public hearing, had received the replies to their written objections. All stakeholders were provided the opportunity to present their suggestions. Those stakeholders who did not give prior written objections/suggestions and expressed their views, objections, suggestions during the hearing were replied to by the Petitioner after the hearing.

4.3. Objections/Suggestions, Response of the Petitioner and Commission's Comments

The Commission is appreciative of the efforts of various stakeholders for providing suggestions / comments / observations to make the Electricity Distribution Sector responsive and efficient.

4.3.1. Stakeholder objections/comments

1. Air Chief Marshall (Retd.)Randhir Singh submitted the following:

Quote:

- Approval status of all the 66 kV schemes has been shown "Under Process" without giving any proposed deadlines for completion of the schemes. Further, out of the nine schemes, only two are covered under Turnkey execution. It is suggested that all these schemes must be executed with proposed deadlines for completion of the schemes.
- It is suggested that the nine (9) 11 kV schemes should be prioritized for completion with proposed deadlines for each scheme. Scheme for replacement of all electromechanical meters by static meters may be given priority.
- The expenditure on employee safety measures is spread over three years (Rs. 15, 20 and 25 Lakhs respectively from FY 2016-17 to FY 2018-19 respectively). Since, this scheme is ensuring safety of precious manpower, it is suggested that this scheme should be completed within a period of two years keeping in view that the expression of interest has already been issued.
- It is suggested that in order to meet the energy deficiency for FY 2016-17, FY 2017-18 and FY 2018-19, CED should procure from hydro stations from the states like Jammu and Kashmir (J&K) to reduce the power procurement cost.
- JERC should approve the additional manpower in the first year of the Control Period. Further, CED has sought approval for additional manpower from the Ministry of Power, Government of India on July 31, 2015. JERC is requested to kindly intervene and ensure approval at an early date taking into account the service to the consumers.
- CED has promised to submit the Audited Accounts to JERC after audit by CAG. It is felt that the intervention of Advisor/Finance Secretary should be sought by JERC for getting the audit completed at the earliest. Similarly, CED should be requested to finish the job of completing the account of subsequent financial year also by certain deadlines to maintain continuity.
- No Tariff should be increased unless and until the observations made by the auditors are carried out by Chandigarh Electricity Department and accepted by the JERC.

Unquote

2. Gopal Dutt Joshi submitted the following:

Quote

• To fill the promotional and direct quota as per available sanctioned posts till the final disposal of this Petition and the Order issued by the Commission in this matter and further framing of recruitment and promotional rules subject to condition within sanctioned/approved employees cost by the Hon'ble Commission.

- The services required towards maintenance of power system involves safety of self, safety of public and safety of costly equipment, which necessitates to recruit trained staff at entry level i.e. ALM/LM/Foreman which may not be readily available in the market. If technical staff is engaged through outsourcing it will not be qualitatively worth and safe for proper operation, maintenance and safety of general public. In view of the narrated facts it is requested to review the decision earlier taken by the Hon'ble Commission and open the doors for sanctioning of more staff at entry levels in respect of field staff.
- To enforce the prompt services towards public affairs, the safety devices are also required to be updated and latest modernized equipment must be inducted in the system. Further, the department must have its own training center to sensitize the field staff about the safety norms.
- CED should be directed to recruit the approved posts at their own level on regular or contractual basis within approved employees cost instead of engagement of workers through outsource agencies.

Unquote

3. V.B Khanna submitted the following:

Quote

- CED has submitted that reduce T&D losses significantly from 24.22% in FY 2003-40 to 15.27% in FY 2013-14. CED has shown system improvement and augmentation work executed each year under the planned schemes, which have resulted in the reduction of T&D losses in its distribution area. However, the actual T&D losses are much higher i.e. 40% to 50%. The Petitioner has not submitted T&D losses occurred due to defective and burnt meters, losses to due theft of electricity and losses due to non-performance of CED staff.
- Under the head "Replacement of Electro-mechanical Meters to Statical Meters", Rs. 1.18 Crore has been budgeted. However, as per knowledge, the CED has started the job of replacing the Electro-mechanical Meters by Statical Meters.
- The expenses incurred for Consumer Grievance Redressal Forum (CGRF) on account of salary and wages are not as per actual incurred by CED.
- Functioning of the Chairperson of CGRF needs to be addressed.
- Dhakka charges, which the customers are bound to pay, imposed by CED under the head of Service Equipment Charges, without providing the service equipment like fuses etc.

Unquote

4. Other Comments: For the Comments pertaining to general service performance, the stakeholders were advised by the Commission to interact with CGRF members present there in the hearing.

4.3.2. Petitioner Response

Regarding 66 kV scheme

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that as per the decision taken by Chandigarh Administration, sealed quotations from important PSUs asking the lowest supervision/consultancy charges as percentage of actual value of the project, have been called and opened on 9.10.2015. Based upon the lowest supervision/consultancy charges, work will be assigned accordingly."

Unquote

Regarding 11 kV scheme

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that in order to reduce Distribution losses, all the works are important and will be simultaneously executed. Replacement of defective and electro-magnetic meters has already been initiated and Hon'ble JERC is regularly conducting suo-moto hearing on Metering, Reading and Billing. This can be seen from various orders of JERC uploaded on its website."

Unquote

Regarding Safety Measures

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that CED is very serious and sensitive on manpower safety issue and it will put its best efforts to complete the said task in a time bound manner."

Unquote

Regarding Energy Balance and Additional Power Purchase

The Petitioner has submitted the following:

Ouote

"In this regard, it is submitted that CED is putting its best efforts to procure more power for UT Chandigarh and due to its continuous efforts, MoP has recently allocated 40 MW

additional power from M/s Tehri Hydro Development Corporation Ltd. (THDC) on long term basis."

Unquote

Regarding Manpower Planning

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that CED is putting its best efforts to get the approval of manpower from MoP, GOI."

Unquote

Regarding Submission of audited accounts for FY 2011-12 and FY 2012-13

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that CED has already submitted the accounts of FY 2011-12 and FY 2012-13 prepared on commercial accounting basis to CAG on dated 6.8.2015 and dated 8.9.2015 respectively and is continuously following up CAG for an early audit so that the same be provided to Hon'ble JERC. For auditing of accounts of FY 2013-14 onwards, the same being submitted to CAG."

Unquote

Regarding Tariff

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that as per MYT Regulations notified by JERC, every distribution Licensee has to submit its Business Plan to Regulatory Commission for its approval and based upon approved Business Plan, CED has to submit the MYT petition for determination of tariff to JERC.

Accordingly, CED shall submit the MYT Petition to Hon'ble JERC for determination of tariff after approval of Business Plan."

Unquote

Regarding recruitment of manpower

The Petitioner has submitted the following:

Quote

"The manpower study conducted through M/s Deloitte has been approved by the Hon'ble Commission and same is further submitted to Ministry of Power, GoI for its approval so that the same could be implemented.

It is to mention here that CED has not stopped the recruitments and has planned to carry out recruitment of 70 posts in the ensuing year under different categories and intends to carry out recruitment for vacant positions vis-à-vis JERC approved posts during the first of year of the Control Period."

Unquote

Regarding safety equipment and training of manpower

The Petitioner has submitted the following:

Quote

"It is to mention here that with the rapidly expanding system and advent of new technology, it becomes all the important to develop the skill set of the employees of the distribution utility. Accordingly, in the initial phase, CED shall conduct a training program for 50 ALM's and the details are already mentioned in the submitted Business Plan for Control Period FY 2016-19."

Unquote

Regarding T&D losses/theft of power etc.

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that CED is putting its best efforts to reduce the Distribution Loss and it is the outcome of its efforts that Distribution loss has been reduced to 15.16% in FY 2014-15 from 19.29% in FY 2006-07. The department has replaced many defective/electro-mechanic meters and Hon'ble JERC is regularly conducting suo-moto hearing on Metering, Reading and Billing.

Regarding for checking theft of power/unauthorized use of electricity, CED has special cell called "Enforcement Cell" which raids the premises based on inputs and also undertake other vigilance activities like review of loads, checking of by-passing and tampering of meters, checking the accuracy of electricity meter. Moreover, at subdivision level also, the routine checking of premises is also going on to take care of any theft/regularities. To avoid Kundi connections, electricity connections have been

provided to slum dwellers/unauthorized colonies/residents outside "Lal Dora" to plug revenue leakage and for safety of human beings from electrocution etc. Many consumers who found guilty are penalize by the department as per notifications issued by the JERC/Electricity Act. 2003. Further, with the help of police, regular Kundi connection removal operations is being carried out.

The figures mentioned in the letter is arbitrary and any supportive data is not attached with the objection to quantify the losses due to defective/burnt meters, theft of electricity or non-performance of CED in a time bound manner."

Unquote

Regarding replacement of defective Electro-mechanical meter to Static Meter

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that the department has replaced many defective/electromechanic meters and Hon'ble JERC is regularly conducting suo-moto hearing on Metering, Reading and Billing.

However, the statistical information sought does not pertain to the essence of Business Plan and hence, can be raised at appropriate forum/level."

Unquote

Regarding Big White Elephant/CGRF, Chandigarh

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that the information sought does not pertain to the essence of Business Plan and hence, can be raised at appropriate forum/level.

However, use of word like "White Elephant" for a body which has constituted for redressal of consumer grievances under section 42(5) of the Electricity Act. 2003 is not acceptable."

Unquote

Regarding functioning of Chairperson of CGRF

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that the information sought does not pertain to the essence of Business Plan and hence, can be raised at appropriate forum/level."

Unquote

Regarding Dhakka Charges

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that the Hon'ble Commission has already examined the issue related to service equipment charges and has agreed with the CED's response on the matter. The Commission's view in this regard can be seen at page no. 57 of JERC Order for CED ARR for MYT & Business Plan for FY 2015-16. Further, CED has not charging the same w.e.f. 1.4.2015."

Unquote

Regarding non-compliance of direction given by Hon'ble Commission

The Petitioner has submitted the following:

Quote

"In this regard, it is submitted that the information sought does not pertain to the essence of Business Plan and hence, can be raised at appropriate forum/level."

Unquote

4.3.3. Commission View

The Commission has noted the submissions of the stakeholders and response of the Petitioner on the same.

- 1. Regarding 66 kV and 11 kV schemes of CED, the Commission has noted responses filed by the Petitioner and has appropriately dealt with these matters in this Order.
- 2. Regarding employee safety measures of the manpower, the Commission has already passed a Directive (Fresh Directive No. 1) in the previous Order dated April 10, 2015. The Commission once again directs the Petitioner to procure necessary safety

- equipment as mentioned in the last Tariff Order and provide adequate training to the staff on safety measures and file quarterly progress report on safety measures.
- 3. Regarding Energy Balance and Power Purchase by CED in the Control Period, the Commission has noted responses filed by the Petitioner and has appropriately dealt with these matters in this Order.
- 4. Regarding manpower planning, the Commission directs the Petitioner to vigorously pursue the matter with the Ministry of Power and close this matter by January 31, 2016. On recruitment of manpower by CED, the Commission will deal with this matter separately.
- 5. The Commission notes that already there is a considerable delay in submission of audited accounts based on commercial principles. The Commission advises the Petitioner to take up the matter with CAG for expediting the same. The Commission directs the Petitioner to submit the accounts prepared on commercial principles before the Commission for truing-up of previous years. The Commission will undertake final true-up for financial years for which accounts are already audited by CAG and provisional true-up for years which the accounts are in process of auditing by CAG.
- 6. Regarding Tariff revision, as the Commission has not dealt with all the components of ARR in the Business Plan, the Commission shall review and approve the same at the time of finalization of MYT Order and shall accordingly revisit the requirement of tariff revision.
- 7. Regarding T&D losses and theft of power, the Commission has already directed the Petitioner to submit quarterly status report on theft cases booked and action taken in last tariff order. The Commission will review the compliance of directives along with the MYT Petition.
- 8. Regarding replacement of Electro-Mechanical meter to Static Meter, the Commission is already conducting periodic hearings on this matter. The Petitioner had submitted a status report in this regard vide Memo No. SEE/OP/C1-2015/185/3363 dated October 28, 2015 and the order has been passed by the Commission on November 05, 2015.
- 9. Regarding CGRF and functioning of CGRF Chairperson, the Commission would like to emphasize that redressal of consumer's complaints and grievances is an

important function and responsibility of the distribution licensee, therefore the CED must pay due attention to it. The Commission has put in place an appropriate mechanism for redressal of consumer grievances. CGRF is functioning at various levels. Besides that, an Ombudsman is also functioning independently at the JERC office. The CED needs to give due publicity to the said Forum and its redressal mechanism so that the general public is made aware of the same. The CED should work towards the goal of greater consumer satisfaction, adopt a pro-active approach and settle consumers' complaints in a professional, time-bound manner and should make themselves available as per requirement. The Commission directs the CED to create awareness amongst the consumers on the standards of performance notified by the Commission and arrange to publish the standards of performance/salient features of Supply Code and Distribution Code in all leading newspapers and through notice board displays in the vernacular, in simple language i.e. understandable to the general consumer.

The Commission also directs the CED to convene periodic public grievance meetings once in every month to redress consumer related issues. The Commission has noted that CED has initiated efforts by Public Notices in the Press and through Notice Boards at CGRF in this regard and advises to continue the efforts by informing the public through emails and/ or notice along with electricity bills after every alternate billing cycle.

10. Regarding Dhakka charges, the Commission has noted the response filed by the Petitioner.

5. Capital Investment Plan for the MYT Control Period

5.1. Details of Capital Expenditure

The Petitioner has submitted that the Capital Investment Plan for the MYT Control Period was prepared in order to enable better planning, budgeting and monitoring at macro & micro levels at CED. The capital expenditure plan has been separately prepared for two categories:

- Capital Investment Plan for works of 66 kV and above
- Capital Investment Plan for works of 11 kV and below

Further, the said investment plan is categorized in following areas:

- Investments in New Transmission Infrastructure to support the demand requirements or power evacuation from generation projects.
- System augmentation and strengthening including renovation and modernization to maintain the performance of the existing system and to deter investments.

The Petitioner submitted that the aforementioned capital investments would be carried out in new and ongoing schemes of 66 kV and above and 11 kV and below.

Details of the Capital Investment plan for ongoing 66 kV schemes proposed by CED for the MYT Control Period are tabulated below:

Table 5.1: Ongoing 66 kV CAPEX proposed for the MYT Control Period as submitted by the Petitioner (Rs. Crores)

Sl. No.	Description	Original cost	Expenditure up to FY 15	FY 17	FY 18	FY 19
1	2	3	4	5	6	7
1.	Turnkey execution of 66 kV Transmission Line from Toff point to the proposed 66 kV Grid Substation in Institutional Area, Village Sarangpur, Chandigarh.	3.12	1.95	0.53	0.53	0.00
2.	Turnkey Execution for 2 Nos. 66 KV Line bays at 66/11 KV Grid Substation in Institutional Area, Village Sarangpur, U.T., Chandigarh	1.18	0.18	0.27	0.27	0.36
3.	Providing 2x20MVA 66/11KV Grid Sub-Station in the Institutional Area of Village Sarangpur in UT Chandigarh.	9.89	9.48	0.21	0.00	0.00
4.	Providing 2x20MVA, 66/11kV Grid Sub-Station at Raipur Kalan	9.74	8.96	0.48	0.00	0.00
5.	Up-gradation of Transformation Capacity at 66/11 kV S/ Stn. by replacing existing 2X12.5 MVA with 2 X 20 MVA T/F, 66/11 KV T/F and shifting and re-installation of 2X12.5 MVA T/S at existing 66/11 kV S/Stn. at Civil Sectt. Sec. 1 and Sec.12. Chandigarh	7.12	6.57	0.20	0.15	0.00
6.	Up-gradation of existing 33 kV Grid Sub Station to 66 kV voltage level by providing 1 X 30 MVA, 66/11 kV power transformer along with associated transmission line Sec. 34-C Chandigarh	7.22	6.27	0.85	0.00	0.00

Sl. No.	Description	Original cost	Expenditure up to FY 15	FY 17	FY 18	FY 19
1	2	3	4	5	6	7
7.	Prov. New 66/11 KV 16/20 MVA Power Transformer on existing bay at 66Kv/11KV Grid S/Stn. Sector-47, Chd.	3.02	2.20	0.82	0.00	0.00
8.	Providing 11KV automatic capacitor bank at various existing 66KV Grid S/Stn., in Chandigarh.	9.80	9.01	0.58	0.00	0.00
9.	Conversion of existing 66 KV S/C Transmission Line and Underground Cable from 220 KV Substation, Kishangarh to Sector -12, Chandigarh to D/C Transmission Line.	7.37	2.00	2.00	3.37	0.00
10.	Total	58.46	46.62	5.95	4.33	0.36

Note: The Commission has noted a totaling error in the columns 3 and 4 submitted by the Petitioner. The total shown in column no. 3 and 4 of Petition's "Table no. 30: Ongoing Schemes under "Original Cost" and "Incurred Expenditure" are Rs. 51.09 Crore and Rs. 44.62 Crore respectively in the Petition submitted by CED as against correct numbers of Rs.58.46 Crore and 46.62 crore. The Commission has rectified these two errors.

The 66 kV ongoing schemes are primarily aimed to strengthen the transmission infrastructure in order to meet the rising load demand and improve service reliability and system decongestion in the UT of Chandigarh.

The Petitioner has proposed the following capital expenditure for new 66 kV schemes to be implemented during the MYT Control Period.

