

**Truing up of FY 2018-19
and
Annual Performance Review of FY 2019-20
and
ARR and Tariff Petition for FY 2020-21
of
Manipur State Power Company Limited**



Main Text & Formats

Submitted to:

**Joint Electricity Regulatory Commission
for Manipur and Mizoram**

By:

**Manipur State Power Company Limited
(Imphal)**

BEFORE THE HONOURABLE JOINT ELECTRICITY REGULATORY
COMMISSION FOR MANIPUR AND MIZORAM

FILING NO _____

CASE NO _____

IN THE MATTER OF: Petition for Approval of Truing up of FY 2018-19 and
Annual Performance Review of FY 2019-20 and ARR
and Tariff Petition for FY 2020-21 of Manipur State
Power Company Limited under Sections 61, 62 and 64
of The Electricity Act 2003

AND

IN THE MATTER OF: Manipur State Power Company Limited
THE PETITIONER Keisampat, Imphal

.....PETITIONER

PETITIONER, UNDER SECTIONS 61, 62 AND 64 OF THE ELECTRICITY ACT 2003
FILES FOR INITIATIONS OF PROCEEDINGS BY THE HONORABLE COMMISSION
FOR DECIDING ON THE MATTERS CONCERNING THE APPROVAL OF TRUING
UP OF FY 2018-19 AND ANNUAL PERFORMANCE REVIEW OF FY 2019-20 AND
ARR AND TARIFF PETITION FOR FY 2020-21 OF MANIPUR STATE POWER
COMPANY LIMITED (herein after referred to as "MSPCL").

THE MANIPUR STATE POWER COMPANY LIMITED RESPECTFULLY SUBMITS:

1. The petitioner, Manipur State Power Company Limited is the transmission licensee in the state of Manipur which has been formed after the restructuring of the erstwhile Electricity Department of Manipur. With effect from 1st February' 2014, the Electricity Department of Manipur has been restructured into two companies, the Manipur State Power Distribution Company Limited (MSPDCL) responsible for distribution and the Manipur State Power



Corporation Limited (MSPCL) responsible for transmission function.

2. Pursuant to the enactment of the Electricity Act, 2003 MSPCL is required to submit its Aggregate Revenue Requirement (ARR) and Tariff Petition as per procedures outlined in Sections 61, 62 and 64 of the Electricity Act, 2003 and the governing regulations thereof.
3. As per Terms and Conditions of JERC MYT regulations' 2014, the ARR and tariff of transmission and distribution are to be determined separately. In the Tariff Order for FY 2016-17 dated 29th February 2016, JERC had issued a directive for filing a separate petition for determination of transmission charges and distribution & retail supply business. In line with this and JERC for M&M MYT Regulations 2014, MSPCL had already filed segregated Multi Year ARR for Second Control Period for FY 2018-19 to FY 2022-23 and Tariff Petition for FY 2018-19 along with truing up of FY 2016-17 and Annual Performance Review of FY 2017-18. Subsequently, MSPCL filed the Tariff petition for the FY 2019-20 along with the truing up of FY 2017-18 and Annual Performance Review of FY 2018-19. Tariff orders in respect of the above petitions have been issued by the Hon'ble Commission.
4. MSPCL has submitted its provisional truing up of FY 2018-19 since audited annual accounts of FY 2018-19 are not ready and Annual Performance Review of FY 2019-20 and ARR & Tariff petition for FY 2020-21 on the basis of the principles outlined in JERC for M&M MYT Regulations 2014 read with JERC for M&M MYT (First Amendment Regulations, 2019) notified by the Joint Electricity Regulatory Commission.
5. MSPCL prays to the Honourable Commission to admit the enclosed petition for provisional Truing up of FY 2018-19 and Annual Performance Review of FY 2019-20 and ARR & Tariff Petition for FY 2020-21.

Manipur State Power Company Limited.


Petitioner

Place: Imphal

Dated: ___ December, 2019

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Notes:

In this Petition

**Previous Year is defined as Financial Year 2018-19
(referred to as FY-'19 or FY 18-19)**

**Current Year is defined as Financial Year 2019-20
(referred to as FY-'20 or FY 19-20)**

**Ensuing Year is defined as Financial Year 2020-21
(referred to as FY-'21 or FY 20-21)**

**Previous Multi Year or First Control Period is defined as Financial Year 2016-17 to
Financial Year 2017-18
(referred to as FY-'17 to FY-'18 or FY 16-17 to FY 17-18)**

**Current Multi Year or MYT or Second Control Period is defined as Financial Year
2018-19 to Financial Year 2022-23
(referred to as FY-'19 to FY-'23 or FY 2018-19 to FY 2022-23)**

**All currency figures and energy units used in this Petition, unless specifically stated
otherwise, are in Rs. Crore. (Cr.) and Million Units (MUs)**



Chapter 1: Introduction

1. Historical Background

The commissioning of the two micro hydel sets having capacities of 100 KW and 56 KW at Leimakhong in 1930 by the then Manipur State HE Board marked the beginning of the use of electricity in Manipur. The Royal palace and main areas of Imphal Town enjoyed Electricity generated from this captive hydel station. During the World War-II, two more DG sets of 62 KW and 46 KW capacities were installed at the old Imphal Power House by the Armed Forces for electrification of Imphal town and its suburbs. The above installed capacity remained the same till the end of the first Five Year plan (1951-56) of the post-independence period. The second Five Year Plan (1956-61) however saw a significant change in the demand of power in the state. The demand has been growing rapidly envisaging more social acceptance and the gradual promotion of awareness of the people towards the use of electricity for different purposes. This had necessitated further addition in the generation capacity and it was accomplished with the installation of a few more DG sets of various capacities in and around Imphal.

To evacuate the power generated from the captive micro hydel power station (100 + 56) KW at Leimakhong to specific load centres of Palace Compound and main bazar area of Imphal, the 20 Km. long, 11 KV line between Imphal & Leimakhong was constructed for the first time in Manipur in 1930. The state was then having 26 Km. of 11 KV lines and 45 Km. of domestic lines to serve very few consumers in 7 villages/Leikais. Both the line and generating stations were owned by the then Manipur State HE Board, constituted under the ex-officio Chairmanship of the Political Agent. Subsequently Electricity was kept under the administrative control of the Public Works Department, Government of Manipur. It was separated from state PWD and started functioning as an independent Department since February 1970.

The peak load demand of Manipur in 1971 was 3.6 MW only. The demand was met from the State's own generating stations and power purchased from the neighboring states/Electricity Board at the low voltage. The per capita consumption of energy was 4.84 KWh. The demand was kept suppressed due to lack of generation till the year 1980. The scenario was abruptly changed after the purchase of bulk power from Assam with the commissioning of 132 KV inter-state transmission line from Imphal to

Dimapur and 6.3 MVA, 132/33 KV sub-station at Yurembam in December 1981. The situation was further alleviated with the commissioning of Loktak Hydro Electric Project having a capacity of 3x35 MW on 4th of August 1984.

During the years from 1984 to 1996, a number of Central Sector Power Projects, mostly hydel projects in the North Eastern Region were commissioned. Every project has a share of about 7-8% for Manipur. Because of the availability from such projects, the peak demand of the state has increased gradually over the period of time.

After the enactment of Electricity Act 2003, various reforms have been initiated in the power sector including restructuring of integrated State Electricity Boards into separate companies. The Electricity Department of Manipur had also initiated the process of reforms and restructuring and had engaged M/s SBI Caps to advise the Department on process of corporatization and restructuring of the Electricity Department. In FY 2013-14, with effect from 1st Feb' 2014, Electricity Department of Manipur (EDM) has been restructured and separated into two different entities - 1) Manipur State Power Distribution Corporation Limited (MSPDCL) and 2) Manipur State Power Corporation Limited (MSPCL). Accordingly, the tariff filing for Wheeling and Retail Supply Business will be done by MSPDCL and that of Transmission will be done by MSPCL and submitted to JERC.

MSPCL would like to submit that the present petition is for provisional truing up of FY 2018-19 since audited accounts for FY 2018-19 are not ready, Annual Performance Review (APR) of FY 2019-20, ARR and Tariff Petition for FY 2020-21.

2. Background of Regulatory Setup

The State Governments of Manipur and Mizoram, in an aspiration to create an independent Electricity Regulatory Commission to regulate the affairs of power sector, authorized Government of India to constitute a Joint Commission as per Memorandum of Agreement dated 23rd July, 2004 among the Government of India and the States of Manipur and Mizoram. Accordingly, under provisions of Section 83(5) the Electricity Act, 2003, a quasi-judicial independent body as the Joint Electricity Regulatory Commission for the States of Manipur & Mizoram (JERC) was constituted by the Central Government vide Govt. of India F. No. 23/3/2002-R&R dt. 18th January, 2005

notified in the Gazette of India, Extraordinary dated 18th January, 2005. The functioning of the Commission started in January 2008. The Joint Electricity Regulatory Commission issued its first Tariff Order for FY 2010-11 for the state of Manipur on 15th March, 2011. The second tariff order was issued by JERC for FY 2012-13 on 14th August' 2012.

EDM had filed the tariff petition for FY 2013-14 to JERC in April' 2013 but the same was not admitted by the commission because of the delay in filing of the petition and since the order had to be issued before the start of the year. The petition for FY 2013-14 was kept by JERC for reference and record purpose. The Petition for FY 2014-15 was filed by EDM before November 2013 and the order has been issued for the same in February' 2014. The Petition for FY 2015-16 was filed by MSPCL before November 2014 and the Order has been issued for the same in February' 2015.

The Hon'ble JERC notified the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 on 9th June 2014. Accordingly, MSPCL submitted a MYT Petition for the Control Period from FY 2015-16 to FY 2017-18. Considering the first Control Period specified in the Regulations as FY 2015-16 to FY 2017-18, the Commission in its Tariff Order dated 29th February 2016 issued the MYT Order for the first Control Period covering FY 2015-16 and FY 2018-19. Subsequently, the Commission vide its Order dated 28th February 2017 undertook True-up for FY 2014-15, FY 2015-16, Annual Performance Review (APR) for FY 2016-17, Aggregate Revenue Requirement and Tariff for FY 2017-18.

Based on the Hon'ble JERC directive for filing of Tariff Petition for Second Control Period of five years covering FY 2018-19 to FY 2022-23, MSPCL submitted a Multi Year ARR for the Second Control Period FY 2018-19 to FY 2022-23 and Tariff Petition for FY 2018-19. The Commission vide its Order dated 12th March 2018 undertook True-up for FY 2016-17, Review for FY 2017-18, determination of Aggregate Revenue Requirement (ARR) for MYT 2nd Control Period FY 2018-2019 to FY 2022-2023 and Transmission Tariff for FY 2018-19.

As per Clause 10.2 and 17.8 of JERC MYT Regulations' 2014, each licensee is required to file a tariff petition for determination of tariff for the ensuing year by 30th November of the current financial year:



"10.2 The Generating Company or Transmission Licensee or Distribution Licensee shall file an Application for Truing up of the previous year and determination of tariff for the ensuing year, within the time limit specified in these Regulations:"

"17.8 The applicant shall file his Petition for approval of truing up of previous year and tariff for ensuing financial year by 30th November of the current financial year"

Based on the provisions of the JERC MYT Regulations 2014, MSPCL is filing the present petition for provisional truing up of FY 2018-19, Annual Performance Review of FY 2019-20, Revised ARR and Tariff Petition for FY 2020-21.

MSPCL is discharging its duties in the matters of;

- Transmission of power within the state for further use by the distribution licensee;
- Preparing and carrying out schemes for transmission upto 33 kV

MSPCL being a utility undertaking the transmission function, the cost and expenses are with respect to the transmission function which have been filed in this ARR & tariff petition.

3. Contents of this Petition

This Petition covers the provisional truing-up of ARR for FY 2018-19 based on actual expenditure during FY 2018-19, ARR based on revised estimates for FY 2019-20 and ARR along with Tariff Proposal for FY 2020-21 projected based on assumptions and projections of individual elements. As the audit of accounts of MSPCL for FY 2018-19 are under progress, the Petitioner has not submitted for final true-up of FY 2018-19 and shall submit the same along with subsequent year Tariff Petition.



Chapter 2: Overall Approach for Present Filing

MSPCL would like to submit that the present petition for provisional truing up of FY 2018-19, Annual Performance Review of FY 2019-20 and ARR and Transmission Tariff for FY 2020-21 is based on the past performance and expected changes in each element of cost and revenue for the ensuing year. MSPCL has studied the previous trends and taken cognizance of other internal and external developments to estimate the likely performance for FY 2020-21.

The approach adopted by MSPCL for filing of this Petition is as detailed below:

a. Approach for Truing-up of FY 2018-19

For FY 2018-19, MSPCL has proposed provisional truing-up based on the actual expenses incurred during FY 2018-19 for each parameter of the ARR along with reason and justification for the variation as compared to that approved in the ARR for FY 2018-19 in the Tariff Order dated 12th March 2018 & APR order Dt. 26th March 2019. It is submitted that final truing-up for past years as well as FY 2018-19 shall be submitted to the Hon'ble Commission post the completion of audit process of previous year's accounts and also the accounts for FY 2018-19.

b. Approach for Annual Performance Review of FY 2019-20

The actual six months expenditure along with estimate for balance six months have been followed for the purpose of estimating the revised ARR for FY 2019-20. However, for estimating the R&M expense and A&G where majority of the expense is undertaken during the later half of the year, the same has been ascertained based on the actual expenditure for FY 2018-19 and previous years along with reasonable assumptions for FY 2019-20.

c. Approach for Projecting ARR for FY 2020-21

For the purpose of estimating/projecting the financial & technical parameters for FY 2020-21, MSPCL has considered its actual performance in the past years and FY 2019-20 (First six months) as base and has projected the elements of ARR for FY 2020-21 with supporting rationales and as per the principles enumerated by the Joint Electricity Regulatory Commission (JERC) Terms and Conditions for (Multi Year Tariff) Regulations, 2014 notified on 9th June, 2014.

The subsequent Chapters provide the actual/projection of various cost components required for determination of Aggregate Revenue Requirement for truing-up of FY 2018-19, APR of FY 2019-20 and ARR for FY 2020-21 along with the methodology followed by MSPCL.



Chapter 3: Provisional Truing up of FY 2018-19

As per JERC (Multi Year Tariff) Regulations, 2014, MSPCL is required to submit the truing up of the previous year in each year of the Control Period along with the Tariff Petition of the ensuing year. Since the JERC (Multi Year Tariff) Regulations, 2014 is effective from 1st April 2014; the truing up of FY 2018-19 shall be carried out under the same Regulations.

The truing up of FY 2018-19 has been carried out by comparing the approved ARR in the MYT order Dt. 12th March 2018 & annual performance review conducted for FY 2018-19 in the order dated 26th March 2019 with the actual data of FY 2018-19. The accounts of FY 2018-19 are currently in compilation stage and the same shall be submitted to the Commission as and when the same are finalized and audited. However, the actual data of FY 2018-19 for various expenses are available with MSPCL and the same are being submitted to the Hon'ble Commission for provisional truing-up of FY 2018-19. As such, MSPCL is requesting the Hon'ble commission to carry out the provisional truing up of FY 2018-19 as per JERC MYT Regulations 2014. However, MSPCL would request the Commission to pass on the adjustment on account of truing up for FY 2018-19 only after availability of final audited accounts.

Background

The Tariff Order for FY 2018-19 for MSPCL was issued by the Hon'ble Commission on 12th March, 2018 and subsequently Annual Performance Review (APR) for FY 2018-19 was undertaken by the Hon'ble Commission in its order dated 26th March 2019. MSPCL is filing this petition for determination of revised ARR for FY 2020-21, it is important that the actual numbers of FY 2018-19 are considered for projecting the various components of APR for FY 2019-20 and ARR for FY 2020-21. Therefore, MSPCL is submitting for provisional truing-up of FY 2018-19, which is a comparison of the actual performance and expenses of MSPCL vis-à-vis the approved ARR for FY 2018-19 in order dated 26th March 2019. This exercise examines technical and financial performance of MSPCL in FY 2018-19 with the figures approved for FY 2018-19 in the MYT order & APR order. These aspects are discussed in the section below:



1. Transmission Losses

MSPCL would like to submit that while it is undertaking all efforts for metering of the feeders, currently all input and output points of transmission system have not been metered. Also, the out-going 11 kV feeders as well as incoming 132 kV lines in the state are being metered. Therefore, it is submitted that the transmission losses in the transmission system cannot be measured for MSPCL at this point of time. MSPCL is making all efforts to complete the metering of all Import and Export points by next Financial Year i.e. FY 2020-21 by which the actual transmission losses can be reported to the Hon'ble Commission.

In the absence of any base level of losses, the Commission had approved intra-state transmission loss of 3.2% on estimated basis in ARR dt 12.03.2018 and 10% in APR dt. 26.03.2019 for the FY 2018-19. MSPCL requests the Commission to consider the transmission loss at 10% for FY 2018-19 for provisional truing-up.

2. Operation and Maintenance (O&M) Expenses

MSPCL submits that the Operation and Maintenance (O&M) Expenses comprises of the following elements:

- (a) Employee Expenses
- (b) Repair and Maintenance (R&M) Expenses
- (c) Administrative and General (A&G) Expenses
- (a) Employee Expenses**

The break-up of actual employee cost of MSPCL in FY 2018-19 is provided below:

Table 1: Actual Employee Expenses for FY 2018-19

(In Rs. Cr.)