Table 5.2: New 66 kV capital expenditure for the MYT Control Period as submitted by the Petitioner (Rs. Crores)

Sl. No.	Description	Original cost	FY 17	FY 18	FY 19
1.	Providing 1x30MVA 66/11kV additional Power TF at 66 kV Grid sub-station at Sec-39 of UT Chandigarh	5.23	3.00	2.22	0.00
2.	Replacement of 14 Nos. MOCB with SF6, Breakers at 66 kV Grid sub-station Sector-52 and Sector -12 of UT of Chandigarh	5.14	4.00	1.14	0.00
3.	Conversion of existing 33 kV sub-station at Sector-18 to 66 kV Sub-Station Sector-18 by Providing GIS 2x20MVA, 66/11kV Power Transformer along with 66 kV associated 66 kV T/L with underground cable from 66 kV Sector-26 to 66 kV Sector 18.	27.29	4.09	13.64	9.56
4.	Providing 2x20MVA, 66 / 11kV Gas Insulated Sub Station at Sector-26 UT Chandigarh along with 66 kV D/C line from 66 kV I.T park to 66kV Grid Sub Station Sector-26 UT Chandigarh.	36.98	5.54	18.49	12.95
5.	Providing 66 kV Transmission Line along with associated 66 kV line bays to upcoming 66 kV Grid Substation at Raipur Kalan of UT Chandigarh	11.03	1.65	5.51	3.87
6.	Execution of laying of 66 kV U/G Cable from Sector 32 Grid Sub Station to Sector 34 Grid Sub Station, Chandigarh.	8.54	2.56	3.42	2.56
7.	Total	94.21	20.84	44.42	28.94

The Petitioner has submitted that the new 66 kV schemes are primarily aimed to improve service reliability and to meet the standards of performance prescribed by the

0.60

10.30

0.00

10.00

0.58

10.30

Commission along with the transmission system modernization, up-gradation, construction of new gas insulated sub-station (GIS) and expansion of transmission network in the UT of Chandigarh.

The Petitioner has proposed the following capital expenditure for ongoing and new 11 kV schemes along with the scheme justification/rationale and financing details for implementation during the Control Period.

Sl. No.	Description	FY 17	FY 18	FY 19
1.	General Service Connection (GSC) and Industrial Service Connection (ISC) and other normal development	2.30	2.40	2.30
2.	Strengthening of distribution system by Providing 11 kV Underground power distribution system	1.80	1.80	1.70
3.	Strengthening of distribution system by providing/Augmentation 11/.400 kV, 315/200/100 kVA Distribution Transformers along with LT ACB	2.20	2.20	2.13
4.	Providing and Augmentation of the LT O/H ACSR conductors	0.10	0.10	0.27
5.	Providing 11 kV /LT Aerial Bunched Cables	1.30	1.40	1.30
6.	Providing improved metering system, communication, Special tools, testing equipment, Vehicles, sky lift, safety devices office equipment etc.	0.90	0.90	0.82
7.	Improvement and augmentation of 66/11 kV existing Substations and 11 kV Indoor substations	0.60	0.60	0.73
8.	Installation of LT Shunt Capacitors on the existing distribution	0.50	0.60	0.47

Table 5.3: 11 kV Capex proposed by the Petitioner for the MYT Control Period (Rs. Crores)

Commission's Analysis

transformers

Total

10.

The Commission observes that the Petitioner has submitted the capital expenditure and capitalization under three major heads:

- 1) 66 kV Ongoing Schemes
- 2) 66 kV New Schemes
- 3) 11 kV Works Ongoing and New Schemes.

Replacement of the electro mechanical meters to static meters.

The Commission has analyzed and discussed each of the on-going as well as the proposed new schemes separately as below.

5.1.1. 66 kV ongoing schemes

Under the 66 kV ongoing schemes, the Petitioner has proposed year-wise capital expenditure of Rs. 5.95, Rs. 4.33 Crore, Rs. 0.36 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively (Ref. Table 5.1) and capitalization of Rs. 39.67 Crores, Rs. 17.61 Crores and Rs. 1.20 Crores in FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

The scheme-wise details are as below:

1. <u>Turnkey execution of 66 kV Transmission Line from T-off point to the proposed 66 kV Grid Substation in Institutional Area, Village Sarangpur, Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that in order to meet the rising load demand of the consumers of rural area of village Sarangpur, it has been proposed that 66 kV Transmission Line from T-off point to the proposed 66 KV Grid Substation in Institutional Area, Village Sarangpur, Chandigarh will be erected. The scheme also aims to improve service reliability and system decongestion.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 3.12 Crores for implementation up to FY 2017-18 with balance year-wise expenditure to be made as Rs. 0.53 Crores each for FY 2016-17 and FY 2017-18 respectively.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.4: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutioulous		Proposed		Approved			
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Turnkey execution of 66 kV Transmission Line from T-off point	_	0.53	0.53	0.00	0.53	0.53	0.00	
to the proposed 66 kV Grid Substation in Institutional Area, Village Sarangpur, Chandigarh	Capitalization	0.00	3.12	0.00	0.00	3.12	0.00	

2. <u>Turnkey Execution for two Nos. 66 kV Line bays at 66/11 kV Grid Substation in Institutional Area, Village Sarangpur, U.T., Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that in order to meet the rising load demand of the consumers of rural area of village Sarangpur, two Nos. 66 KV Line bays at 66/11 KV Grid Substation in Institutional Area, Village Sarangpur, U.T., Chandigarh have been proposed to be constructed. The scheme also aims to improve service reliability and system decongestion.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 1.18 Crores for implementation up to FY 2018-19 with balance year-wise expenditure to be made as Rs. 0.27 Crores in FY 2016-17, Rs. 0.27 Crores in FY 2017-18 and Rs. 0.36 Crores in FY 2018-19.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2018-19.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure as proposed by the Petitioner.

The Commission, however, observes that the Petitioner has considered the capitalization of Rs 1.20 Crores against the overall scheme provision of Rs. 1.18 Crores. The Commission has rectified this error and has approved the capitalization of Rs 1.18 Crores.

Table 5.5: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars		Proposed		Approved			
Name of Scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Turnkey Execution for two Nos. 66 kV Line bays at 66/11 kV Grid		0.27	0.27	0.36	0.27	0.27	0.36	
Substation in Institutional Area, Village Sarangpur, U.T., Chandigarh	Capitalization	0.00	0.00	1.20	0.00	0.00	1.18	

3. <u>Providing 2x20MVA 66/11 kV Grid Sub-Station in the Institutional Area of Village Sarangpur in UT Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that in order to meet the increase in load demand due to upcoming Housing/Institutional Projects in the area and to provide better and reliable service to the consumers of adjoining sectors of Vill. Sarangpur, Chandigarh, it has been proposed to provide $2x20\,$ MVA T/F $66/11\,$ KV Grid Substation. The Petitioner also submitted that the scheme aims to render services to the upcoming domestic/commercial load in the area and is part of the CED's plan to provide quality and uninterrupted supply to its consumers by improving its system capacity in line with the growing demand.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 9.89 Crores for implementation up to FY 2016-17 with balance year-wise expenditure to be made as Rs. 0.21 Crores in FY 2016-17.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand of domestic and commercial load and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2016-17.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.6: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutioulous		Proposed		Approved			
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Providing 2x20MVA 66/11KV Grid Sub-Station in the Institutional Area	Capital Expenditure	0.21	0.00	0.00	0.21	0.00	0.00	
of Village Sarangpur in UT Chandigarh.	Capitalization	9.89	0.00	0.00	9.89	0.00	0.00	

4. Providing 2x20 MVA, 66/11 kV Grid sub-station at Raipur Kalan:

Petitioner Submission:

The Petitioner has submitted that it has proposed to provide 2x20 MVA 66/11KV Grid S/Stn. at Raipur Kalan to carry out system augmentation to meet the load growth.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 9.74 Crores for implementation up to FY 2016-17 with balance year-wise expenditure to be made as Rs. 0.48 Crores in FY 2016-17.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the purpose of meeting increasing demand.

The Petitioner anticipates the full capitalization of the scheme in FY 2016-17.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.7: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars		Proposed		Approved			
Name of Scheme		FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Providing 2x20MVA, 66/11KV Grid Sub-Station at Raipur	Capital Expenditure	0.48	0.00	0.00	0.48	0.00	0.00	
Kalan	Capitalization	9.74	0.00	0.00	9.74	0.00	0.00	

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

5. <u>Up-gradation of Transformation Capacity at 66/11 kV sub-station by replacing existing 2X12.5 MVA with 2 X 20 MVA T/F, 66/11 kV T/F and shifting and reinstallation of 2X12.5 MVA T/S at existing 66/11 kV sub-station at Civil Secretariat, Sector 1 and Sector 12, Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that it is proposed to upgrade transformation capacity at 66/11KV Grid Sub-Station, Information Technology Park by replacing existing 2x12.5MVA 66/11KV Transformers with 2x20MVA, 66/11KV Trans-formers and shifting & reinstallation of 2x12.5MVA Transformer at existing 66KV Grid Sub-Station, Civil Secretariat. Sector 1 & Sector 12, Chandigarh. The scheme is a part of CED's system

augmentation planning to help it meet the rise in demand and the improved transformation capacity leading to improved service quality and reliability.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 7.12 Crores for implementation up to FY 2017-18 with balance year-wise expenditure to be made as Rs. 0.20 Crores in FY 2016-17 and Rs 0.15 Crores in FY 2017-18.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.8: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of askama	Particulars	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Up-gradation of Transformation Capacity at 66/11 KV S/ Stn. by replacing existing	Capital Expenditure	0.20	0.15	0.00	0.20	0.15	0.00
2X12.5 MVA with 2 X 20 MVA T/F, 66/11 KV T/F and shifting and re-installation of 2X12.5 MVA T/S at existing 66/11 KV S/Stn. at Civil Sectt. Sec. 1 and Sec.12. Chd	Capitalization	0.00	7.12	0.00	0.00	7.12	0.00

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

6. <u>Up-gradation of existing 33 kV Grid Sub Station to 66 kV voltage level by providing 1 X 30 MVA, 66/11 kV power transformer along with associated transmission line in Sec. 34-C Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that it is the upgrading the existing 33 kV Grid Sub Station to 66 kV voltage level by providing 1 X 30 MVA, 66/11 kV power transformer along with associated transmission line in Sec. 34-C Chandigarh and the scheme is meant to provide necessary transmission infrastructure in order to cater to the increased commercial load in the area.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 7.22 Crores for implementation up to FY 2016-17 with balance year-wise expenditure to be made as Rs. 0.85 Crores in FY 2016-17.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2016-17.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.9: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars	Proposed			Approved		
Name of scheme		FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Up-gradation of existing 33 KV Grid Sub Station to 66 KV voltage level by providing		0.85	0.00	0.00	0.85	0.00	0.00
1 X 30 MVA, 66/11 KV power transformer along with associated transmission line Sec. 34-C Chandigarh	Capitalization	7.22	0.00	0.00	7.22	0.00	0.00

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

7. Prov. New 66/11 kV 16/20 MVA Power Transformer on existing bay at 66 kV/11 kV Grid sub-station in Sector-47, Chandigarh

Petitioner Submission:

The Petitioner has submitted that in order to meet the rising load demand of Sector-46, 47, 48, 49, 30, 31 etc. Chandigarh, it is proposed to provide new 66/11 KVA, /16/20 MVA T/F on existing bay at 66kV S/Stn. Sec.47, Chandigarh and the scheme is meant for system augmentation which will help in providing reliable and quality supply to the consumers of the area.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 3.02 Crores for implementation up to FY 2016-17 with the remaining expenditure to be made as Rs. 0.82 Crores in FY 2016-17.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the dual purpose of meeting increasing demand and improving reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2016-17.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.10: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars	Proposed			Approved		
	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Prov. New 66/11 KV 16/20 MVA Power Transformer on existing bay at 66Kv/11KV Grid S/Stn. Sector-47, Chd.	Capital Expenditure	0.82	0.00	0.00	0.82	0.00	0.00
	Capitalization	3.02	0.00	0.00	3.02	0.00	0.00

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

8. <u>Providing 11kV automatic capacitor bank at various existing 66kV Grid substations in Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that it has proposed to maintain the power factor and for this purpose automatic power factor control relays have to be installed and an amount of Rs.58 lac has been proposed in the Control Period. The scheme is specifically prepared to improve network parameters. The improvement in power factor will help in better load management and keeping the system the system healthy.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 9.80 Crores for implementation up to FY 2016-17 with remaining expenditure to be made as Rs. 0.58 Crores in FY 2016-17.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution and serves the purpose of improvement in power factor, which in turn will help in better load management and keeping the system the system healthy.

The Petitioner anticipates the full capitalization of the scheme in FY 2016-17.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.11: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of ask and	Deutieuleus	Proposed			Approved			
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Providing 11KV automatic	Capital Expenditure	0.58	0.00	0.00	0.58	0.00	0.00	
capacitor bank at various existing 66 kV Grid S/Stn., in Chandigarh	Capitalization	9.80	0.00	0.00	9.80	0.00	0.00	

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

9. Conversion of existing 66 kV S/C Transmission Line and Underground Cable from 220 kV Substation, Kishangarh to Sector -12, Chandigarh to Double Circuit (D/C) Transmission Line

Petitioner Submission:

The Petitioner has submitted that in order to meet the growing load and due to upcoming 66 kV Sarangpur sub-station, it has become necessary to provide 66 kV Double Circuit on Monopole Transmission Poles and accordingly, it has been proposed to convert 66 kV S/C transmission line and underground cable from 220 kV Kishangarh Substation to Sector 12, Chandigarh to D/C transmission line. The Petitioner also submitted that the existing transmission system requires urgent augmentation of Transmission Line infrastructure to meet additional load coming on the line due to augmentation of existing and upcoming grid substations.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 7.37 Crores for implementation up to FY 2016-17 with the balance year-wise expenditure to be made as Rs. 2.00 Crores in FY 2016-17 and Rs. 3.37 Crores in FY 2017-18.

The Commission is of the view that the said scheme has already been approved by the UT Administration and is presently under advanced stage of execution. The Commission also agrees that the existing transmission system requires augmentation to meet additional load.

The Petitioner anticipates the full capitalization of the scheme in FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.12: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutieulous		Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Conversion of existing 66 KV S/C Transmission Line and Underground Cable		2.00	3.37	0.00	2.00	3.37	0.00	
from 220 KV Substation, Kishangarh to Sector -12, Chandigarh to D/C Transmission Line.	Capitalization	0.00	7.37	0.00	0.00	7.37	0.00	

The Commission is in view that the ongoing 66 kV schemes will assist CED in modernising and strengthening the transmission network in order to meet the future electrical load growth in the UT of Chandigarh. The total approved capital expenditure and capitalization under ongoing 66 kV schemes is given below:

Table 5.13: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Double and area		Proposed		Approved		
	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Our and its a CC lattice to a consequence	Capital Expenditure	5.95	4.33	0.36	5.95	4.33	0.36
Ongoing 66 kV Schemes	Capitalization	39.67	17.61	1.20	39.67	17.61	1.18

5.1.2. New 66 kV Schemes

The Petitioner submitted that the new 66 kV schemes are primarily aimed to improve service reliability and to meet the service standard prescribed by the Commission, transmission system modernization, up-gradation, construction of new gas insulated substation (GIS) and expansion of transmission network in the UT of Chandigarh.

The scheme-wise details are as below:

1. Providing 1x30MVA 66/11kV additional Power TF at 66 kV Grid sub-station at Sec-39 of UT Chandigarh

Petitioner Submission:

The Petitioner has submitted that the new 66/11 kV Power transformer is proposed to replace the existing damaged Power Transformer (T-1). The installation of new transformer will help in meeting present and future load growth of the area which will help in improving service reliability to the consumers of the area and to meet Standards of Performance of JERC.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 5.23 Crores for implementation up to FY 2017-18 with year-wise expenditure to be made as Rs. 3.00 Crores for FY 2016-17 and Rs. 2.22 Crores for FY 2017-18 respectively.

The Commission has noted that the said scheme is yet to be approved by the UT Administration. However, the Commission is of view that damaged infrastructure is required to be replaced on priority basis so as to ensure system reliability.

The Commission has also observed that the Petitioner has proposed the balance capital expenditure of Rs 2.22 Crores in FY 2017-18 against the remaining Rs 2.23 Crores which the Commission has rectified.

The Petitioner anticipates the full capitalization of the scheme in FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission provisionally approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.14: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Douticulous	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Providing 1x30MVA 66/11KV additional Power TF At 66ky Grid	Capital Expenditure	3.00	2.22	0.00	3.00	2.23	0.00
Sub Station Sec-39 UT Chd	Capitalization	0.00	5.23	0.00	0.00	5.23	0.00

The Petitioner can undertake capital expenditure for the above scheme after receipt of approval of the UT Administration/competent authority with intimation to the Commission.

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

2. Replacement of 14 Nos. MOCB with SF6, Breakers at 66 kV Grid sub-station Sector-52 and Sector -12 of UT of Chandigarh

Petitioner Submission:

The Petitioner has submitted that as the 66kV MOCB's and 11kV OCB's at both the substations have outlived their life due to extensive usage and ageing, it has been proposed to replace MOCB with SF6, Breakers and OCB's with 11 kV VCB's at 66 kV Grid substation which in turn will help in improving system reliability and system up-gradation.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 5.23 Crores for implementation up to FY 2017-18 with year-wise expenditure to be made as Rs. 4.00 Crores for FY 2016-17 and Rs. 1.14 Crores for FY 2017-18 respectively.

The Commission has noted that the said scheme is yet to be approved by the UT Administration. However, the Commission is of view that infrastructure which has outlived its useful life is required to be replaced on priority basis so as to ensure system reliability.

The Petitioner anticipates the full capitalization of the scheme in FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission provisionally approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.15: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutioulous		Proposed		Approved			
	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Replacement of 14 Nos. MOCB with	Capital Expenditure	4.00	1.14	0.00	4.00	1.14	0.00	
SF6, Breakers at 66KV Grid	Capitalization	0.00	5.14	0.00	0.00	5.14	0.00	

The Petitioner can undertake capital expenditure for the above scheme after receipt of approval of the UT Administration/competent authority with intimation to the Commission.