Employee Expenses	Approved in T.O Dt. 12.03.2018	Approved in APR Dt. 26.03.2019	Actual for FY 2018-19
Pay Band	68.25	55.84	18.96
Grade Pay			3.76
D.A.			23.99
H.R.A.			1.81
SCA			2.29
TA			1.07
Spl. Pay/ Cy All			0.00
NPS Contribution			2.42
Grand Total	68.25	55.84	54.29

The actual employee expense incurred during FY 2018-19 are Rs. 54.29 Cr. as against the approved employee cost of Rs. 68.25 Cr. in ARR dated 12th March 2018, and Rs. 55.84 Cr. approved in the APR vide Order dated 26th March 2019. The actual employee cost for FY 2018-19 is lower than the approved employee cost as per the Annual Performance Review for FY 2018-19.

Accordingly, the Hon'ble Commission may consider the Employee Expenses amounting to Rs. 54.29 Cr. for truing up of FY 2018-19.

(b) Repair & Maintenance Expenses

These expenses include expense on repair and maintenance of Plant and Machinery, Transformers, Lines, cable network, vehicles, office equipment, etc. It is important for MSPCL to incur the R&M expenses in order to maintain and strengthen the transmission system for maintaining the quality of power supply in the region and achieve system availability of 98% as prescribed by the Commission.

MSPCL submits that there has been an addition of Rs. 345.48 Cr. in gross fixed assets during FY 2018-19. The actual R&M expenses incurred during FY 2018-19 is Rs. 10.56 Cr. and marginally lower than the approved R&M expense of Rs. 12.94 Cr. in the Annual Performance Review of FY 2018-19 due to lower capitalisation of assets than approved in the APR for FY 2018-19. As such, the Commission is requested to approve the R&M expenses based on actuals.

Table 2: R&M Expenses for FY 2018-19

(In Rs. Cr.)

Particular	Approved vide Tariff Order dated 12 th March, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actual expense as incurred by MSPCL
R&M Expenses	15.37	12.94	10.56

Accordingly, the Hon'ble Commission may consider the R&M Expenses amounting to Rs. 10.56 Cr. for FY 2018-19.

(c) Administrative and General Expenses

Administrative and General (A&G) expenses comprise of various sub-heads including the following:

- Travel and conveyance expenses

- Hydel investigation expense
- Electricity and Telephone charges
- Consultancy and regulatory fee
- Office expenses on IT equipment, fittings etc.
- Publication expenses
- Other administration expenses

Honourable Commission in its order dated 26.03.2019 had approved the Administration & General expenses at Rs. 6.31 Cr. for FY 2018-19, in APR as projected by MSPCL. However, the actual expense incurred under A&G expenditure by MSPCL is Rs. 10.12 Cr. for FY 2018-19. The rise in expenses is due the rise in employee base, addition of substations and assets. The A&G expense for FY 2018-19 are as below:

Table 3: A&G Expenses for FY 2018-19

(In Rs. Cr.)

Particular	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actual expense as incurred by MSPCL in FY 2018-19
A&G Expenses	4.30	6.31	10.12

Accordingly, the Hon'ble Commission may provisionally approve the A&G Expenses amounting to Rs. 10.12 Cr. under the provisional truing up for FY 2018-19.

Table 4: Total O&M Expenses for FY 2018-19

(In Rs. Cr.)

S.N.	Particulars	Approved vide APR Dated. 26 Mar, 2019	Actual for FY 2018-19
1	Employee Expenses	55.84	54.29
2	R&M Expenses	12.94	10.56
3	A&G Expenses	6.31	10.12
4	Total	75.09	74.97

Accordingly, the Hon'ble Commission may consider the O&M Expenses amounting to Rs. 74.97 Cr. as per the actuals for provisional truing-up of FY 2018-19.

3. Capital Investment Plan

The details of actual capital expenditure towards various new and augmentation schemes in FY 2018-19 are given below.



Table 5: Capital Expenditure for FY 2018-19

(In Rs. Cr.)

Sl. No.	Name of Project	Capital Expenditure
I	Generation	
1	Loktak Down Stream Hydro Electric Project (2x33 MW)	2.50
	Sub-Total : Generation Hydro (I)	2.50
II	Transmission & Distribution	
A.1	Ongoing Schemes	
A.1.1	400 kV System	
1	Installation of 400 kV Sub-Station at Thoubal(NLCPR)	29.39
2	Construction of 400 kV T/L from Yurembam to Thoubal via Nambol	39.63
3	Installation of 2 nos. 400 kV line bays at Imphal(PG) sub-station	5.00
	Total : A.1.1	74.01
A.1.2	132 kV System	
1	Installation of 132/33 KV S/S at Hundung (Ukhrul) & its associated line(SPA)	0.11
2	R & M of 132/33 kV sub-station at Yurembam (SPA/NEC)	2.00
3	Installation of 1x20 MVA transformer at Yaingangpokpi	1.50
4	Renovation & Modernisation of three nos. of 132/33 kV S/S at Kakching, Karong & Churachandpur(NLCPR)	8.32
5	Installation of 132/33 kV S/S at Thanlon with associated line(NLCPR)	10.91
6	Installation of 2x20 MVA,132 kV Sub-Station along with associated 132 kV LILO lines & related works at Thoubal(NEC)	7.05
7	Augmentation of Rengpang 132/33 kV sub-station by installing(3x4.16+1x4.16)MVA 132/33 kV single phase transformers	0.56
8	IDC on REC loan	7.96
9	Principal payment on REC loan	50.00
10	Installation of 132/33 kV sub-station at Moreh with erection of associated 132 kV line(NLCPR)	13.07
11	Stringing of 132 kV line (2nd circuit) from Kakching to Churachandpur(NEC)	2.96
12	Installation of 132 kV sub-station along with associated 132 kV line at Elangkhangpokpi	3.67
13	Construction of 132 kV S/C line(3rd ckt) strung on D/C towers from 132 kV Yurembam sub-station (State) to Yurembam sub-station (PGCIL)	0.20
14	Construction of 132/33 kV sub-station at Tipaimukh	2.24



Sl. No.	Name of Project	Capital Expenditure
15	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Kongba, Yaingangpokpi and Hundung on existing Kongba to Kakching 132 kV T/L.	1.00
	Total : A.1.2	111.53
1	Erection of 33 kV feeders from Yurembam POWERGRID sub-station(SCA)	1.80
2	Installation of 2x5 MVA 33/11 kV sub-station with associated 33 KV line at Power House site of Loktak Down Stream HE Project(NEC)	2.41
3	Installation of 33/11 KV (2x1 MVA) S/S at Nungbi Khullen with associated 33 KV line(NLCPR)	3.31
4	Re-stringing & strengthening of 33 kV lines	1.79
5	Installation of 33/11 KV (2x1 MVA) S/S at Gumnom with associated 33 kV line(NLCPR)	1.74
6	Renovation of 33/11 KV S/S at Khoupum	0.39
7	Installation of 33/11 kV sub-station at Gamphazol with associated 33 kV line	2.66
8	Installation of 33/11 kV sub-station at Mayangkhang with associated 33 kV line(NEC)	1.23
9	Installation of 33/11 kV sub-station at Mao with associated 33 kV line(NEC)	0.74
10	installation of 33/11 kV sub-station at Poayi at Ukhrul	2.97
11	installation of 33/11 kV sub-station at Thueyng at Senapati	3.17
12	Construction of 33 kV D/C line on STP from 132/33 kV SS at Thoubal to 33/11 kV SS at Thoubal (old)	1.07
13	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangoi under IPDS	3.29
	Total : A.1.3	26.57
	Sub-Total (II):	212.11
1	Consultancy for assessment of Hydro Power Potential in the State	0.84
2	Compensation cost for 132/33 kV SS at Khenjang	0.09
3	Compensation cost for 132 kV towers at Nungba SD	0.07
4	AMC for SCADA	0.36
	Total : III	1.36
	Total Capital Expenditure (I+II+III):	215.97



The Commission had approved a total capital investment of Rs. 627.80 Cr. for FY 2018-19 in the ARR Order for FY 2018-19, keeping in view the expansion/augmentations and strengthening of the system for handling increased load and also ensuring better quality of supply and network reliability to the consumers. Subsequently, in the APR for FY 2018-19, the capital expenditure for FY 2018-19 was revised to Rs. 158.98 Cr. based on the actual progress of schemes during the first six months and estimated for the balance six months. It is submitted that MSPCL has incurred actual capital expenditure of Rs. 215.97 Cr. during FY 2018-19.

In case of capitalization of assets, the Commission had approved Rs. 434.65 Cr. FY 2018-19 in ARR which was later revised to Rs. 345.48 Cr. in the APR for FY 2018-19. MSPCL submits that the actual capitalization during the period has been Rs. 345.48 Cr., details of which are provided in the table below:

Table 6: Capitalised Assets in FY 2018-19

(In Rs. Cr.)

Sl. No.	Name of Project	Cost of Project
I 132 kV System		
1	Installation of 132/33 KV S/S at Thanlon with associated line	136.04
2	Installation of 132/33 KV sub-station at Moreh with erection of associated 132 KV line and related civil works.	115.9
3	Stringing of 132 kV line (2nd circuit) from Kakching to Churachandpur	17.92
4	Construction of 132/33 kV sub-station at Tipaimukh	51.39
	Sub-Total:	321.25
II 33 kV System		
1	Installation of 33/11 kV sub-station at Kasom Khullen with associated 33 kV line	10.42
2	Construction of 33 kV D/C line on STP from 132/33 kV SS at Thoubal to 33/11 kV SS at Thoubal (old)	11.83
3	Augmentation of 33/11 kV sub-station at Karong under IPDS	1.98
	Sub-Total:	24.23
	Total Capitalization:	345.48

A summary of the actual capital expenditure and capitalization as against that approved by the Commission is summarized in table below:



Table 7: Capital Expenditure and Capitalisation for FY 2018-19 (in Rs. Cr.)

S.N.	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actuals for FY 2018-19
1	Capital Expenditure	627.80	158.98	215.97
2	Capitalisation	434.65	345.48	345.48

Based on the actual capital expenditure and capitalization amount for FY 2018-19, the details of CWIP are as below:

Table 8: Capital Work in Progress for FY 2018-19 (in Rs. Cr.)

S.N.	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actual for FY 2018-19
1	CWIP Opening Balance	305.59	386.43	549.85
2	Capital Investment	627.80	158.98	215.97
4	Less: Investment Capitalized	434.65	345.48	345.48
6	CWIP Closing Balance	498.74	199.93	420.34

4. Depreciation

As per JERC MYT Regulations 2014, the depreciation is charged on the basis of straight-line method, on the average GFA during the financial year. The depreciation is based on the original cost of the Gross Fixed Assets.

Further, as per the guidelines of Institute of Chartered Accountant of India (ICAI), which is Accounting Standard 12, depreciation should be claimed on net expenditure after excluding assets funded through government grants. In MSPCL, majority of the assets are funded through government grants and therefore, depreciation has not been claimed on the assets funded through government grants in the ARR in line with the practise followed by the Commission in the previous Tariff Orders. The details of actual depreciation along with approved figures are for the FY 2018-19 are provided in the Tables below.

Table 9: Depreciation approved by Commission for FY 2018-19 (in Rs Cr.)

S. N.	Particulars	Approved in MYT T.O dt 12.03.2018	Approved by Commission during APR for FY 2018-19	Actuals
1	Opening GFA	1153.58	934.43	934.43
2	Addition during the year	434.65	345.48	345.49
3	Capitalization of expenses	4.48	-	-
4	Total GFA at the end	1592.71	1279.91	1279.92
5	Average GFA	1373.15	1107.17	1107.175
6	Average rate of Depreciation	4.57%	5.10%	5.10%
7	Depreciation	62.75	56.47	56.48
8	Depreciation allowed	0.94	0.85	0.85

Table 10: Actual Depreciation for FY 2018-19 (In Rs. Cr.)

Particular	FY 2018-19				Depreciation Rate	Depreciation
	Opening	Addition	Closing	Average		
Land & Land Development	17.33	6.41	23.74	20.535	0.00%	0.00
Plant & Machinery	867.53	320.75	1188.28	1027.905	5.28%	54.27
Building	46.51	17.20	63.71	55.11	3.34%	1.84
Furniture & Fittings	0.81	0.30	1.11	0.96	6.33%	0.06
Computer	0.93	0.34	1.27	1.1	15.00%	0.17
Office Equipment	0.15	0.06	0.21	0.18	6.33%	0.01
Vehicles	1.17	0.43	1.6	1.385	9.50%	0.13
Total	934.43	345.49	1279.92	1107.175		56.48
Percentage of assets non-funded through Grants						1.50%
Depreciation claimed for true-up						0.85

The total depreciation in FY 2018-19 is Rs. 56.48 Cr. However excluding the depreciation on account of assets funded from grant, only 1.5% of the total depreciation has been claimed for the purpose of truing-up for FY 2018-19 by MSPCL.

Hence, MSPCL requests the Hon'ble Commission to consider actual depreciation for provisional truing up of FY 2018-19 as Rs. 0.85Cr.

5. Interest and Finance Charges

The entire capital expenditure of MSPCL since its inception has been funded by the State Government through grants from Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of NEC, NLCPR, DONER or through State Plan Scheme. Therefore, the utility does not have any liabilities on account of long term loans.

Hence, there is no interest and finance charge approved by the Hon'ble Commission for FY 2018-19. Therefore, actual interest and finance charges claimed for truing-up of FY 2018-19 is NIL.

6. Interest on Working Capital

As per the JERC MYT Regulations 2014, MSPCL is entitled for interest on working capital as per the norms provided. The norms state that the working capital shall cover the following:

- a) *Operation and maintenance expenses for one month; plus*
- b) *Maintenance spares at one (1) per cent of the historical cost escalated at 6% from the date of commercial operation; plus*
- c) *Receivables equivalent to one (1) month of transmission charges calculated on target availability level; minus*
- d) *Amount, if any, held as security deposits except the security deposits held in the form of Bank Guarantee from Transmission System Users.*
- e) *Interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of the financial year in which the Petition is filed.*

The interest rate considered by MSPCL is based on the Advance Rate of SBI applicable as on 1st April 2019, in line with the provisions of the Regulations. Based on the Regulations, the normative working capital requirement and interest thereon is computed as per the table below:

Table 11: Interest on Working Capital for FY 2018-19

(In Rs. Cr.)

S.N.	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actual as Proposed by MSPCL
1	O&M Expenses for one month	7.33	6.26	6.25

S.N.	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actual as Proposed by MSPCL
2	Maintenance of Spares (1% of GFA)	12.23	9.90	11.47
3	Receivables for 1 month	7.76	5.97	5.94
4	Total working capital	26.72	22.13	23.65
5	Rate of interest	14.05%	13.45%	13.80%
6	Interest on Working Capital	3.75	2.98	3.26

Hence, MSPCL requests the Hon'ble Commission to consider Interest on Working Capital for provisional true up of FY 2018-19 as Rs. 3.26 Cr.

7. Return on Equity (with tax)

Regulation 22 of MYT Regulation, 2014 provides that equity for the purpose of ROI shall be 30% of capital cost or actual equity, which ever is lower. Further, Regulation 26 of MYT Regulation provides that RoE shall be allowed at the rate of 15.5% of Equity as determined under regulation 22. Accordingly, Equity for the purpose of calculating RoE has been considered as actual equity base for the FY 2018-19. Further Regulation 30 provides that Income Tax payable shall be allowed based on actual income tax as per Audited Accounts. However, since, account of MSPCL are yet to be audited, Income Tax has been considered at MAT rate of 19.24%.

The actual equity base as per accounts in FY 2018-19 is Rs. 10.05 Cr. The revised Return on Equity along with the approved figures for FY 2018-19 are detailed in table below:

Table 12: RoE for FY 2018-19

(In Rs.Cr.)

Return on Equity	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide Annual Performance Review 26 Mar, 2019	Actuals for FY 2018-19
Grand Total (including Tax)	1.96	1.96	1.86

Accordingly, the Hon'ble Commission is requested to consider the RoE (with tax @ 19.24%) amounting to Rs. 1.86 Cr. for provisional true-up for FY 2018-19.

8. Non-Tariff Income

The non-tariff income for MSPCL is mainly on account of transmission charges realized for short term power purchase or sale by the distribution licensee. These charges are paid to MSPCL for use of intra state transmission system for short term power purchase or sale. Apart from this, non-tariff income is also earned as interest from bank accounts used for managing the account of short term open access charges and agency charges earned for supervision of deposit works. As against the approved amount of Rs. 8.68 Cr. towards non-tariff income in MYT order Dt. 12.06.2018, MSPCL has earned Rs. 9.70 Cr. during FY 2018-19 primarily on account of higher interest from bank deposits as detailed in table below:

Table 13: Non-Tariff Income for FY 2018-19

(In Rs. Cr.)

S.N.	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide APR dated 26 Mar, 2019	Actuals for FY 2018-19
1	SLDC Charges	3.66	9.70	3.00
2	Agency Charges	3.19		2.65
3	Interest from bank	1.27		3.95
4	Other income	0.56		0.10
	Total	8.68	9.70	9.70

The Hon'ble Commission is requested to consider the actual Non-tariff income of Rs. 9.70 Cr. for FY 2018-19.

9. Aggregate Revenue Requirement (ARR) for FY 2018-19

(In Cr.)

The ARR of MSPCL for FY 2018-19 as approved by the Commission vide Tariff Order dated 12th March, 2018 and Annual Performance Review dated 26th March, 2019 and the actual submitted by MSPCL are detailed in table below:

Table 14: Aggregate Revenue Requirement (ARR) for FY 2018-19

(In Rs. Cr.)

Sl. No	Particulars	Approved vide Tariff Order dated 12th Mar, 2018	Approved vide APR dated 26 Mar, 2019	Actuals for FY 2018-19	Difference (Actual - APR)
1	Repair & Maintenance expense	15.37	12.94	10.56	(2.38)
2	Employee costs	68.25	55.84	54.29	(1.55)
3	A&G Expenses	4.30	6.31	10.12	3.81
4	Depreciation	0.94	0.85	0.85	0.00
5	Interest on Loans	-	-	-	-
6	Return on Capital Employed	1.56	1.96	1.56	(0.40)
7	Interest on Working capital	3.83	2.97	3.26	0.29
8	Income Tax	0.40	0.40	0.30	(0.10)
9	Total Cost	94.65	81.27	80.94	(0.32)
10	Less: Non-Tariff income	8.68	9.70	9.70	-
11	Less: Expenses Capitalized	4.48	-	-	-
12	Aggregate Revenue Requirement	81.49	71.57	71.24	(0.33)

The variation in approved and actual ARR for FY 2018-19 as shown in table above is not proposed to be carried forward in the tariff of ensuing year as the figures for FY 2018-19 are provisional and MSPCL requests the Commission to undertake any adjustments on account of truing-up only after the availability of audited accounts for FY 2018-19.



Chapter 4: Annual Performance Review of FY 2019-20

As per JERC (Multi Year Tariff) Regulations, 2014 read with JERC (Multi Year Tariff) (First Amendment) Regulations, 2019, MSPCL is required to submit the Annual Performance Review (APR) of the current year in each year of the Control Period along with the Tariff Petition of the ensuing year. Accordingly, MSPCL has prepared the APR for FY 2019-20 based on the provisions of the JERC (Multi Year Tariff) Regulations, 2014. The details of revised estimation of each element of ARR for FY 2019-20 along with rationale and justifications are explained in the sections below.

Background

The Hon'ble Commission had approved the ARR for FY 2019-20 in the Order dated 26th Mar 2019. In view of the availability of actual numbers for FY 2018-19 and first six months of FY 2019-20, MSPCL has proposed revision in ARR for FY 2019-20 considering the changes during FY 2018-19 and actual addition of gross fixed assets during FY 2018-19 which would have a bearing on the various ARR components of MSPCL for FY 2019-20. Detailed explanation for each element and comparison with the amount approved in the Tariff Order for FY 2019-20 dated 26th March 2019 is provided in sections below:

1. Transmission System Availability

As per JERC MYT regulations' 2014, the target transmission availability proposed for FY 2018-19 for MSPCL is 98%. The estimated transmission availability for FY 2019-20 is also 98%.

2. Transmission Loss

It is submitted that in spite of best efforts, the metering of all feeders is yet to be completed and therefore the transmission losses for the MSPCL transmission system cannot be measured at this point in time. MSPCL requests the Hon'ble Commission to consider the actual transmission loss after installation of meters at the feeders and approve a transmission loss trajectory accordingly. Therefore, MSPCL requests the Hon'ble Commission to consider the transmission loss of 8.5% for FY 2019-20 as approved in the Tariff Order dated 26th March 2019. MSPCL submits to the Hon'ble



commission that it will make every effort to reduce the transmission losses once all the meters are installed.

3. Energy Requirement

MSPCL would like to submit that as per MSPDCL Tariff Order for FY 2019-20, the approved energy quantum to be transmitted at the input of MSPCL network was 811.88 MUs.

Table 15: Energy to be transmitted for FY 2019-20 (in MUs)

Particulars	Approved (MUs)
Energy to be transmitted	811.88

4. Operation and Maintenance Expenses

(a) Employee cost

In the Tariff Order dated 26th Mar 2019, the Commission had approved an employee cost of Rs. 69.12 Cr. MSPCL proposes to revise the employee cost considering the following:

Recruitment of 350 employees contemplated during FY 2018-19 is not materialized. Now MSPCL has planned to recruit 388 personnel as follows:

i.	Notification issued by MSPCL for recruitment of personnel during FY 2019-20	285
ii.	Appointed under Die-in-Harness Scheme:	02
iii.	Recruitment of personnel for MSPCL under process by MPSC :	90
iv.	Recruitment approved by State cabinet for MSPCL during 19-20 :	11
	Total :	388

The process is expected to be completed in the 2nd half of FY 2019-20 and the recruited persons are likely to join in February, 2020; as such 2 months salary is considered towards the new employees for the year.

The actual employee expenditure during the FY 2018-19 & 1st six months of FY 2019-20 are Rs. 54.29 Cr. & 29.84 Cr. respectively. The employee cost for the FY 2019-20 has been estimated based on the actual figures for the FY 2018-19 & 1st six months of FY 2019-20. Further, VIIth pay Commission scales are effective from 01.04.2019 and the

arrears on account of the same are to be paid. As such the 1st instalment of Rs. 1.20 Cr. is planned to be paid during FY 2019-20. The actual number of employees as on 31.03.2019 is 1571 and is expected to be 1885 by the end of FY 2019-20. The average employee strength is accordingly estimated to 1728. Detailed computation of employee cost is furnished in tables below.

Table 16: Employee cost for FY 2019-20**(in Rs. Cr.)**

Particulars	Approved vide ARR dated 26 Mar, 2019	Actual	Estimated
		(till Sept'19)	FY 2019-20
Employee Expense (Rs. Cr.)	69.12	29.84	54.34
Average number of employees (numbers)	1940	1603	1728

Table 17: Details of Employee cost for FY 2019-20**(in Rs. Cr.)**

Sl. No.	Particulars	Unit	Approved in the T.O Dt. 26/03/2019	2019-20
1	Salary of Existing employees	Cr.	59.03	50.91
2	Impact of VII pay Commission*	Cr.	6.28	1.20
3	New employees to be recruited (Nos)	Nos.	138	388
4	New employees salary **	Cr.	3.81	2.23
5	Total (1+2+4)	Cr.	69.12	54.34
* 1st instalment (6 months arrear)				
** Two months salary considered for FY 2019-20				

It is submitted that the Hon'ble Commisison may please consider and approve the employee expenditure as proposed above for the FY 2019-20.

(b) Repairs and Maintenance expenses

It is submitted that the Hon'ble Commission had approved R&M expenses for the FY 2019-20 as 14.44 Cr. in the tariff order Dt. 26th March 2019. MSPCL is not proposing any



revision in the R&M expenses for the FY 2019-20 and the approved amount has been adopted for FY 2019-20, any differences will be claimed in the trueing up.

Accordingly, the proposed R&M expenses for the FY 2019-20 is Rs.14.44 Cr. as approved in the ARR Order dated 26th March 2019 as provided in the table below:

Table 18: Revised R&M expense for FY 2019-20 (in Rs. Cr.)

S.N.	Particulars	Unit	Approved vide ARR dated 26 Mar, 2019	Estimated FY 2019-20
1	Proposed R&M Expense	Rs. Cr.	14.44	14.44

MSPCL requests the Commission to approve the above estimated expenses of Rs. 14.44 Cr. for FY 2019-20, as the same is necessary for proper maintenance and strengthening of the system and quality of supply in the region in order to ensure consumer satisfaction and transmission system availability at 98%.

(c) Administrative and General Expenses

The Commission had approved Rs. 4.61Cr. as A&G expenses for MSPCL in the ARR Tariff Order for FY 2019-20 dated 26th March 2019. MSPCL is not proposing any revision in the A&G expenses for the FY 2019-20 and the approved amount has been adopted for FY 2019-20, any differences will be claimed in the trueing up.

Accordingly, the proposed A&G expenses for the FY 2019-20 is Rs. 4.61 Cr. as approved in the ARR Order dated 26th March 2019 as provided in the table below:

As such, MSPCL requests the Commission to consider the proposed A&G expenses for FY 2019-20 as provided in table below:

Table 19: Proposed A&G Expenses of MSPCL for FY 2019-20 (in Rs. Cr.)

Particulars	Approved vide ARR dated 26 Mar, 2019	Estimated for FY 2019-20
A&G Cost	4.61	4.61

(d) O&M expenses

MSPCL submits that the total O&M costs are equal to summation of employee costs, R&M costs and A&G expenses. As such, the total O&M expenses estimated for FY 2019-20 vis-à-vis approved figures are given below:

Table 20: Proposed O&M Expenses of MSPCL for FY 2019-20 (in Rs. Cr.)

S.N.	Particulars	Approved vide ARR dated 26 Mar, 2019	Estimated for FY 2019-20
1	Employee Expenses	69.12	54.34
2	R&M Expenses	14.44	14.44
3	A&G Expenses	4.61	4.61
4	Total O&M Expenses	88.17	73.39

5. Capital Expenditure Plan for FY 2019-20

The MSPCL has taken up several schemes as approved by the Hon'ble Commission in earlier Tariff Orders. The details of schemes in regard to which capital expenditure is estimated to be incurred in FY 2019-20 is provided in the table below:

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Table 21: Capital Expenditure plan for FY 2019-20

(in Rs. Cr.)

Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
I	Transmission & Distribution							
A.1	Ongoing Schemes							
A.1.1	400 kV System							
1	Installation of 400 kV Sub-Station at Thoubal(NLCPR)	230.62	115.20	115.42	230.62	1.00	0.00	1.00
2	Construction of 400 kV T/L from Yurembam to Thoubal via Nambol	259.68	148.84	110.84	259.68	3.00	0.00	3.00
3	Installation of 2 nos. 400 kV line bays at Imphal(PG) sub-station	35.24	35.24	0.00	35.24	3.00	0.00	3.00
	Total : A.1.1	525.54	299.29	226.25	525.54	7.00	0.00	7.00
A.1.2	132 kV System							
1	Installation of 132/33 kV S/S at Chandel with associated 132 KV line(NLCPR)	31.52	19.58	11.93	31.52	0.00	0.04	0.04
2	Installation of 1x20 MVA transformer at Yaingangpokpi	5.58	5.58	0.00	5.58	0.50	0.00	0.50
3	Installation of 132/33 kV S/S at Thanlon with associated line(NLCPR)	135.88	81.90	53.98	135.88	3.70	0.00	3.70

SL No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
4	Augmentation of Rengpaing 132/33 kV sub-station by installing(3x4.16+1x4.16)MVA 132/33 kV single phase transformers	12.63	12.63	0.00	12.63	0.50	0.00	0.50
5	IDC on REC loan	0.00	0.00	0.00	0.00	5.60	0.00	5.60
6	Principal payment on REC loan	150.00	150.00	0.00	0.00	50.00	0.00	50.00
7	Installation of 132/33 kV sub-station at Moreh with erection of associated 132 kV line(NLCPR)	115.74	87.29	28.45	115.74	7.50	0.00	7.50
8	Augmentation of 132/33 KV S/S at Jiribam (Installation of additional transformers)	3.66	3.66	0.00	3.66	0.50	0.00	0.50
9	Stringing of 132 kV line (2nd circuit) from Kakching to Churachandpur(NEC)	17.44	8.28	9.16	17.44	0.00	1.00	1.00
10	Construction of 132 kV S/C line(2nd ckt) on D/C towers from Leimatak PH(NHPC) to 132 kV sub-station at Ningthoukhong	20.44	20.44	0.00	20.44	1.00	0.00	1.00
11	Installation of 132 kV sub-station along with associated 132 kV line at Elangkhangpokpi	56.21	56.21	0.00	56.21	0.50	0.00	0.50

Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
12	Construction of 132 kV S/C line(3rd ckt) strung on D/C towers from 132 kV Yurembam sub-station (State) to Yurembam sub-station (PGCIL)	10.25	10.25	0.00	10.25	0.50	0.00	0.50
13	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Moreh on Kakching to Moreh 132 kV T/L.	22.34	22.34	0.00	22.34	1.00	0.00	1.00
	Total : A.1.2	581.68	478.15	103.53	431.68	71.30	1.04	72.34
A.1.3	33 kV System							
1	Installation of 33/11 kV sub-station at Henglep(NLCPR)	7.40	3.70	3.70	7.40	0.00	0.89	0.89
2	Installation of 33/11 kV sub-station at Chakpikarong(NLCPR)	11.45	6.45	4.99	11.45	0.00	0.56	0.56
3	Installation of 33/11 kV S/S at Sekmajin(NLCPR)	7.28	3.89	3.40	7.28	0.00	0.17	0.17
4	Installation of 33/11 kV S/S at Chandel (NEC)	5.98	3.19	2.79	5.98	0.00	1.55	1.55
5	Installation of 33/11 kV sub-station with associated 33 KV line at Sugnu(NLCPR)	10.30	5.45	4.85	10.30	0.00	0.14	0.14

Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
6	Installation of 33/11 KV sub-station with associated 33 KV line at Khongjom(NLCPR)	9.02	4.70	4.32	9.02	0.00	0.69	0.69
7	Installation of 33/11 KV sub-station with associated 33 KV line at Sekmai(NLCPR)	8.70	4.52	4.18	8.70	0.00	0.63	0.63
8	Installation of 33/11 KV (2x1 MVA) S/S at Nungbi Khullen with associated 33 KV line(NLCPR)	14.50	9.65	4.85	14.50	1.00	0.97	1.97
9	Re-stringing & strengthening of 33 kV lines	7.18	7.18	0.00	7.18	2.00	0.00	2.00
10	Installation of 33/11 KV (2x1 MVA) S/S at Gumnom with associated 33 kV line(NLCPR)	9.53	5.17	4.36	9.53	0.00	0.87	0.87
11	Installation of 33/11 kV sub-station at Mayangkhang with associated 33 kV line(NEC)	9.63	2.71	6.92	9.63	0.00	0.19	0.19
12	Installation of 33/11 kV sub-station at Mao with associated 33 kV line(NEC)	10.21	3.17	7.04	10.21	0.00	0.70	0.70
13	installation of 33/11 kV sub-station at Poayi at Ukhrul	9.15	9.15	0.00	9.15	1.50	0.00	1.50

Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
14	installation of 33/11 kV sub-station at Thueyng at Senapati	14.03	14.03	0.00	14.03	1.50	0.00	1.50
15	Construction of 33 kV D/C line on STP from 132/33 kV SS at Thoubal to 33/11 kV SS at Thoubal (old)	11.83	11.83	0.00	11.83	0.50	0.00	0.50
16	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Yairipok under IPDS	9.32	1.12	8.19	9.32	0.00	4.69	4.69
17	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangoi under IPDS	12.49	4.30	8.19	12.49	0.00	3.96	3.96
18	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangjing under IPDS	9.33	1.13	8.19	9.33	0.00	5.21	5.21
19	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Heirok under IPDS	8.87	1.00	7.87	8.87	0.00	4.99	4.99
20	Augmentation of 33/11 kV sub-station at Kangpokpi under IPDS	1.43	0.26	1.17	1.43	0.00	0.22	0.22



Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
21	Augmentation of 33/11 kV sub-station at Karong under IPDS	1.66	0.31	1.36	1.66	0.00	0.60	0.60
	Total : A.1.3	189.30	102.93	86.37	189.30	6.50	27.02	33.52
A.2	New Schemes							
A.2.1	33 kV System							
1	Installation of 2x5 MVA 33/11 kV sub-station along with associated 33 kV line & related civil works at Chingai, Ukhrul district.	11.75	11.75	0.00	11.75	1.00	0.00	1.00
2	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Kachai, Ukhrul district.	10.44	10.44	0.00	10.44	1.00	0.00	1.00
3	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Sanakeithel, Ukhrul district.	10.57	10.57	0.00	10.57	1.00	0.00	1.00
4	Installation of new 33/11 kV sub-station along with associated 33 kV line at Akampat, Imphal East.	8.86	8.86	0.00	8.86	1.00	0.00	1.00

SL. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
5	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Liyai Khunou, Senapati district.	10.83	10.83	0.00	10.83	1.00	0.00	1.00
6	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Ibudhou Marjing	9.13	9.13	0.00	9.13	1.00	0.00	1.00
7	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Nambashi, Ukhrul district.	11.10	11.10	0.00	11.10	1.00	0.00	1.00
8	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Khongjaron, Tamenglong district.	7.06	7.06	0.00	7.06	1.00	0.00	1.00
9	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Somdal, Ukhrul District	8.90	8.90	0.00	8.90	1.00	0.00	1.00
10	Installation of 2x5 MVA, 33/11 kV SS at Joujangtek, Noney district	13.06	13.06	0.00	13.06	1.00	0.00	1.00



Sl. No.	Name of Project	Cost of Project	Source of Funding			Budget Outlay, 2019-2020		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
11	Installation of 2x5 MVA, 33/11 kV SS at Oinam, Sena pati district.	12.41	12.41	0.00	12.41	1.00	0.00	1.00
12	Installation of 2x5 MVA, 33/11 kV SS at Gwakhah, Jiribam district.	8.08	8.08	0.00	8.08	1.00	0.00	1.00
13	Installation of 2x5 MVA, 33/11 kV SS at Nampisha, Kamjong district	11.10	11.10	0.00	11.10	1.00	0.00	1.00
	Total : A.2.1	133.29	133.29	0.00	133.29	13.00	0.00	13.00
	Sub-Total (I):	1429.81	1013.66	416.15	1279.81	97.80	28.06	125.86
II	Misc. Scheme							
1	Construction of Administrative Building	0.00	0.00	0.00	0.00	0.50	0.00	0.50
2	Construction of Divisional & Sub-Divisional office buildings, quarters, complain rooms, etc.	0.00	0.00	0.00	0.00	1.00	0.00	1.00
	Total : II	0.00	0.00	0.00	0.00	1.50	0.00	1.50
	Total (I+II):	1429.81	1013.66	416.15	1279.81	99.30	28.06	127.36

The status of various schemes planned for execution in FY 2019-20 are provided in the table above. All the above ongoing scheme are funded from the State budget or Central Government agencies as grants and therefore funding of these schemes are already approved.