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

3. Conversion of existing 33 kV sub-station at Sector-18 to 66 kV sub-station Sector-18 by providing GIS 2x20MVA, 66/11kV Power Transformer along with 66 kV associated 66 kV T/L with underground cable from 66 kV Sector-26 to 66 kV Sector 18

Petitioner Submission:

The Petitioner has submitted that the existing three transformers installed at 33kV Sector-18 sub-station are more than 34 years old and have well gone beyond their useful life. The said transformers are not only overloaded but also have become obsolete. Under the scheme, it has been proposed to convert existing 33 kV GSS Sector 18 to 66 kV GIS GSS by installing 2*20 MVA, 66/11 kV, three power transformers along with 66 kV associated T/L (Transmission Lines) with underground cable. Also the construction of a GIS substation will go a long way towards system modernization, since Gas Insulated Substation can prove

to be a boon for CED, as it operates in the UT of Chandigarh where cost of land proves to be very high. It is also pertinent to mention here that GIS sub-stations have high reliability and need minimal maintenance.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 27.29 Crores for implementation up to FY 2018-19 with year-wise expenditure to be made as Rs. 4.09 Crores for FY 2016-17, Rs. 13.64 Crores for FY 2017-18 and Rs. 9.56 Crores in FY 2018-19 respectively.

The Commission is of the view that infrastructure which has outlived its useful life is required to be replaced on priority basis so as to ensure system reliability. However, the Commission has noted that the said scheme is yet to be approved by the UT Administration.

Further, as per the provision 22 of MYT Regulations, 2014, the Distribution Licensee shall seek prior approval of the Commission for capital expenditure greater than Rs.10 Crore (Rupees Ten Crore).

The Commission has observed that the Petitioner has neither provided the cost-benefit analysis of the aforementioned scheme nor provided any supporting documents related to the scheme for prior approval from the Commission for this scheme in line with the provisions of MYT Regulations 2014.

The Commission directs the Petitioner to submit complete documents related to the scheme along with approvals from the CEA/ UT Administration/ other competent authority for further review and approval of the Commission.

The Petitioner anticipates the full capitalization of the scheme in FY 2018-19.

In view of the above, the Commission is not approving the capital expenditure and capitalization as proposed by the Petitioner for the purpose of this Business Plan and shall revisit the same once the Petitioner submits the requisite documents as indicated above.

Table 5.16: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars	Proposed			Approved			
Name of Scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Conversion of existing 33KV Sub Station Sector-18 to 66KV Sub	Capital Expenditure	4.09	13.64	9.56	0.00	0.00	0.00	
Station Sector-18 by Providing GIS 2x20MVA, 66/11KV Power Transformer along with 66 kV associated 66 kV T/L with underground cable from 66 kV Sector-26 to 66 kV Sector 18.	Capitalization	0.00	0.00	27.29	0.00	0.00	0.00	

4. Providing 2x20MVA, 66/11kV Gas Insulated Sub-station (GIS) at Sector-26 UT Chandigarh along with 66 kV D/C line from 66 kV I.T park to 66kV Grid substation Sector-26 UT Chandigarh

Petitioner Submission:

The Petitioner has submitted that the power transformers installed at nearby 66 kV BBMB Grid Substation Sector are very old and have completed useful life of 25 years. As the load is considerably increasing on transformers day by day, the Petitioner has proposed to construct a 66kV GIS Grid substation at Diesel Power House, Sector-26 along with underground cable from 66 kV I.T. Park Grid sub-station which will help in improving system reliability.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 36.98 Crores for implementation up to FY 2018-19 with year-wise expenditure to be made as Rs. 5.54 Crores for FY 2016-17, Rs. 18.49 Crores for FY 2017-18 and Rs. 12.95 Crores in FY 2018-19 respectively.

The Commission is of the view that infrastructure which has outlived its useful life is required to be replaced on priority basis so as to ensure system reliability. However, the Commission has noted that the said scheme is yet to be approved by the UT Administration.

Further, as per the provision 22 of MYT Regulations, 2014, the Distribution Licensee shall seek prior approval of the Commission for capital expenditure greater than Rs.10 Crore (Rupees Ten Crore).

The Commission has observed that the Petitioner has neither provided the cost-benefit analysis of the aforementioned scheme nor provided any supporting documents related to the scheme for prior approval from the Commission for this scheme in line with the provisions of MYT Regulations 2014.

The Commission directs the Petitioner to submit complete documents related to the scheme along with approvals from the CEA/ UT Administration/ other competent authority for further review and approval of the Commission.

The Petitioner anticipates the full capitalization of the scheme in FY 2018-19.

In view of the above, the Commission is not approving the capital expenditure and capitalization as proposed by the Petitioner for the purpose of this Business Plan and shall revisit the same once the Petitioner submits the requisite documents as indicated above.

Table 5.17: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutieulous		Proposed		Approved			
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Providing 2x20MVA, 66 / 11KV Gas Insulated Sub Station at Sector-26	•	5.54	18.49	12.95	0.00	0.00	0.00	
UT Chandigarh along with 66 KV D/C line from 66 kV I.T park to 66KV Grid Sub Station Sector-26 UT Chandigarh.	Capitalization	0.00	0.00	36.98	0.00	0.00	0.00	

5. <u>Providing 66 kV Transmission Line along with associated 66 kV line bays to upcoming 66 kV Grid sub-station at Raipur Kalan of UT Chandigarh</u>

Petitioner Submission:

The Petitioner has submitted that to cope up with present as well as future load demand of upcoming area of Industrial Area Phase–III at Raipur Kalan and to meet emergency break down conditions, power transformers need to be allotted and it has proposed to provide 66 kV transmission line to the upcoming 66 kV grid sub-station along with associated 66 kV Line Bays at Raipur Kalan Sub-Station. The scheme is a part of system augmentation being carried out by CED to cater to increased load on its network.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 11.03 Crores for implementation up to FY 2018-19 with year-wise expenditure to be made as Rs. 1.65 Crores for FY 2016-17, Rs. 5.51 Crores for FY 2017-18 and Rs. 3.87 Crores in FY 2018-19 respectively.

The Commission is of the view that infrastructure which has outlived its useful life is required to be replaced on priority basis so as to ensure system reliability. However, the Commission has noted that the said scheme is yet to be approved by the UT Administration.

Further, as per the provision 22 of MYT Regulations, 2014, the Distribution Licensee shall seek prior approval of the Commission for capital expenditure greater than Rs.10 Crore (Rupees Ten Crore).

The Commission has observed that the Petitioner has neither provided the cost-benefit analysis of the aforementioned scheme nor provided any supporting documents related to the scheme for prior approval from the Commission for this scheme in line with the provisions of MYT Regulations 2014.

The Commission directs the Petitioner to submit complete documents related to the scheme along with approvals from the CEA/ UT Administration/ other competent authority for further review and approval of the Commission.

The Petitioner anticipates the full capitalization of the scheme in FY 2018-19.

In view of the above, the Commission is not approving the capital expenditure and capitalization as proposed by the Petitioner for the purpose of this Business Plan and shall revisit the same once the Petitioner submits the requisite documents as indicated above.

Table 5.18: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutioulous	Proposed			Approved			
Name of Scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Providing 66 KV Transmission Line along with associated 66 KV line	•	1.65	5.51	3.87	0.00	0.00	0.00	
bays to upcoming 66 KV Grid Substation at Raipur Kalan UT Chandigarh.	Capitalization	0.00	0.00	11.03	0.00	0.00	0.00	

6. Execution of laying of 66 kV U/G Cable from Sector 32 Grid sub-station to Sector 34 Grid sub-station, Chandigarh

Petitioner Submission:

The Petitioner has submitted that there is heavy overloading on the existing 33/11 kV Power Transformers installed at 33 kV Grid substation Sec. 34 and 66/33 kV Power Transformers installed at 66 kV Sector 52 during summer season. Rotational power is done to safeguard the overloaded Power Transformers. In order to feed the 66kV Grid Substation under construction at Sector 34, the 66 kV underground cable with 4x1Cx630sqmm Copper conductor has been planned from Sec-32 to Sec-34 G/S/Station. Under the scheme, it has been proposed to build 66 kV transmission line with underground cable in RCC cable trench from sec-32 substation to sec-34 Grid sub-station (new). The scheme intends to augment transmission network of CED to help it meet peak demand. Also, the laying of new line will prove to be helpful in providing better service to the consumers of CED.

Commission View:

The Commission has taken note that the Petitioner has proposed a total scheme amount of Rs. 8.54 Crores for implementation up to FY 2018-19 with year-wise expenditure to be made as Rs. 2.56 Crores for FY 2016-17, Rs. 3.42 Crores for FY 2017-18 and Rs. 2.56 Crores in FY 2018-19 respectively.

The Commission has noted that the said scheme is yet to be approved by the UT Administration. However, the Commission is of the view that infrastructure is required to meet system demand and ensure system reliability with better service to the consumers.

The Petitioner anticipates the full capitalization of the scheme in FY 2018-19.

In view of the above and after considering the reasonableness of the submission, the Commission provisionally approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.19: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Douticulous		Proposed			Approved			
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19		
Execution of laying of 66 KV U/G Cable from Sector 32 Grid Sub		2.56	3.42	2.56	2.56	3.42	2.56		
Station to Sector 34 Grid Sub Station, Chandigarh.	Capitalization	0.00	0.00	8.54	0.00	0.00	8.54		

The Petitioner can undertake capital expenditure for the above scheme after receipt of approval of the UT Administration/competent authority with intimation to the Commission.

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

Based on the above analysis, the approved capital expenditure and capitalization for 66 kV new schemes for the Control Period is as below:

Table 5.20: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars	Proposed			Approved			
	rai ticulai s	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
New 66 kV Schemes	Capital Expenditure	20.84	44.42	28.94	9.56	6.78	2.56	
New oo ky senemes	Capitalization	0.00	10.37	83.84	0.00	10.37	8.54	

5.1.3. <u>11 kV Ongoing and New Schemes</u>

the Petitioner submitted that the new 11 kV schemes are aimed at expanding the distribution network, laying of underground (UG) cables to provide un-interrupted power supply to the consumers, maintaining voltage stability, reducing technical losses, improving service standard and maintaining power factor to reduce technical losses.

The scheme-wise details are as below:

1. <u>General Service Connection (GSC) and Industrial Service Connection (ISC) and other normal development</u>

Petitioner Submission:

The Petitioner has submitted that it intends to provide additional distribution network with transformer centers & associated HT/LT service lines for arranging power supply to various categories of HT & LT consumers which will help serve new consumers.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 7.00 Crores with year-wise expenditure to be made as Rs. 2.30 Crores for FY 2016-17, Rs 2.40 Crores in FY 2017-18 and Rs. 2.30 Crores in FY 2018-19 respectively.

The Commission is of the view that the execution of said scheme will enable the CED to modernize and strengthen the lines and increase customer satisfaction etc. in order to meet the future load growth in the UT of Chandigarh as well as undertaking smooth operations.

The Petitioner anticipates the full capitalization of the scheme in same year only.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.21: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Doutioulous	Proposed			Approved			
	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
General Service Connection (GSC) and Industrial Service Connection	Capital Expenditure	2.30	2.40	2.30	2.30	2.40	2.30	
(ISC) and other normal development	Capitalization	2.30	2.40	2.30	2.30	2.40	2.30	

2. <u>Strengthening of distribution system by providing 11 kV underground power</u> distribution system

Petitioner Submission:

The Petitioner has submitted that various UG systems shall be laid in different parts of UT Chandigarh during the Control Period. These will provide relief to the existing system. The scheme will provide alternate 11 kV feeders from other nearby 66/11 kV sub-stations. The scheme intends to provide UG cable power distribution system and removing overhead (OH) lines to render uninterrupted and stable power supply to urban, rural and industrial areas of UT Chandigarh. The scheme is part of planned system augmentation.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 5.30 Crores with year-wise expenditure to be made as Rs. 1.80 Crores for FY 2016-17, Rs 1.80 Crores in FY 2017-18 and Rs. 1.70 Crores in FY 2018-19 respectively.

The Commission is of the view that the underground cabling is of high importance in cities like Chandigarh and such scheme help in improving the reliability of the supply, apart from meeting the future load growth in the UT of Chandigarh.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.22: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Douticulors		Proposed		Approved			
	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Strengthening of distribution system by providing 11 kV Underground	Capital Expenditure	1.80	1.80	1.70	1.80	1.80	1.70	
power distribution system	Capitalization	1.08	1.80	1.74	1.08	1.80	1.74	

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

3. <u>Strengthening of distribution system by providing/augmentation 11/.400 kV, 315/200/100 kVA Distribution Transformers along with LT ACB</u>

Petitioner Submission:

The Petitioner has submitted that it plans to install 315 kVA /100 kVA distribution transformers in the vicinity of the UT Chandigarh. The distribution transformers shall be

installed at different locations specifically at load centers which will help in reliable power, proper voltage to the prospective consumers. The LT lines shall automatically be reduced.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 6.53 Crores with year-wise expenditure to be made as Rs. 2.20 Crores for FY 2016-17, Rs 2.20 Crores in FY 2017-18 and Rs. 2.13 Crores in FY 2018-19 respectively.

The Commission is of the view that such schemes help in improving the overall reliability and ensuring proper voltage of the supply, apart from meeting the future load growth in the UT of Chandigarh.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.23: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of scheme	Particulars		Proposed		Approved			
Name of Scheme	r ai titulai s	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19	
Strengthening of distribution system by providing/Augmentation 11/.400	Capital Expenditure	2.20	2.20	2.13	2.20	2.20	2.13	
KV, 315/200/100 KVA Distribution Transformers along with LT ACB	Capitalization	2.20	2.20	2.13	2.20	2.20	2.13	

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

4. Providing and Augmentation of the LT O/H ACSR conductors

Petitioner Submission:

The Petitioner has submitted that it intends to provide/augment the LT overhead conductor in the vicinity of the UT Chandigarh. Further the old LT O/H ACSR conductors shall be replaced with the new one of suitable capacity in phased manner which shall help in reduction of the technical losses and improve the reliability of power supply.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 0.47 Crores with the year-wise expenditure to be made as Rs. 0.10 Crores for FY 2016-17, Rs 0.10 Crores in FY 2017-18 and Rs. 0.27 Crores in FY 2018-19 respectively.

The Commission is of the view that such schemes will help in improving the overall reliability and ensuring proper voltage of the power supply along with reduction of technical losses.

In view of above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.24: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of askama	Douticulous		Proposed			Approved	
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Providing and Augmentation of the	Capital Expenditure	0.10	0.10	0.27	0.10	0.10	0.27
LT O/H ACSR conductors	Capitalization	0.10	0.10	0.27	0.10	0.10	0.27

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

5. Providing 11 kV /LT Aerial Bunched Cables

Petitioner Submission:

The Petitioner has submitted that it intends to provide the HT/LT Aerial Bunched Cable in UT Chandigarh in a phased manner. This HT ABC cable shall be provided in areas with thick plantation/forest areas and help in reduction of the breakdowns/faults, thereby improving reliability of power in the respective areas.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 4.00 Crores with year-wise expenditure to be made as Rs. 1.30 Crores for FY 2016-17, Rs 1.40 Crores in FY 2017-18 and Rs. 1.30 Crores in FY 2018-19 respectively.

The Commission is of the view that such schemes will help in reduction of the breakdowns/faults, thereby improving reliability of power in the respective areas. However, the Petitioner has not yet submitted the proof of environmental clearance.

In view of the above and after considering the reasonableness of the submission, the Commission conditionally approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.25: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of ask one	Doutioulous	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Providing 11 kV /LT Aerial Bunched	Capital Expenditure	1.30	1.40	1.30	1.30	1.40	1.30
Cables	Capitalization	0.78	1.36	1.34	0.78	1.36	1.34

The Petitioner can undertake capital expenditure for the above scheme after receipt of approval of the competent authority with intimation to the Commission.

6. <u>Providing improved metering system, communication, special tools, testing equipment, vehicles, sky lift, safety devices office equipment etc</u>

Petitioner Submission:

The Petitioner has submitted that it intends to provide special tools /testing equipment, office equipment etc. in the various sections of the electricity deptt. of UT Chandigarh and has proposed that computers to various sections shall be provided so as to smoothen the working of various offices. Further, the 3 phase 100 Amps six position test bench for testing of the energy meters at the M&P lab, relay testing set with AVTS software along with the laptop computer system and essential accessories and testing software CDs/DVDs for M&P wing, has been proposed to be completed which will result in improvement of its functionality thus its services to the consumer. The new equipment will help in plugging gaps in services. The relay testing kits proposed are part of system modernization and will help in maintaining accuracy of relays.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 2.62 Crores with year-wise expenditure to be made as Rs. 0.90 Crores for FY 2016-17, Rs 0.90 Crores in FY 2017-18 and Rs. 0.82 Crores in FY 2018-19 respectively.

The Commission is of the view that procurement of tools and equipment is a continuous and ongoing essential activity to enable the Petitioner keep up with the fast changing technological scenario and ensuring better services to the consumers.

In view of above and after considering the reasonableness of the submission, the Commission conditionally approves the capital expenditure and capitalization as proposed by the Petitioner, which is subject to the approval of UT administration.

Table 5.26: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of ask on a	Dawtiaulawa	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Providing improved metering system, communication , Special	Capital Expenditure	0.90	0.90	0.82	0.90	0.90	0.82
tools , testing equipment, Vehicles, sky lift, safety devices office equipment etc.	Capitalization	0.54	0.90	0.85	0.54	0.90	0.85

7. <u>Improvement and augmentation of 66/11 kV existing sub-stations and 11 kV</u> Indoor sub-stations

Petitioner Submission:

The Petitioner has submitted that the scheme will provide the replacement of old MOCB with SF6 breakers, replacement of old and obsolete panels, and other allied equipment etc. The battery charger along with battery bank (VRLA) and DCDB at 66 kV Grid Substations at Industrial Area Phase I, Phase II and Sector 47 have also been proposed to be replaced as the same have completed their useful life. The scheme is designed keeping in mind the system augmentation and upgradation.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 1.93 Crores with year-wise expenditure to be made as Rs. 0.60 Crores for FY 2016-17, Rs 0.60 Crores in FY 2017-18 and Rs. 0.73 Crores in FY 2018-19 respectively.