MSPCL has considered the capitalization of assets which are expected to be completed during the year which is presented in the table below:

Table 22: Capitalised Assets in FY 2019-20 (in Rs. Cr.)

S.N.	Name of Project	Capacity	Cost of Project
1	Installation of 2X5 MVA 33 KV S/S (formerly 1X3.15 MVA 33 KV S/S) along with the associated 33 KV Line and related civil Works at Yairipok, Thoubal District. Manipur under IPDS on Turnkey Basis	2X5 MVA	9.5
2	Installation of 2X5 MVA 33 KV (Formerly 1X3.15 MVA 33 KV S/s) Along with the associated 33 KV Line and related civil works at wangoi, Imphal West, Manipur under IPDS on Turnkey Basis.	2X5 MVA	8.4
3	Installation of 2X20 MVA, 132/33 KV sub-Station along with the associated 132 KV LILO line and related civil Works at Thoubal, Thoubal District, Manipur on Trunkey Basis	2X20 MVA	51
4	Construction of 132 KV D/C (3rd CKT) strung on D/C Tower from 132 KV Yurembam S/s State to Yurembam S/S (PGCI) including line Bay	0.7 KM	10.2
5	Installation of 1X20 MVA transformer at Yaingangpokpi 132/33 KV S/S for replacement of old Transformer	1X20 MVA	5.57
6	Upgradation of 33/11 KV Sub Station at Khoupam in Tamenglong District by installing 2X2.5 MVA Transformer	2X2.5 MVA	5.05
Total Proposed Capitalization :			89.72

It is submitted that all ongoing capital schemes of MSPCL are being funded by State Government and Central Government agencies in the form of grants and therefore, no equity or debt has been considered by MSPCL for these schemes. Revised capital expenditure and capitalisation details for FY 2019-20 as against the approved values are given below.



Table 23: CWIP, Capital Expenditure and Capitalisation in FY 2019-20 (in Rs. Cr.)

S.N.	Particulars	Approved vide ARR dated 26 Mar, 2019	Proposed Figures for APR of FY 2019-20
1	Opening CWIP	199.93	420.34
2	Capital Expenditure	265.57	127.36
3	Less: Capitalisation	251.56	89.72
4	Closing CWIP	213.94	457.98

6. Gross Fixed Assets

The approved value and revised estimate of GFA for FY 2019-20 based on the actual GFA addition during FY 2018-19 are shown in table below. It is submitted that against the approved capitalization of Rs. 251.56 Cr., the revised estimate for capitalization is Rs. 89.72 Cr. which is based on the progress of various schemes as detailed in previous section.

Table 24: Gross Fixed Assets (in Rs. Cr.)

Particulars	Approved vide ARR dated 26 Mar, 2019	Revised Estimate For
		FY 2019-20
Opening GFA	1279.92	1279.92
Additions during the year	251.56	89.72
O&M Expenses Capitalisation	-	-
Closing GFA (1+2+3)	1531.48	1369.64

7. Depreciation

MSPCL has calculated the depreciation at the depreciation rates provided by the Commission in JERC (MYT Tariff) Regulations 2014. Depreciation has been worked out on the opening gross fixed assets for FY 2019-20 and estimated additions as proposed during the financial year.

As such, the Commission is requested to review the depreciation figures based on the revised addition to fixed assets as shown below:



Table 25: Depreciation for FY 2019-20

(in Rs. Cr.)

Particular	FY 2019-20				Depreciation Rate	Depreciation
	Opening	Addition	Closing	Average		
Land & Land Development	23.74	0.00	23.74	23.74	0.00%	0.00
Plant & Machinery	1188.28	89.72	1278.00	1233.14	5.28%	65.11
Building	63.71	0.00	63.71	63.71	3.34%	2.13
Furniture & Fittings	1.11	0.00	1.11	1.11	6.33%	0.07
Computer	1.27	0.00	1.27	1.27	15.00%	0.19
Office Equipment	0.21	0.00	0.21	0.21	6.33%	0.01
Vehicles	1.60	0.00	1.60	1.60	9.50%	0.15
Total	1279.92	89.72	1369.64	1324.78		67.66

The total depreciation in FY 2019-20 is projected to be Rs.67.66 Cr. However, as approved in MYT order dated 12th March 2018, only 1.5% of assets has been considered to be not funded through grants, the same percentage is considered for projection of depreciation for FY 2019-20. MSPCL requests the Hon'ble Commission to approve the depreciation of Rs.1.01 Cr. as shown below.

Table 26: Depreciation to be considered for FY 2019-20

(in Rs. Cr.)

Depreciation	Approved vide ARR dated 26 Mar, 2019	Revised Estimate
Average value of assets	1405.80	1324.78
Rate of Dep.	5.10%	5.11%
Total Depreciation	71.70	67.66
1.5 % of the Depreciation	1.08	1.01

8. Interest and Finance Charges

In the Order dated 26th March 2019, there were no interest and financial charges approved since entire capital expenditure of MSPCL has been funded by the State Government through grants from Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of NEC, NLCPR, DONER or through State Plan Scheme. Therefore, the utility does not have any liabilities on account of long term loans. As such no interest charges are claimed for FY 2019-20.



Table 27: Interest and Finance Charges for FY 2019-20

(in Rs. Cr.)

Particulars	Approved vide ARR dated 26 Mar, 2019	Actual (till Sept'19)	Estimated FY 2019- 20
Total Interest and Finance Charges	-	-	-

9. Interest on Working Capital

For APR of FY 2019-20, MSPCL has calculated the interest on working capital as per the JERC (Multi Year Tariff) Regulations, 2014, and based on the revised estimated figures as discussed above. The interest rate is taken equal to the SBI PLR rate as on 1st April 2019 i.e., 13.80%. The calculation is shown below:

Table 28: Interest on Working Capital for the FY 2019-20

(in Rs. Cr.)

S.N.	Particulars	Approved vide ARR dated 26 Mar, 2019	FY 2019-20 Estimated
1	O&M expenses	7.35	6.12
2	Maintenance of Spares (1%)	13.57	14.33
3	Receivables	7.10	5.84
4	Working Capital Requirement	28.02	26.29
5	Rate of interest	13.45%	13.80%
6	Interest on Working Capital	3.77	3.63

MSPCL requests the Hon'ble Commission to revise the Interest on Working Capital as shown in the above table.

10. Return on Equity (with Tax)

Regulation 22 of MYT Regulation, 2014 provides that equity for the purpose of ROI shall be 30% of capital cost or actual equity, which ever is lower. Further, Regulation 26 of MYT Regulation provides that RoE shall be allowed at the rate of 15.5% of Equity as determined under regulation 22. Accordingly, Equity for the purpose of calculating RoE has been considered as actual equity base for the FY 2019-20. Further, Regulation 30 provides that Income Tax payable shall be allowed based on actual income tax as per Audited Accounts. Income Tax for the FY 2019-20 has been considered at MAT rate of 15.6% which is the notified rate for the year.

The actual equity base as per accounts in FY 2019-20 is Rs. 10.05 Cr. The revised Return on Equity (inclusive of tax) along with the approved figures for FY 2019-20 are detailed in table below:

Table 29: Return on Equity for FY 2019-20 (in Rs. Cr.)

Particulars	Approved vide ARR dated 26 Mar, 2019	Estimated For FY 2019- 20
Return on Equity	1.96	1.80

The Commission is requested to approve the the Return on Equity of Rs. 1.80 Cr. as estimated for FY 2019-20.

11. Non-Tariff Income

The approved NTI for the FY 2019-20 in the ARR order Dt. 26th March 2019 is 9.70 Cr. The same has been considered for the FY 2019-20. The details are provided in the table below.

Table 30: Non-Tariff Income for FY 2019-20 (in Rs. Cr.)

Particulars	Approved vide ARR dated 26 Mar, 2019	Revised Estimate
Non-Tariff Income	9.70	9.70

The Commission is requested to approve the Non-tariff Income of Rs. 9.70 Cr. as estimated for FY 2019-20.

12. Aggregate Revenue Requirement

Based on the above analysis, the Aggregate Revenue Requirement estimated for FY 2019-20 by MSPCL under the annual performance review against the figures approved by the Commission for FY 2019-20 are furnished in Table below:

Table 31: Aggregate Revenue Requirement for FY 2019-20 (in Rs. Cr.)

Sr. No.	Particulars	Approved vide ARR dated 26 Mar, 2019	Revised Estimate
1	R&M Expense	14.44	14.44
2	Employee Expense	69.12	54.34
3	A&G Expense	4.61	4.61
4	Depreciation	1.08	1.01
5	Interest on Loans	0.00	0.00
6	Return on Capital Employed	1.96	1.56
7	Interest on working capital	3.77	3.63
8	Income Tax	0.40	0.24
9	Total Cost	95.37	79.83
10	Less: Non-Tariff income	9.70	9.70
11	Aggregate Revenue Requirement	85.68	70.13

MSPCL requests the Hon'ble Commission to revise the ARR for FY 2019-20 as proposed above.



Chapter 5: Revised Aggregate Revenue Requirement and Transmission charges for FY 2020-21

Background

After the First Control Period i.e. FY 2016-17 to FY 2017-18, the Hon'ble Commission in its Tariff Order for FY 2017-18 had directed that the Second Control Period shall be for a period of five years from 1.04.2018 and that the Petitioner is required to submit ARR for the Control Period FY 2018-19 to FY 2022-23. Accordingly, MSPCL submitted its Multi Year Tariff (MYT) Petition for the determination of ARR for each year of the Second Control Period i.e. FY 2018-19 to FY 2022-23 along with proposed transmission tariff for FY 2018-19 and orders issued vide T.O dt. 12.03.2018.

In line with the provisions of the JERC (Multi Year Tariff) Regulations, 2014, the licensee is required to submit a petition for determination of tariff for the ensuing year along with the truing up for the previous year and APR for current year. MSPCL is submitting its revised ARR and tariff petition for FY 2020-21 on the basis of the principles outlined in JERC (Multi Year Tariff) Regulations, 2014. MSPCL has considered the past trends and taken cognizance of actual financial numbers for FY 2018-19 and first six months of FY 2019-20 to revise the ARR for FY 2020-21 and propose suitable tariff for recovery of the same.

The following sections explain in detail the basis and forecasts of the following elements for FY 2020-21:

- a. Capital Investment Plan for the ensuing year
- b. Determination of Aggregate Revenue Requirement by forecasting the following costs, other income & returns:
 - i. Employee Cost
 - ii. Repairs & Maintenance Cost
 - iii. Admin & General Cost
 - iv. Interest Cost
 - v. Interest on Working Capital
 - vi. Depreciation
 - vii. Return on Equity

viii. Non-Tariff Income

- c. Proposed Transmission Tariff for recovery of the proposed ARR for FY 2020-21.

1. Contracted Capacity in Manipur

- The own generation of Manipur is very less, therefore it relies mainly on the allocation of power from Central Generating Stations like NHPC, NEEPCO, OTPC Pallatana Unit-I and Tripura based Baramura power plant etc. to meet its energy requirement.
- The MSPDCL has provided the projected contracted capacity as 256 MW and projected energy to be transmitted as 1164 MUs during the FY 2020-21. MSPCL has considered the above contracted capacity & energy for the FY 2020-21.

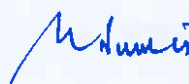
The details of existing transmission network of Manipur are as provided in the table below:

Table 32: MSPCL Transmission infrastructure snapshot

Voltage Level		400 kV	132 kV	33 kV
No. of Sub-Station	FY 18-19	0	16	84
	FY 19-20	1	18	87
	FY 20-21	1	18	118
Transformation Capacity (MVA)	FY 18-19	-	598	597
	FY 19-20	315	678	1352
	FY 20-21	315	787	1882
Line Length (km)	FY 18-19	-	696.2	1676.52
	FY 19-20	90.2	720.2	1687.62
	FY 20-21	90.2	720.2	2160.62

2. Capital Expenditure

- In the MYT Petition, MSPCL had submitted year wise capital expenditure for the various schemes proposed to be undertaken during the Control Period FY 2018-19 to FY 2022-23. The Commission had approved the same in the MYT Order dated 12th March 2018.



- Considering the progress of various schemes since the issuance of the MYT Order, MSPCL proposes to revise the capital expenditure for FY 2020-21 for the purpose of revised projection of ARR. The revised capital expenditure is based on the current status of the various schemes which are under implementation.
- The proposed capital expenditure during FY 2020-21 along with scheme-wise details are provided in the table below:



Table 33: Proposed Capital expenditure on ongoing and new projects during FY 2020-21 (in Rs. Cr.)

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
I	Generation							
1	Loktak Down Stream Hydro Electric Project (2x33 MW)	0.00	0.00	0.00	0.00	10.00	0.00	10.00
	Sub-Total : Generation Hydro (I)	0.00	0.00	0.00	0.00	10.00	0.00	10.00
II	Transmission & Distribution							
A.1	Ongoing Schemes							
A.1.1	400 kV System							
1	Installation of 400 kV Sub-Station at Thoubal(NLCPR)	230.62	115.20	115.42	230.62	7.52	0.00	7.52
2	Construction of 400 kV T/L from Yurembam to Thoubal via Nambol	259.68	148.84	110.84	259.68	23.47	0.00	23.47
3	Installation of 2 nos. 400 kV line bays at Imphal(PG) sub-station	35.24	35.24	0.00	35.24	3.97	0.00	3.97
	Total : A.1.1	525.54	299.29	226.25	525.54	34.96	0.00	34.96
A.1.2	132 kV System							
3	R & M of 132/33 kV sub-station at Yurembam (SPA/NEC)	44.70	10.20	34.50	44.70	0.54	0.00	0.54
4	Installation of 132/33 kV S/S at Chandel with associated 132 KV line(NLCPR)	31.52	19.58	11.93	31.52	0.22	0.00	0.22

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
5	Installation of 1x20 MVA transformer at Yaingangpokpi	5.58	5.58	0.00	5.58	1.41	0.00	1.41
7	Renovation & Modernisation of three nos. of 132/33 kV S/S at Kakching, Karong & Churachandpur(NLCPR)	49.69	8.10	41.58	49.69	2.78	0.00	2.78
8	Installation of 132/33 kV S/S at Thanlon with associated line(NLCPR)	135.88	81.90	53.98	135.88	6.08	0.00	6.08
9	Installation of 2x20 MVA, 132 kV Sub-Station along with associated 132 kV LIL lines & related works at Thoubal(NEC)	50.38	18.32	32.05	50.38	7.37	0.00	7.37
10	Providing of Energy Meter	3.47	3.47	0.00	3.47	0.26	0.00	0.26
11	Augmentation of Rengpang 132/33 kV sub-station by installing(3x4.16+1x4.16)MVA 132/33 kV single phase transformers	12.63	12.63	0.00	12.63	1.61	0.00	1.61
14	Cost for diversion of forest land for construction of transmission projects	50.52	50.52	0.00	50.52	43.39	0.00	43.39
15	Installation of 132/33 kV sub-station at Moreh with erection of associated 132 kV line(NLCPR)	115.74	87.29	28.45	115.74	15.85	0.00	15.85

SL. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
16	Augmentation of 132/33 KV S/S at Jiribam (Installation of additional transformers)	3.66	3.66	0.00	3.66	0.32	0.00	0.32
19	Stringing of 132 kV line (2nd circuit) from Kakching to Churachandpur(NEC)	17.44	8.28	9.16	17.44	1.09	0.00	1.09
20	Construction of 132 kV S/C line(2nd ckt) on D/C towers from Leimatak PH(NHPC) to 132 kV sub-station at Ningthoukhong	20.44	20.44	0.00	20.44	0.03	0.00	0.03
21	Installation of 132 kV sub-station along with associated 132 kV line at Elangkhangpokpi	56.21	56.21	0.00	56.21	8.15	0.00	8.15
22	Construction of 132 kV S/C line(3rd ckt) strung on D/C towers from 132 kV Yurembam sub-station (State) to Yurembam sub-station (PGCIL)	10.25	10.25	0.00	10.25	0.50	0.00	0.50
23	Construction of 132/33 kV sub-station at Tipaimukh	51.39	51.39	0.00	51.39	6.83	0.00	6.83
24	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Kongba, Yaingangpokpi and Hundung on existing Kongba to Kakching 132 kV T/L.	15.83	15.83	0.00	15.83	5.29	0.00	5.29



Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
25	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Kakching & Chandel on existing Kongba to Kakching 132 kV T/L.	7.98	7.98	0.00	7.98	1.98	0.00	1.98
26	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Moreh on Kakching to Moreh 132 kV T/L.	22.34	22.34	0.00	22.34	3.00	0.00	3.00
	Total : A.1.2	705.62	493.95	211.67	705.62	106.70	0.00	106.70
A.1.3	33 kV System							
2	Installation of 33/11 kV sub-station at Chakpikarong(NLCPR)	11.45	6.45	4.99	11.45	2.10	0.00	2.10
3	Installation of 33/11 kV S/S at Sekmaiijin(NLCPR)	7.28	3.89	3.40	7.28	1.64	0.00	1.64
4	Installation of 33/11 kV S/S at Ukhrul Khunijao(NLCPR)	9.42	5.64	3.79	9.42	0.54	0.00	0.54
7	Erection of 33 kV feeders from Yurembam POWERGRID sub-station(SCA)	21.43	16.83	4.60	21.43	0.02	0.00	0.02

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
8	Installation of 2x5 MVA 33/11 kV sub-station with associated 33 KV line at Power House site of Loktak Down Stream HE Project(NEC)	14.84	7.83	7.01	14.84	2.15	0.00	2.15
9	Installation of 33/11 kV sub-station with associated 33 KV line at Sugnu(NLCPR)	10.30	5.45	4.85	10.30	1.79	0.00	1.79
10	Installation of 33/11 KV sub-station with associated 33 KV line at Khongjom(NLCPR)	9.02	4.70	4.32	9.02	1.00	0.00	1.00
11	Installation of 33/11 KV sub-station with associated 33 KV line at Sekmai(NLCPR)	8.70	4.52	4.18	8.70	0.02	0.00	0.02
12	Installation of 33/11 KV (2x1 MVA) S/S at Gelnel(NLCPR)	7.81	4.38	3.42	7.81	1.39	0.00	1.39
13	Installation of 33/11 KV (2x1 MVA) S/S at Nungbi Khullen with associated 33 KV line(NLCPR)	14.50	9.65	4.85	14.50	1.16	0.00	1.16
14	Re-stringing & strengthening of 33 kV lines	7.18	7.18	0.00	7.18	0.75	0.00	0.75
15	Installation of 33/11 KV (2x1 MVA) S/S at Gumnom with associated 33 kV line(NLCPR)	9.53	5.17	4.36	9.53	0.94	0.00	0.94
16	Renovation of 33/11 KV S/S at Khoupum	5.06	5.06	0.00	5.06	1.18	0.00	1.18

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
17	Installation of 33/11 kV sub-station at Phungyar with associated 33 kV line	11.39	11.39	0.00	11.39	1.96	0.00	1.96
18	Installation of 33/11 kV sub-station at Kasom Khullen with associated 33 kV line	10.42	10.42	0.00	10.42	1.60	0.00	1.60
19	Installation of 33/11 kV sub-station at Gamphazol with associated 33 kV line	10.06	10.06	0.00	10.06	0.48	0.00	0.48
20	Installation of 33/11 kV sub-station at Mayangkhang with associated 33 kV line(NEC)	9.63	2.71	6.92	9.63	0.79	0.00	0.79
21	Installation of 33/11 kV sub-station at Mao with associated 33 kV line(NEC)	10.21	3.17	7.04	10.21	0.71	0.00	0.71
22	installation of 33/11 kV sub-station at Poayi at Ukhurul	9.15	9.15	0.00	9.15	1.84	0.00	1.84
23	installation of 33/11 kV sub-station at Thueyng at Senapati	14.03	14.03	0.00	14.03	4.18	0.00	4.18
24	Construction of 33 kV D/C line on STP from 132/33 kV SS at Thoubal to 33/11 kV SS at Thoubal (old)	11.83	11.83	0.00	11.83	0.34	0.00	0.34
25	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Yairipok under IPDS	9.32	1.12	8.19	9.32	0.12	2.50	2.63

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
26	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangoi under IPDS	12.49	4.30	8.19	12.49	0.50	2.85	3.35
27	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangjing under IPDS	9.33	1.13	8.19	9.33	0.13	1.82	1.95
28	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Heirok under IPDS	8.87	1.00	7.87	8.87	0.00	1.76	1.76
29	Augmentation of 33/11 kV sub-station at Kangpokpi under IPDS	1.43	0.26	1.17	1.43	0.00	0.96	0.96
30	Augmentation of 33/11 kV sub-station at Karong under IPDS	1.66	0.31	1.36	1.66	0.00	0.43	0.43
	Total : A.1.3	266.35	167.65	98.70	266.35	27.34	10.32	37.66
A.2	New Schemes							
A.2.1	33 kV System							
4	Installation of 2x5 MVA 33/11 KV sub-station along with associated 33 kV line & related civil works at Chingai, Ukhrul district.	11.75	11.75	0.00	11.75	4.30	0.00	4.30



Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
5	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Kachai, Ukhrul district.	10.44	10.44	0.00	10.44	3.78	0.00	3.78
6	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Sanakeithel, Ukhrul district.	10.57	10.57	0.00	10.57	3.83	0.00	3.83
7	Installation of new 33/11 kV sub-station along with associated 33 kV line at Akampat, Imphal East.	8.86	8.86	0.00	8.86	3.14	0.00	3.14
8	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Liyai Khumou, Senapati district.	10.83	10.83	0.00	10.83	3.93	0.00	3.93
9	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Ibudhou Marjing	9.13	9.13	0.00	9.13	3.25	0.00	3.25
10	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Nambashi, Ukhrul district.	11.10	11.10	0.00	11.10	4.04	0.00	4.04



Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
11	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Khongjaron, Tamenglong district.	7.06	7.06	0.00	7.06	2.42	0.00	2.42
21	Installation of 2x5 MVA, 33/11 kV SS at Joujangtek, Noney district	13.06	13.06	0.00	13.06	4.82	0.00	4.82
22	Installation of 2x5 MVA, 33/11 kV SS at Oinam, Sena [pati district.	12.41	12.41	0.00	12.41	4.56	0.00	4.56
23	Installation of 2x5 MVA, 33/11 kV SS at Gwakhal, Jiribam district.	8.08	8.08	0.00	8.08	2.83	0.00	2.83
24	Installation of 2x5 MVA, 33/11 kV SS at Nampisha, Kamjong district	11.10	11.10	0.00	11.10	4.04	0.00	4.04
25	Augmentation, R&M of 33/11 kV substations-28 nos.(Hill-Tengnoupal, Tolloi, Kamjong, Jiribam, Lakhaimai, Leimakhong, Litan, Maram, New Chayang, Saikul, Shivapurikhal, Singhat, Tadubi, Tamei, Tamenglong, Tousem, Namarei; Valley-Ningthoukhong, Iroisemba, Moirang, Kakching, Bishnupur, Nilakhuthi, Yaingangpokpi, Napetpalli, Wangjing, Moirang Khunou, Nambol)	86.07	86.07	0.00	86.07	4.30	0.00	4.30

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
26	33/11 kV Sub-Station at Rilamcentre	12.35	12.35	0.00	12.35	0.62	0.00	0.62
27	33/11 kV Sub-Station at Haochong	10.96	10.96	0.00	10.96	0.55	0.00	0.55
28	33/11 kV Sub-Station at Tuinem	13.05	13.05	0.00	13.05	0.65	0.00	0.65
29	33/11 kV Sub-Station at Phadang	10.96	10.96	0.00	10.96	0.55	0.00	0.55
30	33/11 kV Sub-Station at Lambui	13.05	13.05	0.00	13.05	0.65	0.00	0.65
31	33/11 kV Sub-Station at Shirakhong	9.01	9.01	0.00	9.01	0.45	0.00	0.45
32	33/11 kV Sub-Station at Wahong	10.96	10.96	0.00	10.96	0.55	0.00	0.55
33	33/11 kV Sub-Station at Kwatha	10.26	10.26	0.00	10.26	0.51	0.00	0.51
34	33/11 kV Sub-Station at Sita	10.68	10.68	0.00	10.68	0.53	0.00	0.53
35	33/11 kV Sub-Station at Khengjoy	9.84	9.84	0.00	9.84	0.49	0.00	0.49
36	33/11 kV Sub-Station at Patpuihmun	12.35	12.35	0.00	12.35	0.62	0.00	0.62
37	33/11 kV Sub-Station at Thongju Part-II	9.01	9.01	0.00	9.01	0.45	0.00	0.45
38	Reconductoring of Imphal Ring Main 33 kV System with HTLS conductor and renovation of associated sub-stations	0.93	0.93	0.00	0.93	0.05	0.00	0.05
	Total : A.2.1	343.87	343.87	0.00	343.87	55.93	0.00	55.93
	Sub-Total (II):	1841.38	1304.76	536.62	1841.38	224.93	10.32	235.24
III	Misc. Scheme							
1	Consultancy for Hydel Investigation	3.50	3.50	0.00	3.50	1.75	0.00	1.75
5	Consultancy for assessment of Hydro Power Potential in the State	1.77	1.77	0.00	1.77	0.66	0.00	0.66

Sl. No.	Name of Project	Cost of Project	Source of Funding			Fund Projection(2020-21)		
			State Fund	Grant	Total	State Fund	Grant	Total
1	2	3	4	5	6	7	8	9
	Total : III	5.27	5.27	0.00	5.27	2.41	0.00	2.41
	Total (I+II+III):	1846.65	1310.04	536.62	1846.65	237.33	10.32	247.65

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- The Commission is requested to approve the revised capital expenditure proposed above for ongoing and new schemes during the year FY 2020-21. It is submitted that these schemes shall help the utility in delivering quality and reliable power in the State.
- Further, it is also submitted that certain transmission works (construction of substations and transmission lines) are being carried out by PGCIL on behalf of the State. These works are funded by the Central Government and World Bank and therefore it is expected that there is no liability of loan for MSPCL on account of these projects. The transmission infrastructure shall be handed over to MSPCL post completion of these projects.

3. Funding of Capital Investment Plan

- (a) It may be noted that funding for most of the schemes are covered by grants from State Government or grants from Central Government bodies like NLCPR and NEC. As such, there are no loans or equity for funding of such schemes. For all these schemes, 100% of the funding is covered by grants from State Government or Central Government. These schemes include Normal State Government plan schemes, NLCPR funding and NEC funding.
- (b) For the ongoing schemes the funding is primarily through State Government and Central Government grants and therefore no equity or loan is envisaged for these schemes. However, it is submitted that MSPCL had taken a loan of Rs. 150 Cr. from REC (which has been disbursed in Sept' 16) to expedite the projects which would have been delayed because of slow release of funds from the State Government. The principal amount of the loan shall be paid as grants from the State Government in the ensuing years and the interest of the loans shall also be recovered from State Government as capital grants (plan component) being interest during construction. Therefore, this loan has also been considered as a grant and no interest has been claimed corresponding to the loan.
- (c) As the funds for the new schemes is still to be finalized, in view of the past practice where MSPCL has been receiving the funds from the State and Central Government or its agencies as grants, it is proposed that the funding of new works



proposed for FY 2020-21 shall be in form of grants from the State / Central Government and their agencies. However, the Commission is requested to consider the funding pattern of these works based on the actual funding in case of any change in funding pattern with respect to the proposed at the time of true-up for FY 2020-21.

Table 34: Proposed Funding of capital Expenditure during FY 2020-21 (in Rs. Cr.)

Year	Equity	Debt	Grant (Central Govt Bodies/ State Govt)
FY 2020-21	0	0	247.65

- MSPCL has considered the capitalization of those works which are proposed to be completed by the end of FY 2020-21. Accordingly, details of capitalization, capital expenditure, capital works in progresses & GFA are provided in tables below:

4. Capitalization

A Summary of proposed capitalization and capital expenditure for the FY 2020-21 is provided below:

Table 35: Proposed Capitalization for the FY 2020-21 (in Rs. Cr.)

Sl. No.	Name of the Project	Proposed Expenditure
1	Construction of 400 kV T/L Yurembam to Thoubal via Nambol	259.68
Total Proposed Capitalization :		259.68

Table 36: Capital Expenditure & Capital Work In Progress (in Rs. Cr.)

	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
Opening CWIP	456.49	457.98
Capital Expenditure	147.48	247.65
Capitalization during the Year	480.55	259.68
Closing CWIP	123.42	445.95



5. Gross Fixed Assets (GFA)

- Gross Fixed Assets for FY 2020-21 are projected based on the closing gross fixed assets estimated for FY 2019-20 and the projected capitalization for FY 2020-21.
- The details of opening GFA, addition during the FY 2020-21 & closing GFA is provided in the table below.

Table 37: Projected Gross Fixed Assets for FY 2020-21 (in Rs. Cr.)

Particular	Proposed For FY 2020-21		
	Opening	Addition	Closing
Land & Land Development	23.74	0.00	23.74
Plant & Machinery	1278.00	259.68	1537.68
Building	63.71	0.00	63.71
Furniture & Fittings	1.11	0.00	1.11
Computer	1.27	0.00	1.27
Office Equipment	0.21	0.00	0.21
Vehicles	1.60	0.00	1.60
Total	1,369.64	259.68	1,629.32

Table 38: Proposed Gross Fixed Assets for FY 2020-21 (in Rs. Cr.)

Particular	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
Opening GFA	1919.55	1,369.64
Closing GFA	2405.33	1,629.32

It is submitted that the Hon'ble Commission may kindly consider & approve the GFA as proposed above for the FY 2020-21.

6. Operation & Maintenance Costs

- Operation and Maintenance expenses comprise of the following heads:
 - Employees Expenses** which includes the basic pay, dearness pay, dearness allowances, house rent allowances, and other allowances, new pension scheme paid to the staff;
 - Repair and Maintenance (R&M) Expenses**, which include all expenditure incurred on the maintenance and upkeep of transmission assets; and

(c) **Administrative and General Expenses**, which include all expenditure incurred in operating a business such as office and IT expenses, consultancy and regulatory fee etc.

- Due to shortage of manpower leading to operational issues, MSPCL recruited 1043 employees during FY 2016-17 to fill up the large number of vacant posts. Further, it is submitted that MSPCL still needs additional employees for meeting the vacancies created due to retirements as well as fill up the balance number of sanctioned posts in order ensure smooth operations and maintain the growing transmission network. MSPCL plans to recruit new employees in FY 2019-20 and FY 2020-21 and the plan for the same is submitted in following sections.
- MSPCL has projected each element of O&M expenses i.e. employee expense, R&M costs and A&G expense separately considering the actual data for last three years and first six months of FY 2019-20 along with adjustments and future plans of the utility.
- The methodology adopted by MSPCL for projecting the values of each component of the O&M expense for FY 2020-21 has been explained in the following section.

(a) Employee Expense

In the MYT order Dt. 12.03.2018 Hon'ble Commission had approved employee expenses at Rs. 73.27 Cr. for the FY 2020-21.

➤ Existing Employees

The employee expenses for the existing employees have been projected by escalating the expenses of existing employees with the impact of the VIIth Pay Commission.

➤ New Employees

- Post the formation, MSPCL was suffering from acute shortage of manpower. During FY 2016-17, MSPCL recruited 1043 employees to fill these vacancies. Also, the work charge and muster roll employees were regularized during FY 2016-17 and all employees are on rolls of the utility.



- Also, it was felt that the numbers of sanctioned posts are very less considering the increasing scale of operations of MSPCL. The sanctioned strength was been revised from 1585 employees to 2451 employees in FY 2016-17 in view of addition of transmission network due to commissioning of substations and transmission lines during last 3-4 years as well as transfer of 33/11kV substations from MSPDCL to MSPCL.
- MSPCL plans to recruit 388 new employees in second half of FY 2019-20 to fill up the vacancies in the sanctioned strength and to strengthen the institutional capability of the company. The newly recruited employees are expected to join by February, 2020. Accordingly, the salary of the new employees has been estimated for 2 months for the FY 2019-20 & for entire year of FY 2020-21 based on the prevailing salary structure.
- The year wise number of employees is provided in the table below.

Table 39: Projection of MSPCL Employee for FY 2020-21

Particulars	FY 2018-19 (Actuals)	FY 2019-20 (Estimated)	FY 2020-21 (Projected)
Opening Employees	1638	1571	1885
Retirements	70	74	74
Recruitments	3	388	-
Closing Number of Employees	1571	1885	1811
Average Number of Employees	1605	1728	1848

- MSPCL would like to bring to the notice of Hon'ble Commission that certain components of employee cost should be considered as uncontrollable factors, especially factors like DA/Basic hike through Government, revision through VII Pay Commission etc. MSPCL would not be in a position to not allow these increases as any deviation will be against law/policy. The revision in salaries and other incentives are kept at par with the other departments of Government of Manipur and is a legal binding on the department to follow the same. Therefore, MSPCL requests the Commission to adopt a relaxed and realistic approach for employee expenditure, keeping in view the obligation of the organization towards the employees.



- MSPCL submits that it has considered additional cost on account VIIth Pay Commission revisions at 30% during FY 2020-21. Accordingly, same has been included for projecting the employee cost for the FY 2020-21. The projected employee cost is detailed in the table below.

Table 40: Proposed Employee Cost for FY 2020-21 (in Rs. Cr.)

Sl. No.	Particulars	Unit	Approved in the MYT order Dt. 12/03/2018	2020-21
1	Salary of Existing employees	Cr.		50.91
2	Impact of VII Pay commission	Cr.		15.27
3	Salary of 388 nos new employees proposed to be recruited in 2019-20	Cr.		13.39
4	Total (1+2+3)	Cr.	73.27	79.57

MSPCL requests the Hon'ble Commission to approve the employee costs as projected above by the Petitioner.

(b) Repairs & Maintenance Expense

- These expenses include expenses on repairs and maintenance of Plant and Machinery, Transformers, Lines, cable network etc., Vehicles, Office equipment, etc.
- It is submitted that the Hon'ble Commission has approved Rs. 24.30 Cr. as R&M expenses for the FY 2020-21, however, MSPCL is projecting Rs. 10.56 Cr. towards R&M expenses for the year.
- The proposed R&M expense for FY 2020-21 is provided in the table below:

Table 41: Proposed Repairs & Maintenance Expense for FY 2020-21 (in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
R&M Expenses	24.30	10.56



MSPCL requests the Commission to approve the R&M expense for proper maintenance and strengthening of the transmission system.

(c) Administration & General Expense

- Administrative and General (A&G) expense comprise of various sub-heads including the following:
 - Travel and conveyance expenses
 - Hydel investigation expenses
 - Consultancy and regulatory fees
 - Office expenses
 - Publication expenses
 - Other administration expenses

Hon'ble Commission has approved A&G expenses of Rs. 4.94 Cr. for the FY 2020-21 in the MYT order Dt.12 March 2018, however, MSPCL is projecting Rs. 4 Cr. towards A&G expenses for the year.

- The proposed A&G expenses for FY 2020-21 are as provided in the table below:

Table 42: Proposed A&G Expenses for FY 2020-21 (in Rs. Cr.)

A&G Cost	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
Total A&G Expenses	4.94	4.00

MSPCL requests the Hon'ble Commission to approve the proposed A&G expenses for the FY 2020-21.

(d) O&M Expences

Based on the above mentioned expenses for employees, R&M & A&G , the total O&M expenses for the FY 2020-21 are tabulated below:

Table 43: Proposed O&M Expenses for FY 2020-21 (in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised proposed for FY 2020-21
Employee Expense (Rs. Crore)	73.27	79.57
R & M Expenses (Rs. Crore)	24.30	10.56

Particulars	Approved vide MYT Order For 2020-21	Revised proposed for FY 2020-21
A&G Expenses (Rs. Crore)	4.94	4.00
Total O&M Expenses (Rs. Crore)	102.51	94.13
Expenses capitalized @ 5.1%	5.23	-
Total O&M Expenses (Rs. Crore)	97.28	94.13

7. Depreciation

- Depreciation is charged on the basis of straight-line method, on the average GFA in use during the financial year. The depreciation is based on the category wise assets and the depreciation rates provided by the Commission in JERC (MYT Tariff) Regulations 2014.
- In MSPCL, as mentioned earlier, most of the funding is through government grants, depreciation on the assets funded through government grants have not been considered.
- As approved by Hon'ble Commission in MYT Order dated 12th March 2018, only 1.5% of total depreciation is considered towards ARR projection for FY 2020-21. MSPCL, requests the Hon'ble commission to consider the depreciation for FY 2020-21 as shown in the table below:

Table 44: Projected Depreciation for FY 2020-21

(in Rs. Cr.)

	Average Assets	FY 2020-21 (Projected)	
		Depreciation Rate	Depreciation
Land & Land Development	23.74	0.00%	0.00
Plant & Machinery	1407.84	5.28%	74.33
Building	63.71	3.34%	2.13
Furniture & Fittings	1.11	6.33%	0.07
Computer	1.27	15.00%	0.19
Office Equipment	0.21	6.33%	0.01
Vehicles	1.60	9.50%	0.15
Total	1,499.48		76.89



Table 45: Proposed Depreciation for FY 2020-21

(in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised proposed for FY 2020-21
Total Depreciation		76.89
Percentage of assets not funded through grants	1.48	1.50%
Depreciation to be considered	1.48	1.15

8. Interest on Working Capital Borrowings

- As per the JERC MYT Regulations 2014, MSPCL is entitled to claim interest on working capital as per the norms provided. The Regulations state that the interest on working capital for transmission licensee shall be computed as follows:

"29.2 Transmission:

- (i) *The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:*
 - (a) *Operation and maintenance expenses for one month; plus*
 - (b) *Maintenance spares at one (1) per cent of the historical cost escalated at 6% from the date of commercial operation; plus*
 - (c) *Receivables equivalent to one (1) month of transmission charges calculated on target availability level; minus*
 - (d) *Amount, if any, held as security deposits except the security deposits held in the form of Bank Guarantee from Transmission System Users.*
- (ii) *Interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of the financial year in which the Petition is filed."*

- The interest rate is taken equal to the SBI PLR rate as on 1st April 2019 i.e., 13.80%. Thus, interest on working capital requirement for FY 2020-21 has been worked out as shown in table below.

Table 46: Interest on Working Capital

(in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised proposed for FY 2020-21
O&M expenses	8.54	7.84
Maintenance of Spares (1%)	20.35	16.94
Receivables	8.55	7.61
Working Capital Requirement	37.44	32.39
Rate of interest*	14.05%	13.80%
Interest on Working Capital	5.26	4.46

*As on 1st April of the financial year in which the Petition is filed i.e. 1st April 2019



MSPSCL requests the commission to approve the Interest on Working Capital as projected above for FY 2020-21.

9. Return on Equity

- As per the JERC MYT Regulations 2014, MSPCL is entitled for a Return on Equity (RoE) of 15.50% before grossing up with prevailing tax rate. The prevailing Income Tax rate (MAT) for the FY 2019-20 is 15.60%. The same has been considered for grossing-up of return on equity for the FY 2020-21.
- As no fresh addition to equity during FY 2020-21 is planned, the closing equity of Rs. 10.05 Cr. for FY 2019-20 has been considered for computation of return on equity for FY 2020-21. Accordingly, return on equity is claimed at the rate of 17.92% (inclusive of tax) as shown below.

Table 47: Proposed Return on Equity for FY 2020-21

(in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
Opening Equity	10.05	10.05
Closing Equity	10.05	10.05
Average Equity	10.05	10.05
Rate of Return on Equity	15.50%	15.50%
MAT Rate	20.39%	15.60%
Total Return on Equity	1.96	1.80

Therefore, MSPCL requests the Hon'ble Commission to approve the RoE as projected for FY 2020-21.

10. Non-Tariff & Other Income

- Non-tariff income comprise of income earned from open access charges for short-term power purchase and sale, interest from bank deposits, agency charges, etc.
- Hon'ble Commission had approved Non-Tariff Income of Rs. 8.68 Cr. for the FY 2020-21 in the MYT order Dt. 12.03.2018, however, based on the actual NTI for the FY 2018-19 & estimated for the FY 2019-20, MSPCL proposes Non-Tariff Income of Rs. 10.20 Cr. for FY 2020-21. The approved & projected NTI for the FY 2020-21 is provided below.



Table 48: Proposed Non-tariff Income for FY 2020-21

(in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
SLDC Income	3.66	3.50
Agency Charges	3.19	2.50
Bank Interest	1.27	4.00
Other Income	0.56	0.20
Total Non-Tariff Income	8.68	10.20

MSPCL requests the Hon'ble Commission to kindly consider & approve the Non-Tariff Income as proposed above for the FY 2020-21.

11. Aggregate Revenue Requirement

MSPCL requests the Hon'ble Commission to approve the revised Aggregate Revenue Requirement for FY 2020-21 as shown in the table below.

Table 49: Proposed Aggregate Revenue Requirement for FY 2020-21

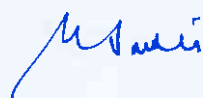
(in Rs. Cr.)

Particulars	Approved vide MYT Order For 2020-21	Revised Proposed For FY 2020-21
R & M Expense	24.30	10.56
Employee Expense	73.27	79.57
A&G Expense	4.94	4.00
Depreciation	1.48	1.15
Interest on Loans	0.00	0.00
Return on Capital Employed	1.56	1.56
Interest on working capital	5.26	4.46
Income Tax	0.40	0.24
Total Cost	111.21	101.54
Less: Non-Tariff Income	8.68	10.20
Less: Expenses capitalized	5.23	0.00
Net ARR	97.30	91.34

12. Norms of Operation

1. Target availability:

As per JERC MYT regulations' 2014, the target availability proposed for MSPCL was 98% and it was proposed that transmission ARR shall be recovered on pro-



rata basis if target availability is below 98%. We request the Commission to continue the same for FY 2020-21.

2. Transmission losses:

It is submitted that under SAMAST initiative, all utilities are advised to install energy meters with least count of 5 minutes to enable settlement in 5 minute intervals as against current 15 minute intervals. Energy meters for Manipur under SAMAST initiative are being procured by NER SAMAST Group through bulk tendering for all North East Region States. MSPCL had already submitted the required number of meters for Manipur to NER SAMAST group. The procurement process is already underway for the new 5 minute interval SAMAST meters.

MSPCL expects to complete the activity of installation of new 5-minute interval meters by FY 2020-21. Therefore, it is submitted that the transmission losses for the MSPCL transmission system cannot be measured at this point in time. MSPCL requests the Hon'ble Commission to consider the actual transmission loss after installation of meters at the feeders and approve a transmission loss trajectory accordingly. As such already approved transmission loss of 8.5% may be considered for FY 2020-21.

13. Recovery of Transmission ARR and Transmission Tariff Proposal for FY 2020-21

- The total ARR to be recovered for FY 2020-21 is proposed to be Rs. 91.34 Cr. As per JERC (Multi Year Tariff) Regulations, 2014, the transmission ARR should be recovered as fixed monthly charges from all long term users of the transmission system based on the share of average contracted transmission capacity in the total transmission capacity. Also, in case the target availability is below normative availability of 98%, the transmission ARR shall be recovered on pro-rata basis.
- Currently, MSPCL has only one long term transmission customer which is the distribution licensee i.e. MSPDCL. As such, MSPCL proposes to recover the



entire transmission ARR as fixed monthly charges from MSPDCL. The proposed tariff is provided in the table below.

Table 50: Transmission Tariff for FY 2020-21

S.N.	Particulars	Amount
1	Transmission ARR to be recovered (if availability is equal or more than the normative availability) Rs. In Crore	91.34
2	Transmission Tariff for MSPDCL as Rs. Lakhs/month in FY 2020-21	761.18
3	Average Contracted Transmission Capacity for MSPDCL in FY 2020-21 (in MW)	256
4	Transmission Tariff per MW of contracted capacity for long term transmission users per Month (Rs. Lakhs)	2.97
5	Transmission Tariff Rs./MW/Day	9775
6	Energy Proposed to be Transmitted (MUs)	1164
7	Transmission Tariff Rs./Unit	0.78

1. Rebate:

As per JERC (Multi Year Tariff) Regulations, 2014, for payment of bills of transmission charges through letter of credit on presentation, a rebate of 2% shall be allowed. Where payments are made subsequently, through opening of letter of credit or otherwise, but within a period of one month of presentation of bills by the transmission licensee, a rebate of 1% shall be allowed.

2. Late payment surcharge:

As per JERC (Multi Year Tariff) Regulations, 2014, in case the payment of bills of transmission charges by beneficiary (ies) is delayed beyond a period of one month from the date of billing, late payment surcharge at the rate of 1.25% per month shall be levied.

3. Incentive:

As per regulation 66 of JERC for M&M (MYT) Regulations 2014 the transmission licensee shall be entitled to incentive for increase in annual availability beyond the target availability prescribed under Regulation 61, in accordance with the following



formula and shall be shared by the long term and short term and medium term customers in the ratio of their average allotted transmission capacity

$$\text{Incentive} = \frac{\text{ATC} \times \text{achieved} - \text{target availability}}{\text{Target availability}}$$

Where,

ATC = Annual Transmission charges determined by the Commission for the transmission system of the transmission Licensee for the Concerned year.



Chapter 6: Compliance on Directives

The Hon'ble Commission Vide Tariff Order for FY 2019-20 dated 26th March 2019 had issued a set of directives to be followed by MSPCL to comply with the JERC regulations and standards.

In line with the directives, MSPCL has been taking several steps to comply with the directives. The purpose of this section is to appraise the Hon'ble Commission on progress made by MSPCL on this matter since the issuance of the aforesaid tariff order.

Directive 6:

Annual investment plan shall be submitted to the Commission and necessary approval of Commission shall be obtained for all major capital works costing Rs. 5 Crore or more, before execution of the works.

Petitioner Submission :

It is submitted that the MSPCL shall be submitting the details of all major capital works costing Rs. 5 Crore or more for consideration & approval of the Hon'ble Commission in future.

Directive 9:

Status / Progress of 33kV Works

As verified from capital investment plan, huge amount is contemplated for improvement of 33 kV systems. The MSPCL is directed to plan for completion of all works well within the targeted date. Quarterly report on progress achievement may be submitted.

Petitioner Submission :

• List of Completed 33kV Works

S.N.	Name of the Project/ work
	NIL

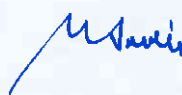


• **List of Ongoing 33kV Works with current Status**

S.N.	Name of the Project/ work	Status as on Nov, 2019
33 KV system		
1	Installation of 2x5 MVA 33/11 KV Sub-station along with the associated 33 KV line & related work at Gumnom in Ukhrul district in Manipur (NLCPR)	90% Completed
2	Installation of 2x5 MVA 33/11 KV SS with associated 33 KV line at Power House site of Loktak Downstream HE Project (NEC)	98% Completed
3	Installation of 2x2.5MVA 33/11KV Sub-Station along with the associated 33KV LI-LO Line & related Civil works at Paoyi in Ukhrul District(State Plan)	55% Completed
4	Installation of 2 x 2.5MVA 33/11Kv sub-station along with the associated 33KV Line & related Civil works at Thuyeng in Senapati District(State Plan)	50% Completed
5	Installation of 2x5MVA 33kV S/S along with associated 33kV Line and related civil works at Heirok (Heirok Thokchom Leikai), Thoubal District, Manipur(IPDS)	90% Completed
6	Installation of 2x5MVA 33kV S/S along with associated 33kV Line and related civil works at Yairipok, Thoubal District, Manipur(IPDS)	90% Completed
7	Installation of 2x5MVA 33kV S/S along with associated 33kV Line and related civil works at Wangoi, Imphal West District, Manipur(IPDS)	80% Completed
8	Installation of 2x5MVA 33kV S/S along with associated 33kV Line and related civil works at Wangjing (Khangapok Moirang palli Bazar), Thoubal District, Manipur(IPDS)	90% Completed
9	Augmentation of 33/11 kV S/S from 1x3.15 MVA to 2x3.15 MVA at Kangpokpi (IPDS)	90% Completed
10	Upgradation of 33/1 1KV Sub-Station at Khoupum in Tamenglong District by installing 2X2.5 MVA Transformer (State Plan)	20% Completed

Directive 11:

The MSPCL is directed to submit cost benefit analysis and other aspects that may have bearing on the transmission charges in respect of proposed 400/132 KV sub-station at Thoubal along with details of number of days, configuration and location of grid substations, sub-station capacity (MVA), transmission line length (c.Km) showing the

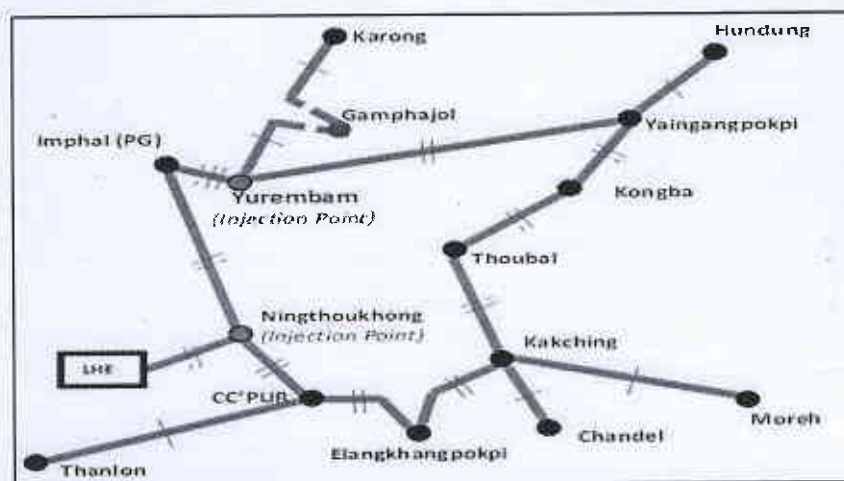


need for the proposed investments alternatives considered. The MSPCL also directed to submit detailed capital investment plan, financial plan for each year of the control period for meeting requirement of load growth, improvement of quality of supply and reliability etc. to the Commission for approval.

Petitioner Submission :

Cost benefit analysis of proposed 400/132 kV sub-station at Thoubal.

- The power across the State is supplied mainly through the 132 kV ring main grid comprising of Yurembam - Yaingangpokpi - Kongba - Thoubal - Kakching - Elangkhongpokpi - Churachandpur - Ningthoukhong - Yurembam with Nodal injection points at Yurembam and Ningthoukhong is as in the single line network below and the demand at the 132 kV sub-stations located in the State is increasing rapidly.