The Commission is of the view that the obsolete infrastructure is required to be replaced on priority basis so as to ensure system reliability.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.27: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of askama	Dantianlana	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Improvement and augmentation of 66/11 kV existing Substations and	Capital Expenditure	0.60	0.60	0.73	0.60	0.60	0.73
11 kV Indoor substations.	Capitalization	0.36	0.60	0.68	0.36	0.60	0.68

8. Installation of LT Shunt Capacitors on the existing distribution transformers

Petitioner Submission:

The Petitioner has submitted that the LT shunt capacitors shall be provided in different areas keeping in view the load profile as well as power factor in the respective areas. The system is designed to improve the voltage profile and power factor which further will reduce the distribution losses to some extent.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 1.57 Crores with year-wise expenditure to be made as Rs. 0.50 Crores for FY 2016-17, Rs 0.60 Crores in FY 2017-18 and Rs. 0.47 Crores in FY 2018-19 respectively.

The Commission is of the view that installation of LT shunt capacitors will help in improvement of the voltage profile and power factor, thereby leading to reduction of the distribution losses to some extent.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as proposed by the Petitioner.

Table 5.28: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of other	Deuticulaus	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Installation of LT Shunt Capacitors on the existing distribution	Capital Expenditure	0.50	0.60	0.47	0.50	0.60	0.47
transformers distribution	Capitalization	0.50	0.60	0.47	0.50	0.60	0.47

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

9. Replacement of the electro mechanical meters to static meters

Petitioner Submission:

The Petitioner has submitted that it intends to replace all the electro mechanical meters with the static meters as per the guidelines of Central Electricity Authority (CEA). The

replacement program has been scheduled during the Control Period and is aimed at system modernization.

Commission View:

The Commission has taken note that the Petitioner has proposed a total capital expenditure of Rs 1.18 Crores with year-wise expenditure to be made as Rs. 0.60 Crores for FY 2016-17 and Rs. 0.58 Crores in FY 2018-19 respectively.

The Commission has noted that no expenditure is shown towards this scheme in FY 2018-19. The replacement of meters is required to be undertaken on a fast track basis, as such Commission approves the advancement of expenditure in FY 2018-19 to FY 2017-18.

In view of the above and after considering the reasonableness of the submission, the Commission approves the capital expenditure and capitalization as below:

Table 5.29: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of ashome Doutionland		Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Replacement of the electro		0.60	0.00	0.58	0.60	0.58	0.00
mechanical meters to static meters	Capitalization	0.60	0.00	0.00	0.60	0.58	0.00

The Commission also approves the funding of this scheme through 100% Equity contribution by CED/Government of India as proposed by the Petitioner.

Based on the above analysis, the approved capital expenditure and capitalization for 11 kV schemes for the Control Period is as below:

Table 5.30: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

Name of allows			Proposed		Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
11 by Cab are as	Capital Expenditure	10.30	10.00	10.30	10.30	10.58	9.72
11 kV Schemes	Capitalization	8.46	9.96	9.78	8.46	10.54	9.78

Accordingly, the total approved capital expenditure and capitalization for the Control Period is as below:

Table 5.31: Capital Expenditure and Capitalization as proposed by the Petitioner and approved by the Commission (Rs. Crores)

No see Carles	Death Lea	Proposed			Approved		
Name of scheme	Particulars	FY 17	FY 18	FY 19	FY 17	FY 18	FY 19
Cwand Tatal	Capital Expenditure	37.10	58.75	39.60	25.82	21.69	12.64
Grand Total	Capitalization	48.13	37.94	94.82	48.13	38.52	19.49

5.2. Funding of Capital Investment Schemes

Petitioner Submission

The Petitioner has planned to fund the entire capital expenditure from GOI through budgetary support without any external borrowings. The Petitioner has requested the Commission to consider any equity deployed in excess of 30% of the capital cost of the project to be treated as normative loan as per provision 24 of MYT Regulations, 2014. The funding pattern for capital investment schemes proposed by the Petitioner for the Control Period is shown below:

Table 5.32: Funding of Capital Schemes for the Control Period as proposed by the Petitioner (Rs. Crores)

Particulars	FY 17	FY 18	FY 19
Proposed Capital Expenditure	37.10	58.75	39.60
Actual Funding			
100% Equity from GoI	37.10	58.75	39.60
Proposed Funding in line with Regulation 24 (b) of JERC MYT Regulations			
Equity (30%)	11.13	17.62	11.88
Debt (Normative Debt in excess of 30% equity)	25.97	41.12	27.72
Total Funding	37.10	58.75	39.60

Commission View

The Commission had sought clarification from the Petitioner for the inclusion of IPDS grant in capital works. The Petitioner vide Memo No. SEE/OP/Comml. 1-2015/ 210/3093 dated October 01, 2015 had submitted that the need assessment document for IPDS has been submitted to the Power Finance Corporation (PFC) for consideration of work listed in IPDS. However, availability of funds under IPDS is not certain at this point of time.

Taking note of the above referred submission of the Petitioner and the capital expenditure as approved in previous sections, the Commission has approved the fund requirement for the Control Period as follows:

Table 5.33: Funding of Capital Schemes for the Control Period as approved by the Commission (Rs. Crores)

Particulars	FY 17	FY 18	FY 19
Approved Capital Expenditure	25.82	21.69	12.64
Approved Funding			
100% Equity from GoI	25.82	21.69	12.64
Approved Funding in line with Regulation 24 (b) of JERC MYT Regulations			
Equity (30%)	7.74	6.51	3.79
Debt (Normative Debt in excess of 30% equity)	18.07	15.19	8.85
Total Funding	25.82	21.69	12.64

5.3. Energy Efficiency and Demand Side Management

Petitioner Submission

The Petitioner has submitted that in view of large and growing domestic consumption within the distribution area, CED proposes to implement Efficient Lighting Program by distribution of LED bulbs in the UT of Chandigarh as a part of Demand Side Management Activity, through an Energy Service Company (ESCO), M/s. Energy Efficiency Services Limited, New Delhi.

Under this scheme, M/s EESL will provide 3 numbers of Light-Emitting Diode (LED) bulbs each to approximately 1.81 Lakhs domestic consumers.

As per EESL's estimates, the Petitioner has projected estimated energy saving of 12.56 MU and cost saving up to Rs. 4.30 Crore per year. Projected benefits from the Energy Efficiency and demand side management program are highlighted in the following Table:

Table 5.34: Estimated energy savings and expenditure for Energy Efficiency Program as submitted by the Petitioner

Sl. No.	Description	
1.	No of LED's to be replaced (3 bulbs x 1.81 lakh domestic consumers)	5.43 Lakhs
2.	Expected annual energy savings	12.56 MU's
3.	Expected reduction of installed load	11.95 MW
4.	Estimated Capital Expenditure	Rs 5.71 Crore
5.	Estimated cost savings to CED per year	Rs 4.30 Crore

The Petitioner has requested the Commission to provide "In-Principal" approval of the scheme in order to take this program further with M/s EESL.

Commission View

The Commission has noted the submissions made by the Petitioner and recognizes that Demand Side Management and Energy Conservation are very important areas which need to be focused on by CED, especially in context of Peak load shortages.

Based on the submissions made by the Petitioner, the Commission accords "In-Principal" approval for the Energy Efficiency Program. The Commission directs the Petitioner to submit detailed action plan after finalization of the scheme by M/s EESL for Commission's approval.

The Commission also directs the Petitioner to focus on similar DSM measures through LED lamps in Government buildings and street lights (under National Program for LED Street Lighting).

5.4. Smart Grid Initiative

Petitioner Submission

The Petitioner has submitted that the department has initiated development of Smart Grid Project with M/s POWERGRID. The said project will be carried out in phased manner for which all the baseline data has been provided and a proposal on the same is awaited from M/s POWERGRID.

The Petitioner has requested the Commission to approve this scheme under this current MYT Business Plan Order.

Commission View

The Commission has noted the submissions of the Petitioner. The Commission acknowledges that the Smart Grid project will be a technological leap and is futuristic and the Commission will consider once the proposal for the same are finalized.

The Commission directs the Petitioner to submit all the details pertaining to technological, financial and implementation aspects for review and approval of the Commission post finalization of the scheme.

5.5. Unified Load Dispatch Centre

Petitioner Submission

The Petitioner has submitted that the department intends to develop unified load dispatch center in UT Chandigarh for which the matter has been taken up with M/s POWERGRID who has requested to choose the option as to whether the investment is to be made by CED or the investment is to be made by POWERGRID itself. Further in case the investment is to be made by POWERGRID on Tariff based competitive bidding, the CED shall reimburse the same on monthly basis as per the Tariff determined by the CERC. The detailed proposal/agenda shall be submitted to the Telecommunication, SCADA & Telemetry (TeST) committee/ ULDC scheme monitoring group (USMG) after internal approvals of the Administration. CED shall submit the details of the project and estimated cost with respect to development of the unified load dispatch center to the Commission post approval and finalization of the scheme details.

Commission View

The Commission has taken a note on the submission made by the Petitioner.

6. Approval of various ARR Components for MYT Control Period FY 2016-17 to FY 2018-19

6.1. Category-wise Sales, Connected Load and Consumers.

Petitioner Submission

CED serves over 2 lakh consumers within its license area and the consumers are categorized as under:

- Domestic
- Commercial
- Large Supply
- Medium Supply
- Small Power
- Agriculture
- Public Lighting
- Bulk Supply
- Other Temporary Supply

6.1.1. Category-wise projected energy sales for the Control Period FY 2016-17 to FY 2018-19

The Petitioner has submitted the category-wise sales over the last six (6) years (FY 2009-10 to FY 2014-15) based on the actuals and un-audited data and projected the sales for the Control Period. Category-wise energy sales over the last six (6) years as furnished by CED are shown in the Table below:

Table 6.1: Category-wise energy sales FY 2009-10 to FY 2014-15 as submitted by the Petitioner (MU)

Sl.	Company on cotogowy	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
No.	Consumer category	Actual	Actual	Actual	Actual	Actual	Un-audited
1.	Domestic	471.90	518.00	525.79	586.54	608.24	719.63
2.	Commercial	440.50	398.00	417.36	397.54	446.18	489.40
3.	Large Supply	141.40	140.00	128.72	137.50	123.94	115.03
4.	Medium Supply	116.50	89.00	103.71	103.84	104.53	106.30
5.	Small Power	20.70	21.00	22.02	20.11	20.36	19.57
6.	Agriculture	1.00	2.00	1.27	1.40	1.46	1.67
7.	Public Lighting	15.10	17.00	17.45	21.98	21.20	21.88
8.	Bulk Supply	57.70	73.00	74.67	87.34	86.56	86.51
9.	Others-Temporary Supply	10.50	27.00	10.50	8.79	7.68	6.78
10.	Total	1275.30	1285.00	1301.48	1365.05	1420.15	1566.77

The Petitioner (vide Memo No. SEE/OP/Comml. 1-2015/ 210/3093 dated October 01, 2015) in reply to Commission's query on consumer category energy sales has revised the sales figure of FY 2014-15 to 1471.60 MU as against 1566.77 MU submitted in the Petition. As per the revised submission, the Petitioner has reduced the energy sales of FY 2014-15 by 95.17 MU. This variation in category wise energy sales for FY 2014-15 is shown below.

			FY 15	Difference
Sl. No	Consumer category	Un-audited-Submitted in MYT Business Plan Petition	Provisional – Submitted vide Memo No. SEE/OP/Comml. 1-2015/ 210/3093 dated 1 October 2015	between Petition and Provisional figure
1.	Domestic	719.63	656.00	63.63
2.	Commercial	489.40	460.00	29.40
3.	Large Supply	115.03	117.00	-1.97
4.	Medium Supply	106.30	104.00	2.30
5.	Small Power	19.57	21.00	-1.43
6.	Agriculture	1.67	1.60	0.07
7.	Public Lighting	21.88	22.00	-0.12
8.	Bulk Supply	86.51	83.00	3.51
9.	Others-Temporary Supply	6.78	7.00	-0.22
10.	Total	1566.77	1471.60	95.17

Table **6.2**: Variation in category-wise energy sales for FY 2014-15 as submitted by the Petitioner (MU)

The Petitioner has submitted the following consumer category-wise compound annual growth rate (CAGR) for projecting the energy sales for the Control Period.

FY 10	FY 11	FY 12
1.	Domestic	10%
2.	Commercial	5%
3.	Large Supply	0%
4.	Medium Supply	1%
5.	Small Power	0%
6.	Agriculture	5%
7.	Public Lighting	3%
8.	Bulk Supply	0%
9.	Others-Temporary Supply	0%

Table 6.3: Category-wise growth rate for sales considered by the Petitioner for Control Period (%)

6.1.2. Consumer profile

CED has submitted the category-wise number of consumers and CAGR growth rates for the past six (6) years, as shown below:

Table 6.4: Category-wise number of consumers FY 2009-10 to FY 2014-15 as submitted by the Petitioner (No.)

Sl.		FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
No.	Consumer category	Actual	Actual	Actual	Actual	Actual	Actual (Un- audited)
1.	Domestic	167,208	168,429	170,364	172,549	174,407	183,211
2.	Commercial	24,420	24,837	25,359	20,309	21,447	22,143
3.	Large Supply	102	102	104	101	105	108
4.	Medium Supply	884	1,042	1,076	1,116	1,154	1,197
5.	Small Power	1,409	1,286	1,291	1,285	1,285	1,275
6.	Agriculture	167	133	122	123	122	121
7.	Public Lighting	568	678	775	807	846	886
8.	Bulk Supply	258	286	348	503	529	592
9.	Others-Temporary Supply	266	751	903	922	737	620
10.	Total	195,282	197,544	200,342	197,715	200,632	210,153

Table 6.5: Growth rate in number of consumers as submitted by the Petitioner (%)

Sl. No.	Consumer category	CAGR
1.	Domestic	3%
2.	Commercial	2%
3.	Large Supply	0%
4.	Medium Supply	4%
5.	Small Power	0%
6.	Agriculture	0%
7.	Public Lighting	5%
8.	Bulk Supply	0%
9.	Others-Temporary Supply	0%

6.1.3. Connected Load Growth

CED has submitted the consumer category-wise connected load and CAGR growth rates for the past six (6) years, as shown below:

Table 6.6: Consumer category-wise connected load from FY 2009-10 to FY 2014-15 as submitted by the Petitioner (kW)

CI		FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Sl. No.	Consumer category	Actual	Actual	Actual	Actual	Actual	Actual (Un-audited)
1.	Domestic	609,933	609,926	658,691	731,236	773,460	794,926
2.	Commercial	274,628	301,758	318,272	326,156	360,348	383,574
3.	Large Supply	65,937	65,026	65,763	64,023	69,671	71,762
4.	Medium Supply	53,566	55,564	57,603	59,811	62,011	65,907
5.	Small Power	18,484	18,500	18,652	18,754	19,015	19,268
6.	Agriculture	1,006	737	675	707	715	722
7.	Public Lighting	2,966	5,039	5,455	5,583	5,791	5,956
8.	Bulk Supply	42,977	28,745	30,378	41,303	41,299	41,464
9.	Others-Temporary Supply	8,763	24,741	27,840	5,672	4,229	3,510
10.	Total	1,078,260	1,110,035	1,183,329	1,253,245	1,336,539	1,387,088

Table 6.7: Growth rate in consumers category-wise connected load as submitted by the Petitioner (%)

Sl. **Consumer category CAGR** No. 1. Domestic 5% 2. Commercial 6% 3. Large Supply 2% **Medium Supply** 4% 5. Small Power 1% 1% 6. Agriculture **Public Lighting** 7. 2% **Bulk Supply** 0% 8. **Others-Temporary Supply** 9. 0%

6.1.4. Projected category-wise energy sales

Based on the growth rates of energy sales given above, the Petitioner has projected category-wise energy sales for FY 2015-16 by applying the growth rate on the consumer category-wise sales of FY 2014-15 submitted in the Petition. The Petitioner used the same methodology and growth rates to project the category-wise energy sales for the Control Period FY 2016-17 to FY 2018-19. Consumer category-wise projected energy sales, as submitted by the Petitioner for the Control Period, are given below.

Table 6.8: Category-wise projected energy sales for the MYT Control Period as submitted by the Petitioner (MU)

Sl.	Consumor catagory	FY 16	FY 17	FY 18	FY 19
No.	Consumer category	Projected	Projected	Projected	Projected
1.	Domestic	791.59	870.75	957.83	1053.61
2.	Commercial	513.87	539.57	566.54	594.87
3.	Large Supply	115.03	115.03	115.03	115.03
4.	Medium Supply	107.36	108.43	109.52	110.61
5.	Small Power	19.57	19.57	19.57	19.57
6.	Agriculture	1.75	1.84	1.93	2.03
7.	Public Lighting	22.54	23.21	23.91	24.62
8.	Bulk Supply	86.51	86.51	86.51	86.51
9.	Others-Temporary Supply	6.78	6.78	6.78	6.78
10.	Total	1665.00	1771.69	1887.62	2013.63

6.1.5. Projected number of consumers

The Petitioner has also projected the category-wise number of consumers for the Control Period along with the projected number for FY 2015-16, as shown below:

Table 6.9: Category-wise projected consumers for the MYT Control Period as submitted by the Petitioner (No.)

Sl. No.	Consumer category	FY 16	FY 17	FY 18	FY 19
		Projected	Projected	Projected	Projected
1.	Domestic	188,707	194,369	200,200	206,206
2.	Commercial	22,586	23,038	23,498	23,968
3.	Large Supply	108	108	108	108
4.	Medium Supply	1,245	1,295	1,346	1,400
5.	Small Power	1,275	1,275	1,275	1,275
6.	Agriculture	121	121	121	121
7.	Public Lighting	930	977	1,026	1,077
8.	Bulk Supply	592	592	592	592
9.	Others-Temporary Supply	620	620	620	620
10.	Total	216,184	222,394	228,786	235,367

6.1.6. Projected connected load

CED has also projected the consumer category-wise connected load for the Control Period along with the projected connected load for FY 2015-16 as shown below:

Table 6.10: Category-wise projected connected load for the MYT Control Period as submitted by the Petitioner (kW)

Sl. No.	Consumer category	FY 16	FY 17	FY 18	FY 19
		Projected	Projected	Projected	Projected
1.	Domestic	834,672	876,406	920,226	966,238
2.	Commercial	406,588	430,983	456,842	484,253
3.	Large Supply	73,197	74,661	76,155	77,678
4.	Medium Supply	68,543	71,285	74,136	77,102
5.	Small Power	19,461	19,655	19,852	20,050
6.	Agriculture	729	737	744	751
7.	Public Lighting	6,075	6,197	6,321	6,447
8.	Bulk Supply	41,464	41,464	41,464	41,464
9.	Others-Temporary Supply	3,510	4,187	4,187	4,187
10.	Total	1,454,240	1,525,574	1,599,926	1,678,169

Commission's Analysis

Commission's Approach for Sales Projections

1. Growth Rate considered by the Commission

The Commission considers it appropriate to take into consideration the actual figures of FY 2014-15 to arrive at the historical 3-year and the 2-year CAGRs, to consider the projections.

The Commission has analyzed the 3-year CAGR from FY 2011-12 to FY 2014-15 and 2- year CAGR from FY 2012-13 to FY 2014-15. The Commission has also considered the rationale presented by the Petitioner for the growth rate considered by it. The Commission has

considered the future growth rate considering the reasonableness of the historical growth rate and the rationale presented by the Petitioner for the assumed growth-rate of each consumer category.

Further, the Commission has considered the historical figures as approved in the true-up of the respective years for arriving at the CAGR. Sales figures for past years have been considered as submitted by the Petitioner on provisional / actual basis

2. Base values for Sales Projections

Since the actual figures for FY 2014-15 (unaudited) are now available, the Commission considers it appropriate to arrive at the sales and consumers for the Control Period by applying the growth rate over the actual (unaudited) sales and consumers of FY 2014-15 respectively.

Considering the above in view, the Commission has arrived at the energy sales for FY 2015-16 and subsequently for the MYT Control Period FY 2016-17 to FY 2018-19.

The historical sales from FY 2010-11 to FY 2014-15 and the CAGR of energy sales for the respective consumer-categories as considered by the Commission are as below:

		FY 11	FY 12	FY 13	FY 14	FY 15
S. No.	Consumer Category	Actual	Actual	Actual	Actual	Actual (Provisional)
1	Domestic	518.00	525.79	586.54	608.24	656.00
2	Commercial	398.00	417.36	397.54	446.18	460.00
3	Large Supply	140.00	128.72	137.50	123.94	117.00
4	Medium Supply	21.00	22.02	20.11	20.36	21.00
5	Small Power	89.00	103.71	103.84	104.53	104.00
6	Agriculture	2.00	1.27	1.40	1.46	1.60
7	Public Lighting	17.00	17.45	21.98	21.20	22.00
8	Bulk Supply	73.00	74.67	87.34	86.56	83.00
9	Others-Temporary Supply	27.00	10.50	8.79	7.68	7.00
10	Total	1285.00	1301.48	1365.05	1420.15	1471.60

Table 6.11: Sales from FY 2010-11 to FY 2014-15 (MU)

Table 6.12: Historical CAGR for sales as considered by the Commission

S. No.	Consumer Category	FY 12 to FY 15 3 yr	FY 13 to FY 15 2 yr	Growth by Commission	Growth by the Petitioner
1	Domestic	8%	6%	8%	10%
2	Commercial	3%	8%	3%	5%
3	Large Supply	-3%	-8%	0%	0%
4	Medium Supply	-2%	2%	0%	1%
5	Small Power	0%	0%	0%	0%
6	Agriculture	8%	7%	8%	5%
7	Public Lighting	8%	0%	8%	3%
8	Bulk Supply	4%	-3%	0%	0%
9	Others-Temporary Supply	-13%	-11%	0%	0%

6.1.7. Detailed analysis of energy sales projected

As per submission of the Petitioner, the category-wise energy sales as given in Table 6.1 for the FY 2009-10 to FY 2013-14 are the actuals, whereas the energy sales for FY 2014-15 are un-audited. The energy sales for the Control Period FY 2016-17 to FY 2018-19 are projected based on the 3 year CAGR for period from FY 2011-12 to FY 2014-15. The percentage contribution of sales by each category on the total sales during the year FY 2013-14 are shown below:

Table 6.13: Consumer category-wise contribution in energy sales in FY 2013-14 as submitted by the Petitioner (%)

Sl. No.	Consumer category	FY 2013-14	Percentage
NU.		Actual	
1.	Domestic	608.24	43%
2.	Commercial	446.18	31%
3.	Large Supply	123.94	9%
4.	Medium Supply	104.53	7%
5.	Small Power	20.36	1%
6.	Agriculture	1.46	0%
7.	Public Lighting	21.20	1%
8.	Bulk Supply	86.56	6%
9.	Others-Temporary Supply	7.68	1%
10.	Total	1420.15	

As discussed earlier, the Commission observes that the Petitioner has revised the category-wise energy sales in its submission dated October 01, 2015, in which the Petitioner has reduced the overall sales volume by 95.17 MU. However, on the basis of this revision, the Petitioner has not adjusted its sales projection for FY 2015-16 and subsequently for the MYT Control Period. Since, the revised estimates submitted to the Commission vide Memo No. SEE/OP/Comml. 1-2015/ 210/3093 dated October 01, 2015 for FY 2014-15 are the latest sales figures, the Commission considers it appropriate to project the sales for the Control Period considering the latest submission of the Petitioner.

Domestic

The sales to this category constitute 43% of total energy sales of the utility. CED has projected the energy sales to residential category for the Control Period, as given below:

Table 6.14: Energy sales projected by the Petitioner for the domestic category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic	870.75	957.83	1053.61

Petitioner Submission

It is submitted by the Petitioner that 3 year, 2 year and 1 year CAGR for the domestic category sales has been 11%, 10.8% and 18.3%, respectively. Based on the same the Petitioner has considered growth rate of 10%.

Commission View

Based on the revised sales submitted by the Petitioner, the actual growth during the last 3 years is 8% against the growth rate of 10% considered by the CED during the Control Period. Since it is projected that new domestic consumers will be added by 3% on Year-on-Year (Y-o-Y) basis during the Control Period, the energy sales growth of 8% is considered reasonable during the Control Period.

The Commission approves the energy sales to the domestic category during the Control Period, as shown below:

Table 6.15: Energy sales approved by the Commission for the domestic category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic	760.27	818.46	881.11

Commercial

The sales to this category constitute 31% of total energy sales of the utility. CED has projected the energy sales to commercial category for the Control Period, as given below:

Table 6.16: Energy sales projected by the Petitioner for the Commercial category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Commercial	539.57	566.54	594.87

Petitioner Submission

It is submitted by the Petitioner that CAGR of the past 5 years was 2.1%. Year-on-Year (Y-o-Y) sales during the last two years have been considerably higher with 12.2% and 9.7% due to increased commercial activities in the region. However, the Petitioner felt that the commercial activities have been stabilized and 5% growth rate is justified for this category.

Commission View

The actual growth during the last 3 years is 3% against the growth rate of 5% considered by CED for the MYT Control Period. Since, it is projected that new commercial consumers will be added by 2% Year-on-Year (Y-o-Y) basis during the

Control Period; the energy sales growth of 3% is considered reasonable during the Control Period.

The Commission approves the energy sales to the commercial category during the Control Period, as shown below:

Table 6.17: Energy sales approved by the Commission for the commercial category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Commercial	490.82	507.00	523.71

Large supply

The sales to this category constitute 9% of total energy sales of the utility. CED has projected the energy sales to large supply category for the Control Period, as given below:

Table 6.18: Energy sales projected by the Petitioner for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Large supply	115.03	115.03	115.03

Petitioner Submission

It is submitted by the Petitioner that there has been negative growth in large supply in the past few years, hence no growth has been estimated.

Commission View

The growth during the last 3 years was negative for this category. Since, no further growth is expected in this category during the Control Period, it is reasonable to consider 0% growth for this category.

The Commission approves the energy sales to the large supply category during the Control Period, as shown below:

Table 6.19: Energy sales approved by the Commission for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Large supply	117.00	117.00	117.00

Medium supply

The sales to this category constitute 7% of total energy sales of the utility. CED has projected the energy sales to medium supply category for the Control Period, as given below:

Table 6.20: Energy sales projected by the Petitioner for the large supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Medium supply	108.43	109.52	110.61

Petitioner Submission

The Petitioner has submitted that there has been marginal growth in medium supply in the past few years, hence 1% growth has been estimated.

Commission View

The growth during the last 3 years was 0.09% and CED expects a growth rate of 1% during the Control Period. The Commission has considered actual growth rate for last three years i.e. 0.09% for projecting the sales for medium supply category for Control Period.

The Commission approves the energy sales to the medium supply category during the Control Period, as shown below:

Table 6.21: Energy sales approved by the Commission for the medium supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Medium supply	104.72	104.82	104.92

Small supply

The sales to this category constitute 1% of total energy sales of the utility. CED has projected the energy sales to small supply category for the Control Period, as given below:

Table 6.22: Energy sales projected by the Petitioner for the small supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Small supply	19.57	19.57	19.57

Petitioner Submission

The Petitioner has submitted that there has been negative growth in small supply in the past few years, hence no growth has been estimated.

Commission View

The growth during the last 3 years was negative for this category. Since, no further growth is expected in this category during the Control Period, it is reasonable to consider 0% growth for this category.

The Commission approves the energy sales to the small supply category during the Control Period, as shown below:

Table 6.23: Energy sales approved by the Commission for the small supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Small supply	21.00	21.00	21.00

Agriculture

The sales to this category constitute very minimum share of total energy sales of the utility. CED has projected the energy sales to agriculture category for the Control Period, as given below:

Table 6.24: Energy sales projected by the Petitioner for the agriculture category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Agriculture	1.84	1.93	2.03

Petitioner Submission

The Petitioner has submitted that no specific trend has been observed in this category. Hence, it has assumed 5% CAGR for this category.

Commission View

The growth during the last 3 years was 8% and CED assumed growth rate of 5% during the Control Period. The Commission has considered the growth rate of 8% based on actual growth rate in last 3 years.

The Commission approves the energy sales to the agriculture category during the Control Period, as shown below:

Table 6.25: Energy sales approved by Commission for the agriculture category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Agriculture	1.87	2.02	2.18

Public Lighting

The sales to this category constitute 1% of total energy sales of the utility. CED has projected the energy sales to Public Lighting category for the Control Period, as given below:

Table 6.26: Energy sales projected by the Petitioner for the Public Lighting category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Public Lighting	23.21	23.91	24.62

Petitioner Submission

The Petitioner has submitted that no specific trend has been observed in this category. Thus, it has assumed 3% CAGR for this category.

Commission View

The growth during the last 3 years was 8% and CED has assumed growth rate of 3% during the Control Period. The Petitioner is also expecting addition of 47, 49, and 51 number of new consumers in FY 2016-17, FY 2017-18 and FY 2018-19 respectively. Hence, the energy sales growth of 8% is considered reasonable during the Control Period.

The Commission approves the energy sales to the Public Lighting category during the Control Period, as shown below:

Table 6.27: Energy sales approved by the Commission for the Public Lighting category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Public Lighting	25.67	27.74	29.96

Bulk Supply

The sales to this category constitute 6% of total energy sales of the utility. CED has projected the energy sales to Bulk Supply category for the Control Period, as given below:

Table 6.28: Energy sales projected by the Petitioner for the Bulk Supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Bulk Supply	86.51	86.51	86.51

Petitioner Submission

The Petitioner has submitted that sales have been declining and no specific trend has been observed, hence zero growth has been assumed for this category.

Commission View

The growth during the last 3 years was 4% and for last 2 years was negative, thus no specific trend has been observed by the Commission. However as it is expected that new bulk consumers shall be added to the distribution network it is reasonable to consider energy sales growth of 4% which is actual growth rate for last 3 years.

The Commission approves the energy sales to the Bulk Supply category during the Control Period, as shown below:

Table 6.29: Energy sales approved by the Commission for the Bulk Supply category for the Control Period FY 2016-17 to FY 2018-19 (MU

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Bulk Supply	89.06	92.26	95.57

Others-Temporary Supply

The sales to this category constitute 1 % of total energy sales of the utility. CED has projected the energy sales to Others-Temporary Supply category for the Control Period, as given below:

Table 6.30: Energy sales projected by the Petitioner for the Others-Temporary Supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Others-Temporary Supply	6.78	6.78	6.78

Petitioner Submission

The Petitioner has submitted that sales have been declining and no specific trend has been observed and therefore zero growth has been assumed for this category.

Commission View

Since, no further growth is expected in this category during the Control Period, it is reasonable to consider 0% growth for this category.

The Commission approves the energy sales to the Others-Temporary Supply category during the Control Period, as shown below:

Table 6.31: Energy sales approved by the Commission for the Others-Temporary Supply category for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Others-Temporary Supply	7.00	7.00	7.00

6.1.8. Total energy sales approved by the Commission

Total energy sales, as approved by the Commission for the Control Period, are given in the Table below:

Table 6.32: Category-wise energy sales approved by the Commission for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic	760.27	818.46	881.11
2.	Commercial	490.82	507.00	523.71
3.	Large Supply	117.00	117.00	117.00
4.	Medium Supply	21.00	21.00	21.00
5.	Small Power	104.72	104.82	104.92
6.	Agriculture	1.87	2.02	2.18
7.	Public Lighting	25.67	27.74	29.96
8.	Bulk Supply	89.06	92.26	95.57
9.	Others-Temporary Supply	7.00	7.00	7.00
10.	Total	1617.42	1697.30	1782.45

The Commission has examined the Petitioner's submission in respect of total number of consumers and connected load in detail and finds it appropriate to approve same for the MYT Control Period as under:

Table 6.33: Category-wise number of consumers approved by the Commission for the Control Period FY 2016-17 to FY 2018-19 (No.)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic	194,369	200,200	206,206
2.	Commercial	23,038	23,498	23,968
3.	Large Supply	108	108	108
4.	Medium Supply	1,295	1,346	1,400
5.	Small Power	1,275	1,275	1,275
6.	Agriculture	121	121	121
7.	Public Lighting	977	1,026	1,077

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
8.	Bulk Supply	592	592	592
9.	Others-Temporary Supply	620	620	620
10.	Total	222,394	228,786	235,367

Table 6.34: Category-wise connected load approved by the Commission for the Control Period FY 2016-17 to FY 2018-19 (kW)

Sl. No.	Consumer category	FY 2016-17	FY 2017-18	FY 2018-19
1.	Domestic	876,406	920,226	966,238
2.	Commercial	430,983	456,842	484,253
3.	Large Supply	74,661	76,155	77,678
4.	Medium Supply	71,285	74,136	77,102
5.	Small Power	19,655	19,852	20,050
6.	Agriculture	737	744	751
7.	Public Lighting	6,197	6,321	6,447
8.	Bulk Supply	41,464	41,464	41,464
9.	Others-Temporary Supply	4,187	4,187	4,187
10.	Total	1,525,574	1,599,926	1,678,169

6.2. Transmission and Distribution (T&D) losses

Petitioner Submission

The Petitioner has submitted that the department has been constantly endeavoring to reduce its T&D losses. As per the actual information for past years, CED has been able to reduce its losses from 24.22% in FY 2003-04 to 15.27% in FY 2013-14. The Petitioner has also submitted that the system improvement and augmentation works executed each year under the planned schemes have resulted in the reduction of T&D losses in its distribution area.

The Petitioner has further submitted that the Commission has approved the following T&D losses for CED from FY 2014-15 to FY 2016-17 vide its Order dated May 5, 2014 against the suo-moto Petition no 76/2012.

Table 6.35: T&D loss Target for CED approved by Commission from FY 2014-15 to FY 2016-17 in its Order dated May 5, 2014

Sl. No.	Description	FY 2014-15	FY 2015-16	FY 2016-17
1.	T&D Losses	15.00%	14.50%	14.00%

The Petitioner submitted that in view of the above T&D losses target specified by the Commission, it has submitted the following T&D losses trajectory for the Control Period from FY 2016-17 to FY 2018-19.

Table 6.36: T&D losses trajectory submitted by the Petitioner for the Control Period FY 2016-17 to FY 2018-19

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.	T&D Losses	14.00%	13.75%	13.50%

Commission View

The Commission in its Tariff Order dated April 10, 2015 has already specified the following:

Quote:

"The Commission acknowledges the efforts being done by the Petitioner for identification of various concern areas for high T&D losses and steps being taken for reduction of these losses. While it is acknowledged that creation of an interstate point within the periphery of Chandigarh may reduce the losses currently being borne by the Petitioner to bring the power to its periphery, the Commission is of view that the efforts currently being undertaken will take at least another 2 years to finally materialize. Till such time the interstate point is actually functional within the periphery of the Petitioner, the Commission shall continue its existing approach for determination of T&D losses wherein, the Commission, while approving T&D losses, considers the power availability at the licensee's periphery as accounted by Northern Region Power Committee. The T&D losses comprise of intra-state transmission and distribution losses. The Commission would like to reiterate that the approved losses were allowed considering the existing infrastructure, input and output points and Abraham Committee Report. The Commission has considered the T&D losses of 15% as approved in tariff order dated April 15th, 2013 and while approving the same the entire network of CED was covered. Further, the mentioned network belongs to the CED and is accordingly maintained. Accordingly, the Commission does not find any merit in the Petitioner current submission and hence has not considered any revision of losses as approved by the Commission. In the Order dated May 5th, 2014 in Petition No. 76/2012 of the Commission examined the information /report submitted by the respondent stating that the targeted reduction of T&D losses would be during 2014-15 and directed the respondent to make sincere and best efforts to further reduce the T&D losses. The Commission did not give its approval for 15% losses for FY 2014-15 and considered at 14% only for review of FY 2014-15, as indicated in the earlier chapter number 5. Chandigarh is a Metropolitan area and T&D loss in Metropolitan areas such as Ahmedabad area are only 7 to 8 %. In the absence of energy audit as specified in provision 15 of Tariff Regulations, 2009, the Commission for the purpose of determination of ARR for FY 2015-16, approves the T&D loss level at 13.75%, with 0.25% reduction over the approved estimated losses for FY 2014-15. The Commission has taken into consideration the difficulties expressed by the Petitioner and reduced only 0.25% instead of T&D loss

trajectory of 0.5%, though as per the recommendation of Abraham Committee the reduction should be 1%. However, the sharing of gain or loss on account of overachievement or under achievement of target specified by the Commission will be dealt in the true-up of FY 2015-16 on the basis of actual T&D loss level and audited figures of Quantum of Power purchase and Sales for FY 2015-16. The Commission has been insisting on the study to be carried out for T&D losses. This was being put off due to APDRP project planned to be undertaken. The Commission directs that a study with the help of NIC or should be undertaken immediately if the funding from PFC is getting delayed or being denied to CED on any ground."