- In-case of failure of a section of the ring main, one of the nodal injection stations has to cater peak demand of 200 MW or above for maintaining regular power supply. In order to meet the increasing demand, the 132 kV system has to be upgraded.
- As per the 19th Electric Power Survey Forecast, the Energy Requirement and Peak load of Manipur is as under:-

	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24
Energy Requirement (MU)	1723	1875	2049	2241	2450

M. S. Meishan

Peak Load (MW)	339	372	410	453	499
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- The existing 132 kV lines with SIL of 50 MW per circuit cannot transmit the demand of power of the State. Since 400 kV has been adopted as the system voltage for NE grid for supplying power to the constituent states, it is imperative that Manipur also adopt the 400 kV system. The anticipated power demand in Manipur as forecasted by the 19th EPS can be met only after 400/132 kV sub-station is established and connected to the NE grid.
- The 400/132 kV substation at Thoubal, consists of the scope of work as detailed below:
 - (a) 4x105 MVA, 400/132 kV transformer (single phase transformer with one unit spare)
 - (b) 6 nos. 400 kV Bays (2 line bay each at Yurembam(PG) & Thoubal + 1 bus reactor bay at Thoubal+ 1 transformer bay at Thoubal) with one and a half breaker scheme
 - (c) 8 nos. 132 kV Bays at 400/132 kV Sub-Station at Thoubal.
 - (d) A 45.1 km, long 400 kV D/C transmission line.
- The 400 kV substation at Thoubal is planned to feed the 132kV substations at Kongba, Kakching, Thoubal, Yaingangpokpi, Hundung and Moreh. The sub-station will allow better intrastate load management.
- 400 kV substation at Yurembam(PG) is being planned to feed the 132 kV substations at Yurembam, Karong, Ningthoukhong, Churachandpur, Elangkhangpokpi and Thanlon.
- In-case of any eventuality, one of the 400 kV sub-stations may act as Nodal Injection Point for the ring main Circuit comprising Yurembam-Yaingangpokpi- Kongba-Thoubal- Kakching- Elangkhangpokpi- Churachandpur- Ningthoukhong-Yurembam. This system will bring overall improvement and enhance flexibility in supply and distribution of electricity in the state.

Financial and economic analysis:

1. Completion cost of the scheme is calculated as Rs. 176.49 Cr. (Annexure - A)

Financial IRR

1. At constant prices: 32.89 % (Annexure -B)



2. On constant cost basis: ERR = Rs. 31785.15 lakh at 12% discount factor (Annexure - C)

Economic IRR

1. At completion prices: 30.22% (Annexure - D)
2. On completion cost basis: ERR = Rs. 29300.17 lakh at 12% discount factor (Annexure E)

Annexure A : Calculation of Completion Cost

(Rs. in Cr.)

1	Estimated Project cost	160.73
2	Phasing of expenditure	
	1 st Year (40%)	64.29
	2 nd Year (30%)	48.22
	3 rd Year (30%)	48.22
3	Wholesale price index in April 2013 (as per RBI Monthly Bulletin June 2014)	171.3
4	Wholesale price index in April 2014 (RBI Monthly Bulletin June 2014)	180.2
7	Price rise from April 2013 to April 2014	5.20%
8	Total price rise per annum during the construction is assumed as 5%	
	Therefore, Completion cost in	
	1 st year of project	67.51
	2 nd year of project	53.16
	3 rd year of project	55.82
	Total Completion cost:	176.49



Annexure - B : Calculation of Internal Rate of Return (IRR)

Scheme cost: - 16073 lakhs (constant cost)

Year	Total liability at year beginning (Rs. in lakhs)	Capital Outlay during the year (Rs. in lakhs)	Interest (Rs. in lakhs)	Depreciation (Rs. in lakhs)	O&M (@3%) (Rs. in lakhs)	Energy input (unit in lakhs)	Energy purchase rate (Rs.)	Cost of energy (Rs. in lakhs) (7 x 8)	Working Expenditure (5+6+9)	Energy output (unit in lakhs)	Tariff (Rs.)	Anticipated Rev. (Rs. in lakhs) (11x12)	Net rev. (Rs. in lakhs) (13-10)	Surpluses (Rs. in lakhs) (14 - 4)	Accumulated Surplus (Rs. in lakhs)	Sum of charges (2+3-15)	Return (in PC) (14/17 x100)	Salvage value (Rs. in lakhs)	Earning after interest. (Rs. in lakhs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1		6429.00	288.05																-6689.00
2	6689.00	4822.00	818.06																-5619.00
3	12308.00	4822.00	1323.70																-6125.00
4	18433.00		1658.90	1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	7353.10	7353.10	11080.00	81.34		7353.40
5	11080.00		997.20	1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	8014.80	15368.00	3065.20	294.01		8015.10
6	3065.20		275.87	1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	8736.10	24104.00	-5671.00	-158.90		8736.50
7				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	33116.00	-9012.00	-100.00		9012.30
8				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	42128.00	-9012.00	-100.00		9012.30
9				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	51140.00	-9012.00	-100.00		9012.30
10				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	60152.00	-9012.00	-100.00		9012.30
11				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	69164.00	-9012.00	-100.00		9012.30
12				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	78176.00	-9012.00	-100.00		9012.30
13				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	87188.00	-9012.00	-100.00		9012.30
14				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	96200.00	-9012.00	-100.00		9012.30
15				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	105212.00	-9012.00	-100.00		9012.30
16				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	114224.00	-9012.00	-100.00		9012.30
17				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	123236.00	-9012.00	-100.00		9012.30
18				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	132248.00	-9012.00	-100.00		9012.30
19				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	141260.00	-9012.00	-100.00		9012.30
20				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	150272.00	-9012.00	-100.00		9012.30
21				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	159284.00	-9012.00	-100.00		9012.30
22				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	168296.00	-9012.00	-100.00		9012.30

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Year	Total liability at year beginning	Capital Outlay during the year	Interest	Depreciation	O&M (@3%)	Energy input	Energy purchase rate	Cost of energy	Working Expenditure	Energy output	Tariff	Anticipated Rev.	Net rev.	Surplus	Accumulated Surplus	Sum of charges	Return (in PC)	Salvage value	Earning after interest.
	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(unit in lakhs)	(Rs.)	(Rs. in lakhs) (7 x 8)	(5+6+9)	(unit in lakhs)	(Rs.)	(Rs. in lakhs (11x12))	(Rs. in lakhs (13-10))	(Rs. in lakhs (14 - 4))	(Rs. in lakhs)	(Rs. in lakhs (2+3-15))	(14/17 x100)	(Rs. in lakhs)	(Rs. in lakhs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
23				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	177308.00	-9012.00	-100.00		9012.30
24				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	186320.00	-9012.00	-100.00		9012.30
25				1254.60	160.03	11757.00	3.36	39504.00	40919.00	11639.00	4.29	49931.00	9012.00	9012.00	195332.00	-9012.00	-100.00	11599.00	-2587.00

IRR =32.89%

MSPCL

Annexure - C : IRR/ERR ON CONSTANT PRICE BASIS

YEAR	EARNING AFTER INTEREST	DISCOUNT FACTOR 10%	PRESENT VALUE AT 10%	DISCOUNT FACTOR 12%	PRESENT VALUE AT 12%	DISCOUNT FACTOR 17%	PRESENT VALUE AT 17%
1	-6689.00	0.909	-6080.91	0.893	-5972.321	0.855	-5717.09
2	-5619.00	0.826	-4643.80	0.797	-4479.432	0.731	-4104.76
3	-6125.00	0.751	-4601.80	0.712	-4359.654	0.624	-3824.27
4	7353.40	0.683	5022.47	0.636	4673.219	0.534	3924.14
5	8015.10	0.621	4976.75	0.567	4547.983	0.456	3655.78
6	8736.50	0.564	4931.53	0.507	4426.183	0.390	3405.82
7	9012.30	0.513	4624.73	0.452	4076.707	0.333	3002.86
8	9012.30	0.467	4204.30	0.404	3639.917	0.285	2566.54
9	9012.30	0.424	3822.09	0.361	3249.926	0.243	2193.63
10	9012.30	0.386	3474.63	0.322	2901.719	0.208	1874.90
11	9012.30	0.350	3158.76	0.287	2590.821	0.178	1602.47
12	9012.30	0.319	2871.60	0.257	2313.233	0.152	1369.64
13	9012.30	0.290	2610.54	0.229	2065.387	0.130	1170.63
14	9012.30	0.263	2373.22	0.205	1844.095	0.111	1000.54
15	9012.30	0.239	2157.47	0.183	1646.514	0.095	855.16
16	9012.30	0.218	1961.34	0.163	1470.101	0.081	730.91
17	9012.30	0.198	1783.04	0.146	1312.590	0.069	624.71
18	9012.30	0.180	1620.94	0.130	1171.956	0.059	533.94
19	9012.30	0.164	1473.58	0.116	1046.389	0.051	456.36
20	9012.30	0.149	1339.62	0.104	934.276	0.043	390.05
21	9012.30	0.135	1217.84	0.093	834.175	0.037	333.37
22	9012.30	0.123	1107.12	0.083	744.799	0.032	284.94
23	9012.30	0.112	1006.48	0.074	664.999	0.027	243.53
24	9012.30	0.102	914.98	0.066	593.749	0.023	208.15
25	-2587.00	0.092	-238.77	0.059	-152.176	0.020	-51.07
NPV			41087.75		31785.15		16730.87

ERR = Rs. 31785.15 lakhs at 12% discount factor.

Annexure - D : Calculation of Internal Rate of Return (IRR)

Scheme cost: - 17649 lakhs (completion cost)

Year	Total liability at year beginning	Capital Outlay during the year	Interst.	Depre- ciation	O&M (@3%)	Energy input	Energy purchase rate	Cost of energy	Working Expend- iture	Energy output	Tariff	Anticipa- ted Rev.	Net rev.	Surplus	Accumu- lated Surplus	Sum of charges	Return (in PC)	Salvage value	Earning after interest.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1		6751.00	302.45																-7023.00
2	7023.40	5316.00	870.29																-6163.00
3	13187.00	5582.00	1436.90																-6995.00
4	20182.00		1816.30	1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	7057.70	7057.70	13124.00	67.62		7057.30
5	13124.00		1181.10	1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	7692.90	14751.00	5431.10	163.39		7692.50
6	5431.10		488.80	1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8385.20	23136.00	-2954.00	-300.40		8384.80
7				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	32010.00	-8874.00	-100.00		8873.60
8				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	40884.00	-8874.00	-100.00		8873.60
9				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	49758.00	-8874.00	-100.00		8873.60
10				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	58632.00	-8874.00	-100.00		8873.60
11				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	67506.00	-8874.00	-100.00		8873.60
12				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	76380.00	-8874.00	-100.00		8873.60
13				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	85254.00	-8874.00	-100.00		8873.60
14				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	94128.00	-8874.00	-100.00		8873.60
15				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	103002.00	-8874.00	-100.00		8873.60
16				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	111876.00	-8874.00	-100.00		8873.60
17				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	120750.00	-8874.00	-100.00		8873.60
18				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	129624.00	-8874.00	-100.00		8873.60
19				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	138498.00	-8874.00	-100.00		8873.60
20				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	147372.00	-8874.00	-100.00		8873.60
21				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	156246.00	-8874.00	-100.00		8873.60
22				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	165120.00	-8874.00	-100.00		8873.60
23				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	173994.00	-8874.00	-100.00		8873.60

Year	Total liability at year beginning	Capital Outlay during the year	Interst.	Depre- ciation	O&M (@3%)	Energy input	Energy purchas e rate	Cost of energy	Working- Expend- iture	Energy output	Tariff	Anticipa- ted Rev.	Net rev.	Surplus	Accumu- lated Surplus	Sum of charges	Return (in PC)	Salvage value	Earning after interest.
	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(unit in lakhs)	(Rs.)	(Rs. in lakhs)	(5+6+9)	(unit in lakhs)	(Rs.)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(Rs. in lakhs)	(14/17 x100)	(Rs. in lakhs)	(Rs. in lakhs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
24				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	182568.00	-8874.00	-100.00		8873.60
25				1377.60	175.72	11757.00	3.36	39504.00	41057.00	11639.00	4.29	49931.00	8874.00	8874.00	191742.00	-8874.00	-100.00	-12736.00	-3862.00

IRR = 30.22%

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Annexure - E : IRR/ERR ON COMPLETION PRICE BASIS

YEAR	EARNING AFTER INTEREST	DISCOUNT FACTOR 10%	PRESENT VALUE AT 10%	DISCOUNT FACTOR 12%	PRESENT VALUE AT 12%	DISCOUNT FACTOR 17%	PRESENT VALUE AT 17%
1	-7023.00	0.90909	-6384.55	0.893	-6270.54	0.855	-6002.56
2	-6163.00	0.82645	-5093.39	0.797	-4913.11	0.731	-4502.16
3	-6995.00	0.75131	-5255.45	0.712	-4978.90	0.624	-4367.47
4	7057.30	0.68301	4820.23	0.636	4485.04	0.534	3766.13
5	7692.50	0.62092	4776.44	0.567	4364.93	0.456	3508.64
6	8384.80	0.56447	4733.00	0.507	4248.00	0.390	3268.72
7	8873.60	0.51316	4553.56	0.452	4013.97	0.333	2956.64
8	8873.60	0.46651	4139.60	0.404	3583.90	0.285	2527.04
9	8873.60	0.42410	3763.27	0.361	3199.91	0.243	2159.87
10	8873.60	0.38554	3421.16	0.322	2857.06	0.208	1846.04
11	8873.60	0.35049	3110.14	0.287	2550.95	0.178	1577.81
12	8873.60	0.31863	2827.40	0.257	2277.63	0.152	1348.56
13	8873.60	0.28966	2570.37	0.229	2033.60	0.130	1152.61
14	8873.60	0.26333	2336.70	0.205	1815.71	0.111	985.14
15	8873.60	0.23939	2124.27	0.183	1621.17	0.095	842.00
16	8873.60	0.21763	1931.15	0.163	1447.48	0.081	719.66
17	8873.60	0.19784	1755.59	0.146	1292.39	0.069	615.09
18	8873.60	0.17986	1595.99	0.130	1153.92	0.059	525.72
19	8873.60	0.16351	1450.90	0.116	1030.29	0.051	449.33
20	8873.60	0.14864	1319.00	0.104	919.90	0.043	384.05
21	8873.60	0.13513	1199.09	0.093	821.34	0.037	328.24
22	8873.60	0.12285	1090.09	0.083	733.34	0.032	280.55
23	8873.60	0.11168	990.99	0.074	654.76	0.027	239.79
24	8873.60	0.10153	900.90	0.066	584.61	0.023	204.95
25	-3862.00	0.09230	-356.45	0.059	-227.18	0.020	-76.24
NPV			38320.02		29300.17		14738.15

ERR = Rs. 29300.17 lakhs at 12% discount factor.

Directive 16

MSPCL is directed to complete installation and energisation of meters at all points at various voltage level to know the actual energy loss in

- i) Transmission at 132 kV system
- ii) Sub-Transmission at 33 kV system

MSPCL should provide with energy meters invariably without any further delay to all 11 kV outgoing feeders being the inter-company boundary and the energy injection point to MSPDCL system, for proper energy audit and accounting in order to segregate the transmission and distribution losses in Manipur power supply system.

Monthly joint meter readings should be conducted by MSPCL and MSPDCL.

Petitioner Submission :

MSPCL, as on date has installed 47 nos. and 125 nos. of SEM meters with 15 minutes time block calibration at 132kV and 33kV voltage level respectively leaving a balance of 21 nos. in 132kV and 66 nos. in 33kV voltage level respectively for complete metering of 132 kV & 33 kV system as is shown in the table below :

Sl.No	Particulars	132 kV	33 kV
1.	Total No. of feeders	68	191
2.	No. of newly installed Energy Feeder	47	125
3.	Balance	21	66

Meanwhile, Government of India has initiated an ambitious scheme, SAMAST to facilitate, among other feederwise energy accounting. Techno Economic Sub-Group, PSDF, Government of India, has already recommended DPR for implementation of SAMAST in Manipur for possible funding under PSDF wherein 5 minutes time block SEM meters are incorporated in the DPR. It is worthwhile to mention that NERPC has taken up the initiative for implementation of SAMAST in NER including common tendering and award under PSDF funding.

In view of the upcoming SAMAST scheme, MSPCL has dropped the idea of completion of the metering as the investment may not be fruitful. With a view of the complete feeder metering in Manipur system, DPR for SAMAST scheme of Manipur incorporates, among others installation of SEM meters with five minute time block calibration in 1 no in 400 kV, 51nos in 132 kV, 323 nos in 33 kV & 160nos in 11 kV system respectively. The additional



meters, if required MSPCL ensure to provide from own source during the implementation of SAMAST.

It is therefore pleaded that the Hon'ble Commission may be kind enough to grant time till the implementation SAMAST in Manipur.

Directive 17

MSPCL is directed to submit the details of meter installation status of all feeders at all voltage levels in all sub-stations along with a single line diagram within 2 (two) months for proper monitoring.

Petitioner Submission :

As for "metering" the submission of MSPCL as in the Directive No 16 may please be permitted.

Directive 18 :

The MSPCL is directed to complete the installation of all metering at the inter-company boundary point (i.e., 132kV and 33kV voltage levels) on or before August 2019 and report compliance to the Commission by the end of August 2019 positively.