Unquote

The Petitioner has not submitted any study report in compliance to the directions issued by the Commission for validation of T&D losses. The Commission is of the view that with modernization/up-gradation and commissioning of new 66 kV transmission and 11 kV distribution sub-stations and associated lines, the technical losses in the UT of Chandigarh can be brought down substantially. Further, with more intensive role of the "Enforcement Cell" and the department as a whole, the commercial losses can be reduced as well.

The Commission found, it is reasonable to set target loss reduction by 0.5% on Y-o-Y basis for the Control Period FY 2016-17 to FY 2018-19.

In view of that the approved T&D losses trajectory for the MYT Control Period is given below.

Table 6.37: T&D losses trajectory approved by the Commission for the Control Period FY 2016-17 to FY 2018-19

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.	T&D Losses	13.25%	12.75%	12.25%

6.3. Energy Efficiency

Petitioner Submission

The Petitioner has proposed to implement Efficient Lighting Program by distribution of LED bulbs in the UT of Chandigarh as a part of Demand Side Management Activity, through an Energy Service Company (ESCO), M/s. Energy Efficiency Services Limited, New Delhi. Under this scheme, the Petitioner has projected to save 12.56 MU each year of the Control Period FY 2016-17 to FY 2018-19.

Commission View

The Commission has made note of the submission of the Petitioner and has considered the submission to be reasonable.

However, the Commission has already accorded "In-Principal" approval for the Energy Efficiency Program and has directed the Petitioner to submit detailed action plan after finalization of the scheme by M/s EESL for its approval.

The Commission has also directed the Petitioner to focus on similar DSM measures through LED lamps in Government buildings and street lights (under National Program for LED Street Lightning).

Accordingly, the Commission shall approve the annual energy savings potential once the scheme is formally reviewed and approved by the Commission.

6.4. Energy Requirement

Petitioner Submission

Based on projected energy requirements and availability of power within the UT of Chandigarh, the Petitioner has submitted the Transmission and Distribution (T&D) losses trajectory and energy balance from FY 2016-17 to FY 2018-19.

Table 6.38: Energy requirement as submitted by the Petitioner for Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.	Energy Requirement			
1.1	Energy Sales (MU)	1,771.69	1,887.62	2,013.64
1.2	T&D Loss (%)	14.00%	13.75%	13.50%
1.3	Loss (MU)	288.42	300.92	314.27
1.4	Total Energy Required at UT Periphery (MU)	2,060.11	2,188.54	2,327.91
2	Energy Available			
2.1	Units Procured (MU)	1,684.34	1,684.34	1,684.34
2.2	Inter-State Transmission Loss (%)	3.00%	3.00%	3.00%
2.3	Transmission Loss (MU)	50.53	50.53	50.53
2.4	Net Energy Available at UT Periphery	1,633.81	1,633.81	1,633.81
3	Power Available within UT			
3.1	Power planned to be procured from NET Metering Mode (In MU)	7.01	11.21	16.82
3.2	Power planned to procure from Gross Metering Mode (In MU)	2.80	7.01	14.02
4	Total Energy Available	1,643.62	1,652.03	1,664.64
5	Demand Supply (Gap) / Surplus	(416.49)	(536.52)	(663.26)

The Petitioner has projected a demand supply gap of 416.49 MU, 536.52 MU, and 663.26 MU for FY 2016-17, FY 2017-18, FY 2018-19 respectively. To meet this gap, CED has proposed to procure additional 40 MW power from SJVL Rampur generating station and also through bilateral agreement / power exchange.

Commission View

Based on the approved sales, T&D losses, interstate transmission loss and energy savings approved by the Commission, energy requirement approved is as below.

Table 6.39: Energy requirement approved by the Commission for the Control Period FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018- 19
1.	Energy Requirement			
1.1	Energy Sales (MU)	1,617.42	1,697.30	1,782.45
1.2	T&D Loss (%)	13.25%	12.75%	12.25%
1.3	Loss (MU)	247.04	248.03	248.83
1.4	Total Energy Required at UT Periphery (MU)	1,864.46	1,945.33	2,031.29

6.5. Aggregate Technical & Commercial (AT&C) Losses

Petitioner Submission

The Petitioner has not proposed any reduction of the AT&C losses in its Business Plan Petition for MYT Control Period.

Commission's Analysis

The Commission, while fixing the collection efficiency for the MYT Control Period, expects the Petitioner to achieve 100% collection efficiency by the end of the Control Period i.e. FY 2018-19.

Based on the approved T&D loss levels, Commission approves AT&C loss of 13.27% for FY 2016-17 (collection efficiency of 98.00%), AT&C loss of 12.14% for FY 2017-18 (collection efficiency of 99.00%) and AT&C loss of 11.00% for FY 2018-19 (collection efficiency of 100%).

The Petitioner is expected to initiate efforts to improve collection efficiency and submit quarterly status report in this regard before the Commission.

Table 6.40: AT&C Losses approved by the Commission for the Control Period (%)

C No	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
S. No.		Approved	Approved	Approved
1	T&D Losses (%)	13.25%	12.75%	12.25%
2	Collection Efficiency (%)	98.00%	99.00%	100.00%
3	AT&C Losses (%)	14.99%	13.62%	12.25%

The Commission notes that the computation of the gain/loss as per provisions 10 and 11 of the MYT Regulations, 2014 would be done on the approved trajectory of T&D losses.

6.6. Power Procurement Plan

Petitioner Submission

The Petitioner has submitted that its various sources of power consist of NTPC, NHPC, NPCIL, BBMB, SJVNL and THDC. CED has made the estimates of the power purchase quantum for the Control Period FY 2016-17 to FY 2018-19 based on the allocation notification published by the MOP vide letter dated June 4, 2015. In addition, the Petitioner has considered the following factors, while arriving at the station-wise power availability during the Control Period.

- **1. NTPC:** CED has estimated the net energy generated from the generating stations of NTPC by considering average Plant Load Factor (PLF) of past three years and normative auxiliary consumption as per CERC Tariff Regulations. Based on the generated energy from each plant and its corresponding entitlement, CED has computed the unit availability for the UT of Chandigarh.
 - CED has also considered additional power of 11 MW from Koldam hydro generating station.
- **2. NHPC:** CED has estimated the energy generated from the generating stations of NHPC by considering design energy of the corresponding stations. Based on the energy generated by each plant and its corresponding entitlement, CED has computed the unit availability for the UT of Chandigarh.
- **3. NPCIL:** CED has estimated the net energy generated from the generating stations of NPCIL by considering average PLF of past three years. Based on the generated energy from each plant and its corresponding entitlement, CED has computed the unit availability for the UT of Chandigarh.
- **4. SJVNL**: To compute the estimated energy generated from the Naptha Jhakri generating station, CED has considered average generation of past three years. For Rampur hydro station, CED has estimated the design energy of the power plant. Based on the generated energy from each plant and its corresponding entitlement, CED has computed the unit availability for the UT of Chandigarh.

- **5. BBMB:** The UT of Chandigarh has been allocated fix quota of 1LU (Lac Units) and 10 LU per day from the BBMB plants. In addition to the above, 3.5% of the plant capacity has been allocated to the UT of Chandigarh. To estimate unit availability of each station, CED has considered the average generation of past three years. To estimate energy from Pong and Dehar power plant, an average of past three years has been considered by CED.
- **6. THDC:** CED has estimated energy generation from the Koteshawar and Tehri plants by averaging energy generation for the past three years. To estimate energy availability from this two stations for the Control Period, Chandigarh's entitlement in the past has been considered.

Based on the above estimate and methodology, the power procurement plan submitted by the Petitioner for the MYT Control Period is given below:

Table 6.41: Power procurement plan submitted by the Petitioner for the MYT Control Period (MU)

Sl. No.	Name of project	Allocation (in %)	Entitlement (in MW)	FY 2016-17	FY 2017-18	FY 2018-19
1	NTPC					
1.1	Anta GPS	1.830	7.67	34.29	34.29	34.29
1.2	Auraiya GPS	1.190	7.89	23.98	23.98	23.98
1.3	Dadri GPP	0.910	7.55	30.45	30.45	30.45
1.4	Dadri II TPP	0.260	2.55	16.92	16.92	16.92
1.5	Kahalgaon II	0.200	3.00	17.94	17.94	17.94
1.6	Rihand I	1.240	12.40	84.08	84.08	84.08
1.7	Rihand II	1.050	10.50	70.04	70.04	70.04
1.8	Rihand III	0.825	8.25	55.03	55.03	55.03
1.9	Singrauli	0.240	4.80	34.70	34.70	34.70
1.10	Unchahar I	0.570	2.39	16.64	16.64	16.64
1.11	Unchahar II	0.990	4.16	28.90	28.90	28.90
1.12	Unchahar III	0.760	1.60	11.90	11.90	11.90
1.13	Jhajjar (Aravali)	0.320	4.80	19.49	19.49	19.49
1.14	Koldam Hydro	1.375	11.00	42.84	42.84	42.84
2	NHPC					
2.1	Chamera I	3.900	21.06	64.16	64.16	64.16
2.2	Chamera II	1.440	4.32	21.34	21.34	21.34
2.3	Chamera III	1.241	1.49	13.59	13.59	13.59

Sl. No.	Name of project	Allocation (in %)	Entitlement (in MW)	FY 2016-17	FY 2017-18	FY 2018-19
2.4	Dhauliganga	1.360	3.94	15.25	15.25	15.25
2.5	Dulhasti	1.110	4.33	20.91	20.91	20.91
2.6	Parbathi III	1.240	6.45	24.21	24.21	24.21
2.7	Salal	0.270	1.86	8.24	8.24	8.24
2.8	Sewa II	1.470	1.76	7.76	7.76	7.76
2.9	Tanakpur	1.280	1.20	5.73	5.73	5.73
2.10	Uri-I	0.600	2.88	15.34	15.34	15.34
2.11	Uri II	0.600	1.44	6.66	6.66	6.66
3	NPCIL					
3.1	NAPP	1.760	7.74	43.19	43.19	43.19
3.2	RAPP (#3 and #4)	0.792	3.48	23.62	23.62	23.62
3.3	RAPP(#5 and #6)	1.720	7.57	51.31	51.31	51.31
4	SJVNL					
4.1	Nathpa Jhakri	0.950	14.25	65.89	65.89	65.89
4.2	Rampur (UQ)	0.390	1.61	7.24	7.24	7.24
5	ВВМВ					
5.1	BBMB 3.5 %	3.500	171.50	188.71	188.71	188.71
5.2	BBMB 1 LU	-	1 LU per day	36.50	36.50	36.50
5.3	BBMB 10 LU	-	10 LU per day	365.00	365.00	365.00
5.4	Pong	3.500	12.60	57.38	57.38	57.38
5.5	Dehar	3.500	34.65	111.19	111.19	111.19
6	THDC					
6.1	Koteshwar	0.780	2.80	10.13	10.13	10.13
6.2	Tehri	1.020	9.40	34.63	34.63	34.63
	Total			1,684.34	1,684.34	1,684.34

In addition to above mentioned power sources, the Petitioner has also projected additional 40 MW power from Rampur plant and short term purchase through bilateral arrangement/power exchange to meet the demand supply gap in the Control Period.

Sl. No.	Name of project	FY 2016-17	FY 2017-18	FY 2018-19
1	Rampur (additional 40 MW power)	180.15	180.15	180.15
2	Bilateral arrangement/Power exchange	236.34	356.37	483.11
3	Total	416.49	536.52	663.26

Table 6.42: Additional power procurement for the MYT Control Period as submitted by the Petitioner (MU)

Commission View

As per the provision 9.1 of the MYT Regulations, 2014, variation in the cost of power generation and/or power purchase due to the circumstances specified in these Regulations is considered as an uncontrollable parameter. Thus, the power purchase may have to be revisited every year by the Commission based on the audited accounts, latest allocations available to CED, and prevailing power rates of each source.

The Commission finds it appropriate to review and approve the power purchase quantum and cost at the time of finalization of MYT Order/APR Orders only. The Commission, for the purpose of the Business Plan, finds it appropriate only to approve the sources of power purchase for the utility. The exact quantum and thereby the power purchase cost, considering the merit order principles along with the latest available allocation and audited accounts, would be done at the time of finalization of the MYT Tariff Order.

To review the latest entitlement for CED, the Commission has examined the latest power allocation/entitlement Order dated October 14, 2015 published by the MoP for the states in the northern region. The Commission has noted the following modifications in terms of entitlement of power for CED:

- 1. CED has been allocated additional 40 MW power from Tehri (1000 MW) Plant.
- 2. CED's allocation from NTPC Koldam Hydro has been marginally increased to 1.43% from 1.38% as submitted by the Petitioner.
- 3. Allocations from NPCIL's RAPP (#3 and #4) and RAPP (#5 and #6) has been marginally reduced by 0.13% and 0.40%.

Based on the allocation statement dated 14 October 2015 published by the MoP and the above consideration, the Commission provides the following sources of power purchase for the Control Period 2016-17 to FY 2018-19 for CED.

Table 6.43: Power purchase source approved by the Commission for the Control Period FY 2016-17 to FY 2018-19 (MW)

Sl. No.	Name of project	Installed capacity (MW)
1	NTPC	
1.1	Anta GPS	419.33
1.2	Auraiya GPS	663.00
1.3	Dadri GPP	829.78
1.4	Dadri II TPP	980.00
1.5	Kahalgaon II	1,500.00
1.6	Rihand I	1,000.00
1.7	Rihand II	1,000.00
1.8	Rihand III	1,000.00
1.9	Singrauli	2,000.00
1.10	Unchahar I	420.00
1.11	Unchahar II	420.00
1.12	Unchahar III	210.00
1.13	Jhajjar (Aravali)	1,500.00
1.14	Koldam Hydo	800.00
2	NHPC	
2.1	Chamera I	540.00
2.2	Chamera II	300.00
2.3	Chamera III	120.00
2.4	Dhauliganga	290.00
2.5	Dulhasti	390.00
2.6	Parbathi III	520.00
2.7	Salal	690.00
2.8	Sewa II	120.00
2.9	Tanakpur	94.00
2.10	Uri-I	480.00
2.11	Uri II	240.00
3	NPCIL	
3.1	NAPP	440.00

Sl. No.	Name of project	Installed capacity (MW)
3.2	RAPP (#3 and #4)	440.00
3.3	RAPP(#5 and #6)	440.00
4	SJVNL	
4.1	Nathpa Jhakri	1,500.00
4.2	Rampur (UQ)	412.00
5	ВВМВ	
5.1	BBMB 3.5 %	2,711.00
5.2	BBMB 1 LU	-
5.3	BBMB 10 LU	-
5.4	Pong	396.00
5.5	Dehar	990.00
6	THDC	
6.1	Koteshwar	400.00
6.2	Tehri	1,000.00

6.7. Renewable Purchase Obligations (RPO)

Petitioner Submission

The Petitioner has proposed the RPO for the Control Period based on the JERC (Procurement of Renewable Energy) First Amendment Regulations 2014. The Petitioner submitted that the department would be opting to meet the Solar RPO partially from the purchase of solar power from roof-top projects within the UT of Chandigarh (both Net metering mode and Gross metering mode), while the balance solar obligations have been proposed to be met through purchase of Renewable Energy Certificates (REC's).

CED has further submitted that in absence of any non-solar power plants within the UT of Chandigarh, the Non-Solar RPOs compliance shall be completely met by purchase of non-solar REC's.

The RPO trajectory submitted by the Petitioner for the Control Period FY 2016-17 to FY 2018-19 is presented below:

Table 6.44: RPO trajectory submitted by the Petitioner for the Control Period from FY 2016-17 to FY 2018-19 (MU)

Sl. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1.	Solar	20.37	28.31	37.26
1.1	Power planned to be procured from NET Metering mode (MU)	7.0080	11.2128	16.8192
1.2	Power planned to be procured from GROSS Metering mode (MU)	2.8032	7.0080	14.0160
1.3	RPO to be met with REC (MU)	10.5600	10.0900	6.4200
2	Non-Solar	49.61	52.85	56.38
2.1	Total power to be procured to meet non-Solar Obligations	49.61	49.61	49.61
3	Total Solar and Non-Solar	69.98	109.47	130.89

Commission's Analysis

The Commission has made note of the submission of the Petitioner and appreciates efforts being made to meet the RPO. The Commission expects that the Petitioner would make all efforts in earnest as mentioned by it. Actual compliance in respect of the pending RPO would be reviewed at the time of true-up of the respective years and all pending RPOs up-to FY 2014-15 (balance based on actual compliance) must be accounted for while submitting the data for FY 2015-16. Supporting details such as purchase of RECs, bills from solar/non-solar plants for the respective years must be submitted along with the MYT filing.

The Commission approves the RPO for each year of the Control Period based on the JERC (Procurement of Renewable Energy) First Amendment Regulations 2014 as below. The RPO target is 3.95% for FY 2016-17, 4.30% for FY 2017-18 and 4.65% for FY 2018-19 as per the mentioned JERC regulations. The pending RPOs up to FY 2014-15 (balance based on actual compliance) must be accounted for while submitting the review for FY 2015-16 at the time of the MYT Tariff filing.

The Commission, directs, that all pending RPO up-to FY 2015-16 must be fulfilled by the Petitioner by March 31, 2016 and no backlog would be allowed to be carried forward to the Control Period FY 2016-17 to FY 2018-19. The Commission expects that the Petitioner would give priority to obtaining physical solar and non-solar power.

S.	Dorticulore	Particulars FY 17		FY 18		FY 19	
No.	r ai ticulai s	Submitted	Approved	Submitted	Approved	Submitted	Approved
1	Sales (MU)	1771.69	1617.42	1887.62	1697.30	2013.63	1782.45
2	Percentage (%)	3.95%	3.95%	4.30%	4.30%	4.65%	4.65%
	Solar	1.15%	1.15%	1.50%	1.50%	1.85%	1.85%
	Non-Solar	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%
3	Million Units (MU)	69.98	63.89	81.17	72.98	93.63	82.88
	Solar	20.37	18.60	28.31	25.46	37.25	32.98
	Non-solar	49.61	45.29	52.85	47.52	56.38	49.91

Table 6.45: RPO trajectory approved by the Commission for the MYT Control Period (MU)

6.8. Status/Action plan for reorganization, restructuring and development of the electricity industry

Petitioner Submission

The Petitioner has submitted that matter of the corporatization of CED is under active consideration. The Petitioner further submitted that the budgetary offers for consulting work for restructuring / corporatization of CED have been called from various firms and DNIT shall be floated within next three months. The finalization of further tendering process may take further six months.

Commission's Analysis

In the Tariff Order dated April 10, 2015, the Commission had directed the Petitioner to initiate action for corporatization of the Department. The Commission notes that the efforts for separation of transmission and distribution entities has been initiated. The Commission directs the Petitioner to speed-up its efforts in this regard and submit quarterly progress report before the Commission.

The Commission will review its compliance at the time of approval of MYT Order and accordingly, the Commission is not initiating any action on this issue for the purpose of Business Plan.

6.9. Norms for O&M Expenses

Petitioner Submission

The Petitioner, in its Business Plan submission, has not submitted the proposed O&M Expenses for MYT Control Period and has requested the Commission to allow the O&M expenses for CED based on the actual O&M expenses incurred in the past years until the segregation of transmission and distribution functions and completion of audit of CED accounts for past years.

Commission's Analysis

The Commission is of the view that it is the responsibility of the Petitioner to get its accounts audited on time and the same should not be a reason for deviation from the Regulations. The Commission has time and again directed the Petitioner to get its accounts audited in time bound manner and also segregate its distribution and transmission functions.

The Commission of the view even in absence of audited information, the norms should be approved on the basis of latest available information. Accordingly, the Commission asked the Petitioner to submit the following details of Employee Expenses, R&M expenses and A&G expenses for the past years:

- Number of personnel per 1000 consumers
- Number of personnel per substation
- Annual employee expenses per personnel
- A&G expense per personnel
- A&G expense per 1000 consumers
- R&M expense as percentage of gross fixed assets

In response to the above, the Petitioner submitted the above details for FY 2011-12 and FY 2012-13 as per its audited accounts and for FY 2013-14 and FY 2014-15 based on actual un-audited data. However, the Petitioner has still not submitted any projections for the MYT Control Period.

The details submitted by the Petitioner are as follows:

Table 6.46: Details regarding norms for O&M Expenses submitted by the Petitioner for FY 2011-12 to FY 2014-15

Particulars	Unit	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
No. of personnel	No.	1127	1085	1,057	1,014
No. of Consumers	No.	2,00,342	1,97,715	2,00,632	2,10,153
No. of 220/66/33/11 kV S/s	No.	1693	1709	1,840	1,904
Total Employee Expenses	Rs.	45,89,42,441	45,34,74,514	51,30,80,799	59,89,03,084
A&G Expenses	Rs.	32,16,82,222	7,23,47,928	4,35,43,951	3,06,18,177
R&M Expenses	Rs.	9,22,83,529	8,20,74,980	10,79,17,614	10,44,84,674
Gross Fixed Asset	Rs.	3,63,60,01,591	3,56,60,77,744	3,81,37,31,419	3,91,57,01,751
No. of Personnel per 1000 consumer	No.	5.63	5.49	5.27	4.83
No. of Personnel per Substation (220/66/33/11 kV)	No.	0.67	0.63	0.57	0.53
Annual Employee expense per personnel	Rs.	4,07,225	4,17,949	4,85,412	5,90,634
A&G Expense per personnel	Rs.	2,85,432	66,680	41,196	30,195
A&G Expense per 1000 consumers	Rs.	16,05,665	3,65,920	2,17,034	1,45,695
R&M Expense as percentage of GFA	Rs.	2.54%	2.30%	2.83%	2.67%

6.9.1. Norms for Employee Costs

The Commission, based on the average for last three years i.e. FY 2012-13 and FY 2014-15, has approved the norms for employee expenses as shown in the table below:

Table 6.47: Employee Expenses norms as approved by the Commission for the MYT Control Period

Particulars	Unit	Control Period
No. of Personnel per 1000 consumer	No.	5.19
No. of Personnel per Substation (220/66/33/11 kV)	No.	0.58
Annual Employee expense per personnel	Rs.	4,97,998

The Commission has considered a norm of 5.19 employees per 1000 consumers and 0.58 employees per substation as reasonable for the Control Period FY 2016-17 to FY 2018-19, based on the average norm submitted by the Petitioner for the Control Period. The Commission also approves the weightage of these two factors in overall employee expense computation as 50:50 and same should be considered by the Petitioner while arriving at the employee expenses for the Control Period during the MYT filing.

The Commission, considers the expense of Rs. 4,97,998 per employee as reasonable for the Control Period from FY 2016-17 to FY 2018-19, based on the average of actual data for FY 2012-13 and FY 2014-15 (as on end of FY 2013-14).

The same should be considered as the base employee expense i.e. Rs. 4,97,998 per employee at the end of FY 2013-14 suitably escalated by the Wholesale Price Index (WPI) for immediately preceding three years, as per the provision 21.1 of the MYT Regulations 2014 to arrive at the employee expenses for the Control Period. The above norms are subject to revision if there is considerable variation in the figures available in audited accounts for FY 2013-14 and FY 2014-15.

The treatment of the employee expenses during the true-up would be in accordance with the provisions of provision 9.2, 10 and 11 of the MYT Regulations 2014.

6.9.2. Norms for A&G Expenses

The Commission based on the average for last three years i.e. FY 2012-13 and FY 2014-15 has approved the norms for A&G expenses as shown in the table below:

Table 6.48: A&G Expense norms as approved by the Commission for Control Period

Particulars	Unit	Control Period
A&G Expense per employee	Rs.	46,024
A&G Expense per 1000 consumers	Rs.	2,42,883

The Commission approves the weightage of these two factors in overall A&G computation as 50:50 and the same should be considered by the Petitioner while arriving at the A&G expenses for the Control Period during the MYT filing. The above norms are subject to revision if there is considerable variation in the figures available in audited accounts for FY 2013-14 and FY 2014-15.

The A&G expenses for the Control Period would be determined in accordance with provision 21.3 of the MYT Regulations 2014. The treatment of the A&G expenses during the true-up would be in accordance with the provisions of provisions 9.2, 10 and 11 of the MYT Regulations 2014.

6.9.3. Norms for R&M Expenses

The Commission has observed that there is reduction in Gross Fixed Assets in FY 2012-13 from FY 2011-12 for which the Petitioner has not provided any justification. The Commission has worked out the K-factor as 2.60% on the basis of the average for last three years i.e. FY 2012-13 and FY 2014-15. The K-factor of 2.60% is considered reasonable by the Commission and hence approved for the MYT Control Period. The above norms are subject to revision if there is considerable variation in the figures available in audited accounts for FY 2013-14 and FY 2014-15.

The above norm should be considered while arriving at the R&M expenses for the Control Period at the time of filing of the MYT Tariff Petition in accordance with provision 21.2 of the MYT Regulations 2014.

The treatment of the R&M expenses during the true-up would be in accordance with the provisions of provision 9.2, 10 and 11 of the MYT Regulations 2014.

6.10. Normative levels of Availability for Wires and Supply Business

Petitioner Submission

The Petitioner submitted that considering the fact that the CED is still to segregate its transmission and distribution functions, segregation and monitoring the parameters of the distribution business under wires and retail supply functions is very difficult at the moment. Therefore, it is requested that the Commission should provide separate targets/ trajectories for wheeling and retail supply business only after CED has separated its transmission and distribution functions.

Commission's Analysis

As per the provision 34 of the MYT Regulations, 2014

- a) The availability index of wheeling business & supply business shall be maintained separately by the Licensee and informed to the Commission. The Distribution Licensee shall maintain data on planned maintenance outages, load shedding, force majeure outages and tripping.
- b) The incentive/disincentive shall exclude the circumstances when the actual supply differs from the contracted supply due to force majeure situations, weather conditions, extreme monsoon failure, station outages, etc. which are beyond the control of the Distribution Licensee.
- c) The Commission shall specify progressively increasing normative levels of Availability for Wires and Supply Business of the Distribution Licensee on the basis of past performance over the Control Period. Provided that the Availability of Supply Business shall not be lower than 90% and shall gradually increase to 95% or 98% in no less than three years.

During the TVS, it was observed that the utility is not clear on the approach for computation of Wires and supply availability as the MYT Regulations, 2014 do not give details on the approach for computation of same.

The Commission notes the constraints faced by the utility as the Regulations do not give details about the methodology for computation of the same. Further, there is also an issue of availability of reliable information regarding the base load data, which can make the whole exercise of computation of the availability indices futile. The Commission, for the purposes of this Business Plan Order is not fixing any wires and supply availability index, however, the Commission is setting out the guidelines for determination of the same as below.

The wires availability shall be computed as below.

Wires Availability = $(1 - (SAIDI / 8760)) \times 100$

The SAIDI shall be computed in line with the provisions of JERC (Standards of Performance) Regulations, 2009.

The Supply Availability shall comprise of the following parameters in the proportion as mentioned below:

(a) Base load Supply Availability 75 percent

(b) Peak load Supply Availability 25 percent

Base load Supply Availability shall be computed in accordance with the following formula: = (Actual Contracted Base Load Supply in MW) ÷ (Base load in MW)

Provided that the base load shall be calculated based on unrestricted demand of a Distribution Licensee for the retail supply of electricity.

Peak load Supply Availability shall be computed in accordance with the following formula: = (Actual Contracted Peak Load Supply in MW) ÷ (Peak load in MW).

Provided that the peak load shall be calculated based on unrestricted demand of a Distribution Licensee for the retail supply of electricity

The incentive/disincentive for wires and supply availability shall be laid out separately. The Commission directs the Petitioner to start maintaining the data in accordance with the above guidelines so that data reliability issues are not faced next time when the Commission comes out with the amendments to the regulations in this regard.

7. Directives based on the Business Plan Analysis

The Commission, herein, below is listing out the directives based on the analysis of the Business Plan carried out by the Commission. The directives as spelt out in the last Tariff Order dated April 10, 2015 stand as it is and the compliance of the same should be submitted to the Commission along with the MYT Tariff Petition for the Control Period.

7.1. Manpower Planning

The manpower study conducted through M/s Deloitte has been approved by the Hon'ble Commission and the same has been submitted to Ministry of Power, GoI for its approval so that the same could be implemented.

The Commission directs the Petitioner to vigorously pursue the matter with the Ministry of Power and close this matter by January 31, 2016.

7.2. Public Awareness and Public Grievance Meetings

The Commission directs the CED to create awareness amongst the consumers on the standards of performance notified by the Commission and arrange to publish the standards of performance/salient features of Supply Code and Distribution Code in all leading newspapers and through notice board displays in the vernacular, in simple language i.e. understandable to the general consumer.

The Commission also directs the CED to convene periodic public grievance meetings once in every month to redress consumer related issues.

7.3. Approval of Capital Expenditure Schemes

As per the provision 22 of MYT Regulations, 2014, the Distribution Licensee shall seek prior approval of the Commission for capital expenditure greater than Rs.10 Crores (Rupees Ten Crores).

The Commission has observed that the Petitioner has neither provided the cost-benefit analysis for the schemes above Rs 10 Crores nor provided any supporting documents relating to such schemes for prior approval from the Commission in line with the provisions of MYT Regulations 2014.

The Commission directs the petitioner to submit complete documents related to each such scheme along with approvals from the CEA/ UT Administration/ other competent authority for further review and approval of the Commission for all schemes above Rs 10 Crores.

7.4. Energy Efficiency Program

The Commission directs the Petitioner to submit detailed action plan after finalization of the Efficient Lighting Program (by distribution of LED bulbs in the UT of Chandigarh) by M/s EESL for its approval.

The Commission also directs the Petitioner to focus on similar DSM measures through LED lamps in Government buildings and street lights (under National Program for LED Street Lightning).

7.5. Smart Grid Initiative

The Commission directs the petitioner to submit all the details pertaining to technological, financial and implementation aspects for review and approval of the Commission post finalization of the scheme.

7.6. Renewable Purchase Obligation

The Commission, directs, that all pending RPO up-to FY 2015-16 must be fulfilled by the Petitioner by March 31, 2016 and no backlog would be allowed to be carried forward to the Control Period FY 2016-17 to FY 2018-19. The Commission expects that the Petitioner would give priority to obtaining physical solar and non-solar power.

7.7. True-up for previous years

The Commission notes that already there is a considerable delay in submission of audited accounts based on commercial principles. The Commission advises the Petitioner to take up the matter with CAG for expediting the same. The Commission directs the Petitioner to submit the accounts prepared on commercial principles before the Commission for truing-up of previous years. The Commission will undertake final true-up for financial years for which accounts are already audited by CAG and provisional true-up for years which the accounts are in process of auditing by CAG.

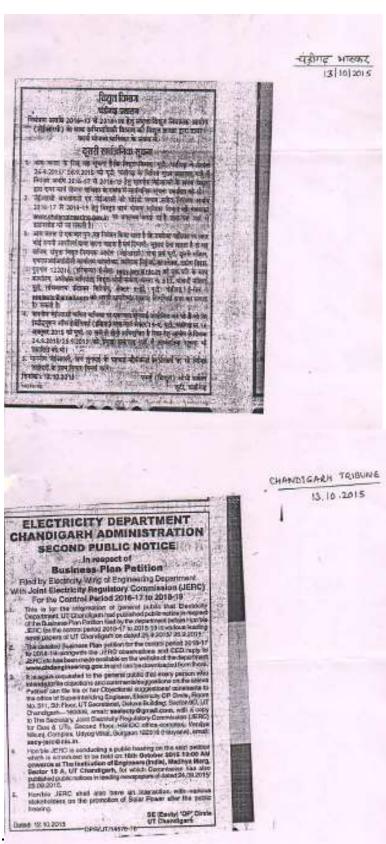
7.8. Procurement of safety equipment

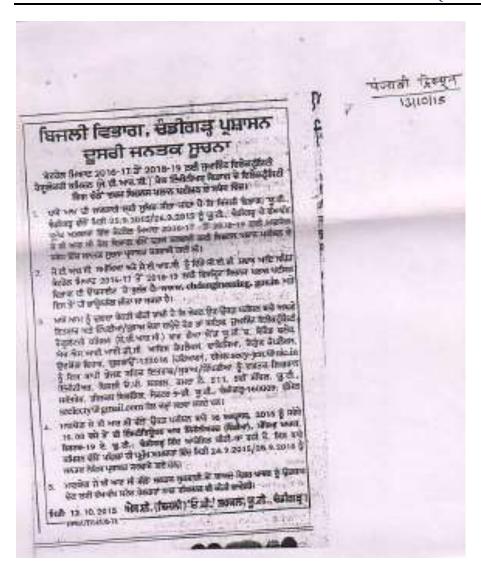
The Petitioner is directed to take appropriate actions on procurement of necessary safety equipment as mentioned in the last Tariff Order and provide adequate training to the staff on safety measures. The Commission also directs the Petitioner to file progress report on safety equipment purchased in every quarter of the financial year.

7.9. MYT Tariff Petition for FY 2016-17 to FY 2018-19

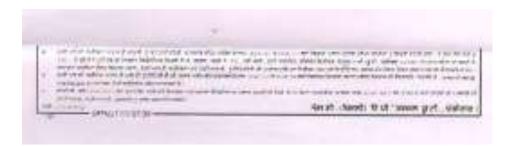
It is directed that the MYT Tariff Petition for the Control Period from FY 2016-17 to FY 2018-19 be filed before the Commission within 30 days of the issuance of this Business Plan Order. The Retail Tariff proposals are to be submitted only for the first year of the Control Period namely FY 2016-17 whereas ARR calculations are to be submitted for the full Control Period FY 2016-17 to FY 2018-19.

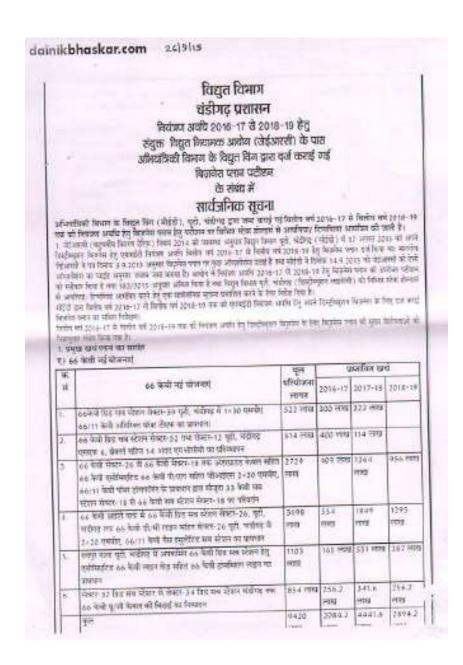
Annexure 1: Public Notices published by the Petitioner







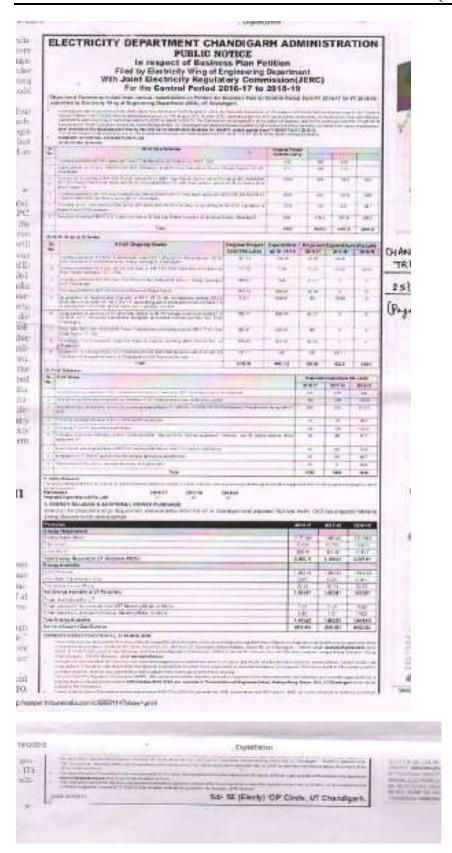




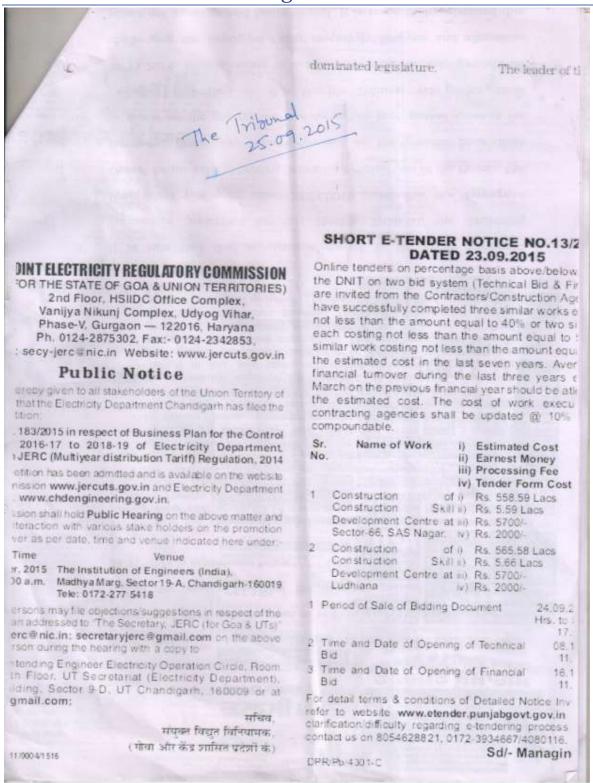
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2	विकास के का सामगुर पर्यक्ष में 6671 के में विद्यासन के अपने में 1 करा 66 के में न्यान के के दूर की विकास	117.75 初旬	17.44 (101)	27.02 WSQ	27.02 (mg	36.03 Htt
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	११ केवी अंतरप्रदेश काम विम्हीक्षूत्रच सिन्टम के बा मतन्त्रतेवाण	प्रमान क्षा क्रिके	ब्यूजन विराटम	180	160	170.0

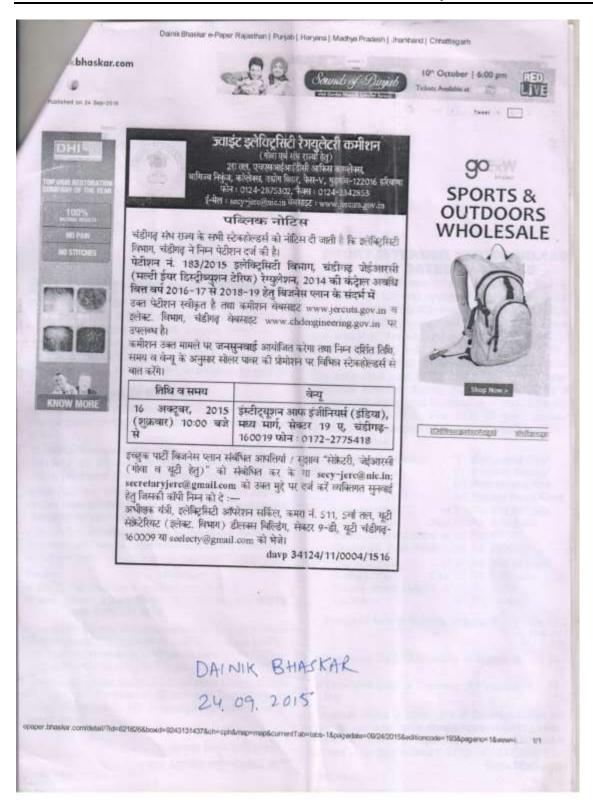
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<u>प्रथलका चनवी</u>			-		
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सभी गरेक होगाइमें से विश्वविषया/ मुहारम 1. तार्थन में हर वृक्ष हमा उम्पोक्त परिवार के जन्म में कि विभागत में कि मानूक विष्णु हे गाउन अर्थन (विश्वविष्य) में कहा मान्येक्त उपलित्त मुख्य में प्रथम (विश्वविष्य) है कार मान्येक्त उपलित्त में मान्ये मेंग्रे सिंग्रेट, क्या से 1000 वर्षाय अर्थन मान्येक्त हमा और सिंग्रेट क्या से 1. वर्षाय की मान्येक्त को कि मान्येक्त सुक्त को का पार्ट का मार्थ है के पत्र भीवत की मान्येक्त मान्येक्त मान्ये मान्येक्त का मुख्य के प्रयुक्त में प्रथम विद्या का मान्येक्त मान्ये मान्येक्त मान्	क्ष चा पूर चा हुन्या म मैत geograpes द्विता (11) पंचरी चीतान पूर्व प्राप्त के प्राप्त में प्राप्त वा के उन्होंने किये मारा प्राप्त प्रश्न है है मानते में पूर्व विद्युप्त विश्वस्क करने 2015 की प्राप्त के मेरी व कर दिखा पाइंगा उन्होंने सीता विश्वस्क करने	तार प्रभावन है। Lin के एक प्री- प्रवेशकार में तेन प्रमान प्रभाव है से प्रभाव प्रभाव के से प्रभाव प्रभाव के से प्रभाव प्रभाव के से है। १८१६ प्रमान के से	संक्रा । संक्रा । संक्रा । संक्रा । संक्रा । संक्रा । स्वा में आ स्वा में आ स्व में आ से से आ से में आ से से से आ से से से आ से से आ से से आ से से आ से से आ से से से आ से से से आ से से आ से से से आ से से से आ से से से आ से से से आ से से आ से से आ से से आ से से से से से आ से से स	to t	्ते तर अस्ति भी पूरे पी भा श्री पी भा श्री पी भा ती पी भावति पी सम्बद्धाः प्रदेश सम्बद्धाः प्रदेश सम्बद्धाः प्रदेश

4. महिन्दारों आवर्षिय पान नेहें अपने को चीर्ट के बच्चा हाती. जीत विराज अवीप 10% 17 में 1018-19 हेतू किया विराज पान 4. महिन्दारों आवर्षिय पान नेहें अपने को चीर्ट के बच्चा हाती. जीत विराज अवीप 10% 17 में 1018-19 हेतू किया विराज पान के प्रीज 12 to 2015 कर पान हो माने आयोगी पान विराज में मुख्य के प्राचन के पान हैं। किया पान प्राचन के पान के प्राचन के पान के



Annexure 2: Public Notices published by the Commission for intimation of Public Hearing











Earphones for ₹1

Danik Bhaskar e-Paper Rajasthan | Punjab | Haryana | Madhya Pradesh | Jharihand | Chhattisgarh

पब्लिक नोटिस

चंडीगढ़ संघ राज्य के सभी स्टेकहॉल्डसं को नोटिस दी जाती है कि इलेन्ट्रिसिटों विभाग, चंडीगढ़ ने निम्न पेटोशन दर्ज की है। पेटोशन ने. 183/2015 इलेक्ट्रिसिटी विभाग, चंडीगढ़ जेडआरसी (पाल्टी ईयर डिस्ट्रीब्युशन टेरिफ) रेखुलेशन, 2014 की केट्रील अवधि वित्त वर्ष 2016-17 से 2018-19 हेतु विजानेस एनान के संदर्भ में

उक्त पेटीशन स्वीकृत है तथा कमीशन वेबसाइट www.jercuts.gov.in व इलेक्ट. विभाग, चंडीगढ़ वेबसाइट www. chdengineering.gov.in पर उपलब्ध है।

कमीशन उक्त मामले पर <mark>जनसुनवाई</mark> आयोजित करेगा तथा निम्न दर्शित तिथि, समय व वेन्यू के अनुसार सोलर पावर की प्रोमोशन पर विभिन्न स्टेकहोल्डस से बात करेंगे।

तिथि व समय	वेन्यू
16 अक्टूबर, 2015 (शुक्रवार) 10:00	इंस्टीट्यूशन आफ इंजीनियर्स (इंडिया), मध्य पार्ग, सेक्टर
वजे से	19 ए, चंडीगढ़-160019 फोन : 0172-2775418

इच्छुक पार्टी विजनेस प्लान संबंधित आपत्तियां / सुझाव "सेक्रेटरी, जेईआरसी (गोवा व यूटी हेतु)" को संबोधित कर के या secy-jerc@nic.in; secretaryjerc@gmail.com को उक्त मुद्दे पर दर्ज करें व्यक्तिगत सुनवाई हेतु जिसकी कॉपी निम्न को दे :—

अधीक्षक यंत्री, इलेक्ट्रिसिटी ऑग्रेशन सर्किल, कमरा नं. 511, 5वां तल, यूटी मेक्केटेरियट (इलेक्ट. विभाग) डीलक्स बिल्डिंग, सेक्टर 9-डी, यूटी चंडीगढ़-160009 या seelecty@gmail.com को भेजे।

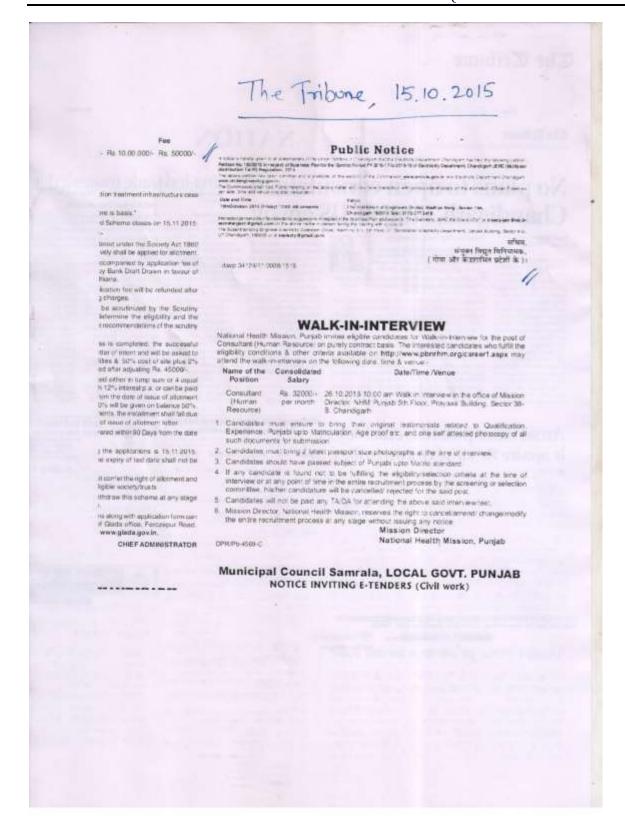
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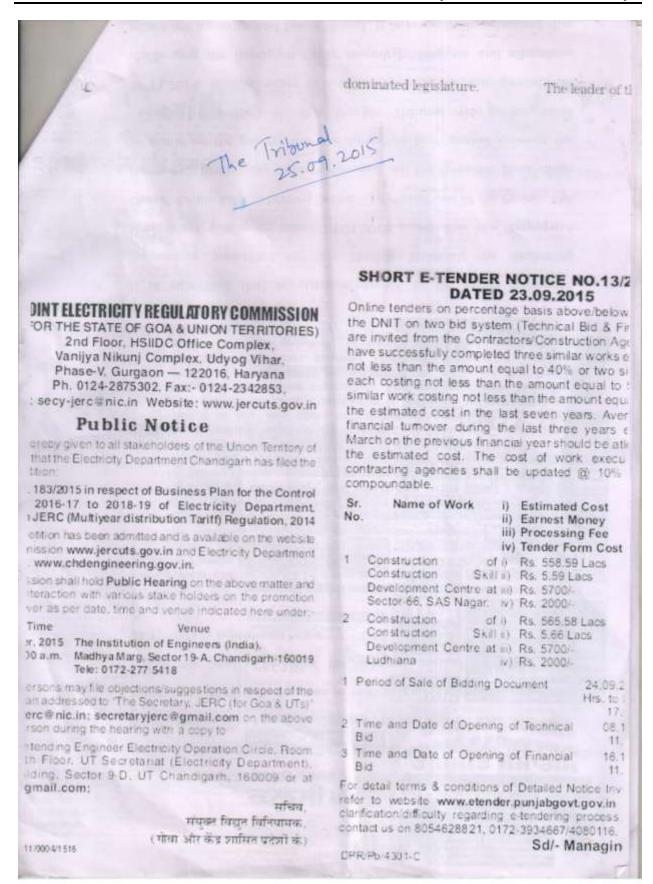
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पब्लिक नोटिस

चंडीगढ़ संघ राज्य के सभी स्टेकहॉल्डसं को नोटिस दी जाती है कि इलेन्ट्रिसिटों विभाग, चंडीगढ़ ने निम्न पेटोशन दर्ज की है। पेटोशन ने. 183/2015 इलेक्ट्रिसिटी विभाग, चंडीगढ़ जेडआरसी (पाल्टी ईयर डिस्ट्रीब्युशन टेरिफ) रेखुलेशन, 2014 की केट्रील अवधि वित्त वर्ष 2016-17 से 2018-19 हेतु विजानेस एनान के संदर्भ में

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कमीशन उक्त मामले पर जनसुनवाई आयोजित करेगा तथा निम्न दर्शित तिथि, समय व वेन्यू के अनुसार सोलर पावर की प्रोमोशन पर विभिन्न स्टेकहोल्डर्स से बात करेंगे।

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इच्छुक पार्टी विजनेस प्लान संबंधित आपत्तियां / सुझाव "सेक्रेटरी, जेईआरसी (गांवा व यूटी हेतु)" को संबोधित कर के या secy-jerc@nic.in; secretaryjerc@gmail.com को उक्त मुद्दे पर दर्ज करें व्यक्तिगत सुनवाई हेतु जिसकी कॉपी निम्न को दे :—

अधीक्षक यंत्री, इलेक्ट्रिसिटी ऑगरेशन सर्किल, कमरा नं. 511, 5वां तल, यूटी सेक्रेटेरियट (इलेक्ट. विभाग) डीलक्स बिल्डिंग, सेक्टर ९-डी, यूटी चंडीगढ़-160309 या seelecty@gmail.com को भेजे।

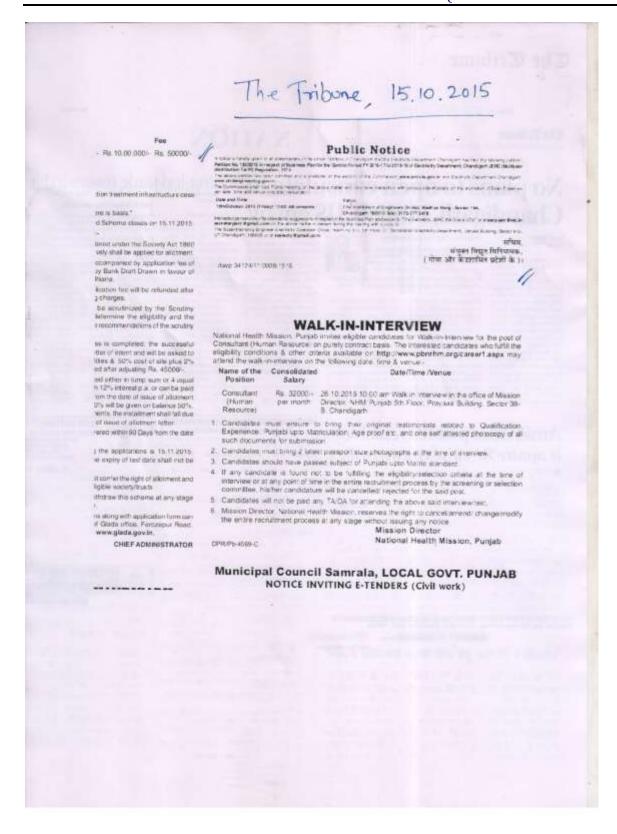
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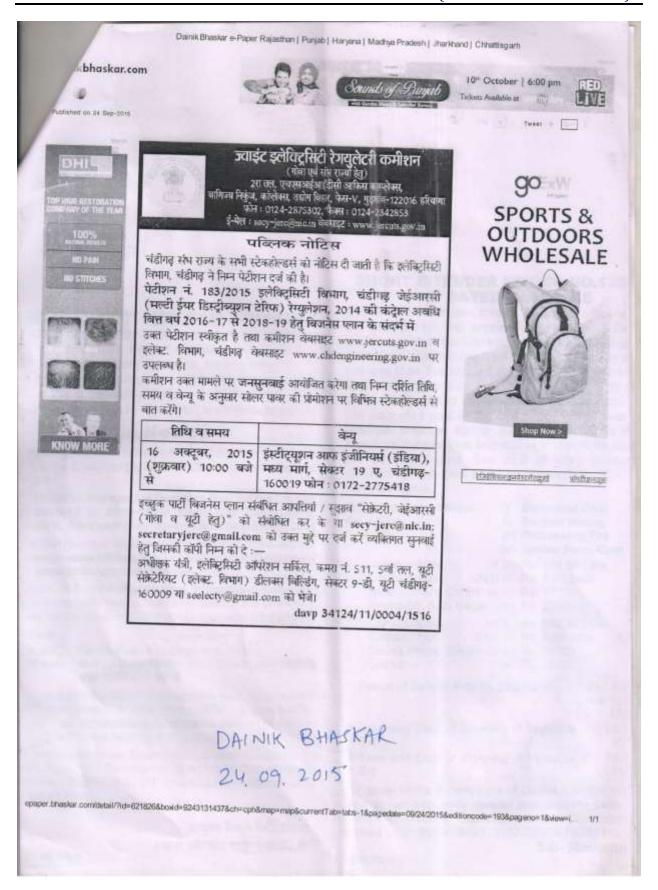
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Annexure 3: List of Stakeholders present during the Public Hearing

Sr. No.	Name & Address	Mobile No.	Email Address	Signatur
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