MSPCL shall have to record the actual losses being incurred at 132kV and 33kV level separately and submit the detailed report in the next ARR tariff petition.

Petitioner Submission :

The submission of MSPCL as in the Directive No 16 may be permitted.

Directive 19 :

MSPCL should achieve full/complete metering of 11kV feeder in all 33/11kV sub-stations by steps to install meters in the remaining feeders where meters are not yet installed in the following time-bound manner and report the compliance to the Commission soon on completion by end of December 2019.

- a) 11kV incoming feeder meters to the 11kV bus by June 2019 and
- b) Outgoing 11kV feeders by December 2019.

The above directive is made with an object to accomplish to account for the quantum of power injected into the MSPDCL periphery by MSPCL which is not being done at present easily.

Petitioner Submission :



As on date, MSPCL has completed metering of 273 No. 11 kV feeders out of 388 feeders and another 160 No. is incorporated in the SAMAST DPR.

It is therefore pleaded that MSPCL may be permitted to complete metering of 11 kV feeders in Manipur during the implementation of SAMAST.

Directive 20 : Submission of all the Audited Annual Account from FY 2015-16 to 2017-18
MSPCL should file in the next tariff petition with true up for 2015 - 2016, 2016 - 2017 and 2017-18 base on audited figure. Commission will no longer entertain provisional true up in the next tariff petition without the submission of the Audited annual accounts in full shape.

The delay in submission of true-up will cost the Licensee to forego the entitlement to claim for additional period cost due to inflation for the true-up delay.

Petitioner Submission :

It is submitted that the Annual Accounts are under compilation & MSPCL has taken steps for complete the same at earliest. The Audited Accounts shall be submitted on completion of audit. Hon'ble Commission may kindly consider the same.

Directive 21 : The Licensee shall furnish the under mentioned details of feeder metering in the next ARR filing submissions to the Commission in comprehensive manner:

Details of feeders metering to be submitted

A. Name of 132/33/11kV installation:

- No. and name of 11kV incoming feeder
- Name of 11kV incoming feeder provided with meter
- No. and name of Out-going 11kV feeder
- Name of 11kV Out-going feeders provided with meters
- No of 11kV feeders without meters

B. Names of 33/11kV Sub-Stations:

- No. and name of 11kV incoming feeder
- No. and 11kV provided with meter.
- No. and name of 11kV outgoing feeder provided with meter.
- No. and name of 11kV outgoing feeder without meter.

Petitioner Submission :



SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
132/33 KV Sub Station										
1	132/33kV Yurembam SS	11kV Incoming No. 1	3		0	11kV Station/PGCIL Feeder	8		0	11
		11kV Incoming No. 2				11kV Eastern/CRPF Feeder				
		11kV Incommer Spare				11kV Outgoing Spare				
						11kV Western Feeder				
						11kV Tiddim Feeder				
						11kV Brick Field Feeder				
						11kV JNV Feeder				
2	132/33kV Rengpang SS		2		0	11kV JNV Incommer	5		0	7
		11 kV Incomer				11 kV Kongsang Feeder				



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
		11kV Incomer No. 2 (Spare)				11 kV Nungba Feeder				
						11 kV Station Feeder				
						Spare Feeder				
						Spare Feeder				
3	132/33kV Jiribam SS	11kV Incomer No. 1	2			Kaimai Feeder	5		0	7
		11kV Incomer No. 2				Tipaimuk Feeder				
						Jiri Bazar Feeder				
						Spare Feeder				
4	132/33kV Kongba SS	11kV Incoming No. 1	2		0	Sub-Station Feeder	1	Khongman Feeder	5	3
		11kV Incoming No. 2						Yairipok Feeder		
								Thambalkhong Feeder		
								Wangkhei Feeder		

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
								Irilbung water supply		
5	132/33/11kV Karong SS	11kV Incomer No. 1 11kV Incomer No. 2	2		0	Senapati Feeder Sub-Station Feeder Lairow Feeder	3		0	5
6	132/33/11kV Chandel SS	11kV Incoming No. 1 11kV Incoming No. 2	2		0	11kV O/G Feeder 11kV O/G Feeder 11kV O/G Feeder	3		0	5
7	132/33kV Kakching SS	11kV Incoming No. 1 11kV Incoming No. 2	2		0	11kV station/army Feeder 11 kV Kakching Feeder 11 kV Chandel Feeder	3		0	5
8	132/33kV Ningthouk hong SS	11kV Incoming No. 1 11kV Incoming No.	2		0	11kV Bishnupur Feeder 11kV	3		0	5

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
		2				Ningthoukhom g				
						11kV Station/Brick field				
9	132/33kV Churachan dpur SS	11kV Incoming No. 1	3		0	11kV Kangbai Feeder	4		1	7
		11kV Incoming No. 2				11kV Singhat Feeder				
		11kV Incoming No. 1				IB Feeder		11 kV JNV Feeder		
						11kV Sub-Station Feeder				
A	Sub-Total		20		0		35		6	55
33/11 KV Sub Station										
1	33/11kV Iroishemba SS	11kV Incoming No. 1	2		0	DC Feeder	7		0	9
		11kV Incoming No. 2 (5 mva)				RMC Feeder(Old)				
						RMC Feeder(New)				

SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
						Sub-Station Feeder				
						Singda Feeder				
						CAU Feeder				
						Sewage Treatment Plant				
2	33/11kV Lamphel SS	11kV Incoming No. 1	1		0	RIMS Feeder	3	11 kV Spare	5	4
						Capital Feeder		NTT Feeder		
						Sub-Station Feeder		Lamphel Feeder		
								Nityananda Feeder		
								Uripok Feeder		
3	33/11kV Mongsang i SS	11kV Incoming No. 1	2		0	M.U Feeder	5		0	7
		11kV Incoming No. 2				Nambul Feeder				
						Heirangoithong Feeder				

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
						Canchipur Feeder				
						Hiyangthang Feeder				
4	33/11kV Sangaiprou SS	11kV Incoming No. 1	2		0	Sangaiprou Feeder(spare)	3	Chari Feeder	2	5
		11kV Incoming / Spare				Malom/Dedicated Feeder		Tera Feeder		
						Sub-Station Feeder				
5	33/11kV Airport SS	11kV Incoming No. 1 (Spare)	3		0	11kV Sub-Station Feeder	4		0	7
		11kV Incoming No. 2				11kV O/G Feeder No. 1				
		11 kV incommer				11kV O/G Feeder No. 2				
						11 Radar feeder				
6	33/11kV Noney SS	11kV Incomer No. 1	1		0	Noney Feeder	4		0	5
						Tupul Feeder				
						Sub-Station Feeder				
						Incomer Spare				

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
7	33/11kV Shivpurikhal SS	11kV Incomer No. 1	1		0	Sub-Station Feeder Outgoing feeder No. 1	2		0	3
8										
9	33/11kV Tamenglong SS	11kV Incomer No. 1	1		0	Khongjaron Feeder Bazar Feeder Khunjao Feeder Sub-Station Feeder	4		0	5
10	33/11kV Tousem SS		0	11 kV Incomer	1		0	11 kV Tousem feeder	1	0
11	33/11kV Tamei SS	11kV Incomer	1		0	Khunphung Feeder Tamei Feeder Sub-Station Feeder	3		0	4
12	33/11kV Khumanlamak SS	11kV Incoming No. 1 11kV Incoming No.	2		0	TV Feeder Sports Feeder	5		0	7

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
		2								
						Sub-Station Feeder				
						Hockey Feeder				
13	33/11kV JNIMS	11kV Incoming No. 1	2		0	Mantripurkhri Feeder	3		0	5
		11kV Incoming No. 2				Sub-Station Feeder				
						Water Supply Feeder				
14	33/11kV Kangla SS	11kV Incoming No. 1	2		0	JNIMS Feeder	2		3	4
		11kV Incoming No. 2				Assembly FDR-I		Thangal Bazar Feeder		
						Outgoing (No Name)		Sub-Station Feeder		
15	33/11 kV Keishampat SS	Incommer 1	3		0		0	Assembly No. 2 Feeder	5	3
		Incommer 2						Tiddim II		
		Incommer 3						Eastern II Assembly Feeder		
								Secretariat		

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
								Feeder		
						Bazar Feeder				
16	33/11kV Sangaipat SS	11kV Incoming No. 2	1	11kV Incoming No. 1	1	O/G Feeder	5		0	6
						O/G Feeder				
						Sub-Station Feeder				
						Wangkhei Feeder				
						Bamon Leikai Feeder				
17	33/11kV Kakwa SS	11kV Incoming No. 1	2		0	11kV Sub-Station Feeder	3		0	5
		11kV Incoming No. 2				11kV Singjamei Feeder				
						11kV Kakwa Feeder				
18	33/11 kV Moreh SS	11 kV Incommer 2	1	11 kV Incommer 1	2	11 kV Tamu feeder	4		0	5
				11 kV Incommer 3		11 kV Spare				



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
						11 kV Spare				
						11 kV Moreh Feeder				
						11 kV Tengnoupal Feeder				
						11 kV Sita Feeder				
						O/G Feeder				
19	33/11kV Tengnoupal SS	11kV Incomer No. 1 11kV Incomer No. 2	2		0		3		0	5
20	33/11 kV Mayang Langjing S/S		0	11kV Incomer No. 1 11kV Incomer No. 2	2		0	11 kV Outgoing No. 1 11kV Outgoing No. 2 11kV Outgoing No. 3	3	0
21	33/11kV Oinamlong S/S		0	11kV Incomer No. 1 11kV Incomer No.	2		0	11 kV Outgoing No. 1 11kV Outgoing	3	0



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
				2				No. 2		
								11kV Outgoing No. 3		
22	33/11kV LDS S/S		0	11kV Incomer No. 1	2		0	11kV Outgoing No. 1	3	0
				11kV Incomer No. 2				11kV Outgoing No. 2		
								11kV Outgoing No. 3		
23	33/11kV Napet Palli SS	11kV Incoming No. 1	1		0	11kV Napet Feeder	2	11kV spare	1	3
						11kV Lamalai Feeder				
24	33/11kV Sagolmang SS	11kV Incoming No. 1	2		0	Sagolmang Feeder	3	Station feeder	1	5
		11kV Incoming No. 2				Yumnam Khunou Feeder				
						O/G Feeder				
25	33/11kV	11kV Incoming No.	2		0	Sawombung	4		0	6



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
	Chingarel	1				Feeder			
		11kV Incoming No. 2				Kangla Siphai Feeder			
						Sub-Station Feeder			
						11 kV Spare			
26	33/11kV Khongjom SS	11kV Incoming No. 1	2		0	11kV O/G Feeder		3	5
		11kV Incoming No. 2				11kV O/G Feeder			
						11kV O/G Feeder			
						11kV Wangjing Feeder			
27	33/11kV Wangjing SS	11kV Incoming No. 1	2		0	11kV Heirok Feeder		3	5
		11kV Incoming No. 2				11kV Tentha Feeder			
						11kV Charangpat Feeder			
						11kV South Feeder			
28	33/11kV Thoubal	11kV Incomer-East	2		0			5	7
		11kV Incomer-West							



SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
29	33/11kV Leisangthe m					11kV Lilong Feeder				
						11kV Yairipok Feeder				
						11kV Sub-Station Feeder				
30	33/11kV Sub-Station Saikul	11kV Incomer No. 1	2		0	O/G Feeder	3		0	5
		11kV Incomer No. 2				O/G Feeder				
						O/G Feeder				
31	33/11kV Liliang / Usoipokpi	11 kV Incommer	1		0	Ekou Feeder	1		0	2
		11 kV Incommer 1		11 kV Incommer 2		11 kV Lilong Bazar		11 kV Waithou		
						11 kV Station Feeder		11 kV Turel		
32	33/11kV Litan	11kV Incomer	1		0		3	11 kV Thiyam	0	4
						Lamlang Feeder				
						Lungphu Feeder				



SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
33	33/11kV Ukhrul Khunjaio	11kV Incomer No. 1 11kV Incomer No. 2	2		0	Spare Feeder O/G Feeder O/G Feeder O/G Feeder	3		0	5
34	33/11 kV Tolli SS	11 kV incomer	1		0	11 kV Tolloi 11kV Spare Feeder	2		0	3
35	33 / 11 kV Jessami	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV jessami 11 kV Spare 11 kV Spare	3	11 kV Spare	1	5
36	33/11 kV Nameri SS	11 kV Incommer 2	1	11 kV Incommer 1	1	11 kV Outgoing 1 11 kV Outgoing Spare 11 kV Station Feeder	3		0	4
37	33/11 kV Hundung SS		0	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV Ukhrul 11 kV Phunayar	2	0
38	33/11 kV	11 kV Incommer	1		0	11 kV Kamjong	0		0	3

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
	Kamjong SS					11 kV Spare				
39	33/11kV Mantripukhuri SS	11kV Incoming No. 1	2		0	Mantripukhuri Feeder	5		0	7
		11kV Incoming No. 2				STPI Feeder				
						Outgoing to Ahallup Incomer				
						Ahallup Feeder				
40	33/11 kV Sekmai SS	11 kV Incommer 2	1	11 kV Incommer 1	1	11 kV Sekmai Feeder	3		0	4
						11 kV Kanglatombi				
						11 kV Station Feeder				
						11 kV BSF Feeder				
41	33/11 kV Nilakuthi	11 kV Incommer	1		0	11 kV IRB	4		0	5
						11 kV Koirengei				
						11 kV				
						11 kV				



SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
						Potshangbam				
42	33/11 kV Maram		0	Incommer 1 Incommer 2	2		0	11 kV Maram 11 kV Purul Outgoing 3 Outgoing 4 Outgoing 5	5	0
43	33/11 kV Lakhamai SS		0	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV Outgoing 1 11kV Outgoing 2 11 kV Outgoing 3	3	0
44	33/11 kV Willong SS		0	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV Outgoing 1 11kV Outgoing 2 11 kV Outgoing 3	3	0
45	33/11 kV Tadubi SS		0	11 kV Incommer	1		0	11 kV Tadubi 11 kV Mao	3	0

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
								11 kV Spare		
46	33/11kV Kangpokpi SS	11kV Incoming No. 1	1		0	Spare Feeder Court/Senapati Feeder Kangpokpi Feeder	3		0	4
47	33/11 kV Gamphazol SS		0	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV Sapermeina 11 kV Motbung Station feeder	3	0
48	33/11kV Leimakhong SS	11kV Incomer No. 1	1		0	Spinning Mill Feeder Khonghampat Feeder M.E.S Feeder Khurkhul Feeder	4	Spare Feeder	1	5
49	33/11kV Mayang	11kV Incoming	2		0	11kV O/G Feeder	4	11kV O/G Feeder	1	6



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
	Imphal	11kV Incoming				11kV O/G Feeder				
						11kV O/G Feeder				
						11kV O/G Feeder				
50	33/11kV Moirang Khunou	11kV Incomer No. 1	1	11 kV Incomer 2	1	11 Kumbi Feeder	2	11 kV Station Feeder	1	3
						11kV Thanga Feeder				
51	33/11kV Moirang	11kV Incomer No. 1	2		0	11kV Thamnepokpi Feeder	3		0	5
		11kV Incomer No. 2				11kV Lamkhai Feeder				
						11kV Moirang Bazar Feeder				
52	33/11 kV Khoupum SS		0	11 kV Incomer 1	1		0	11 kV Khoupum feeder	2	0
								11 kV Station		



Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	No. of 11kV outgoing feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
53	33/11kV Khwairakpam/Bisnupur	11kV Incomer No. 1	1		0	3	Feeder Spare Panel	1	4
54	33/11kV Nambol/Utoulou		0	11 kV Incommer	1	4		0	4
55	33/11kV Sekmajin SS	11kV Incomer No. 1 11kV Incomer No. 2	2		0	3		0	5

Sl. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
56	33/11kV New Chayang SS		0	11kV Incomer No. 1	1	11kV Kakching Khunou 11kV Sugunu Feeder	2	Spare Feeder	1	2
57	33/11kV Sugunu	11kV Incomer No. 1 Incomer No. 2	2		0	O/G Feeder O/G Feeder O/G Feeder	3		0	5
58	33/11kV New Lamka	11kV Incomer No. I 11kV Incomer No. II	2		0	11kV New Lamka Feeder 11kV Mata Feeder 11kV C.M.C Brick Field	3	11 kV Station/ BSF Feeder	1	5
59	33/11 kV Tinkeu SS		0	11 kV Incommer 1 11 kV Incommer 2	2		0	11 kV Tinkeu Feeder 11 kV Tuilumjang Feeder 11 kV station Feeder	3	0



SL No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
60	33/11 kV Thanlon		0	11 kV Incommer 1	2		0	11 kV Thanlon Feeder	3	0
				11 kV Incommer 2				11 kV Dialkhai/BR TF Feeder		
								11 kV station Feeder		
61	33 /11 kV Sinzawl S/S		0	11 kV Incommer 1	2		0	11 kV Sinzawl Feeder	2	0
				11 kV incommer 2				11 kV Station feeder		
62	33/11 kV Sangaikot S/S		0	11 kV Incommer 1	2		0	11 kV Sangaikot Feeder	4	0
				11 kV Incommer 2				11 kV Tuinigkhall feeder		
								11 kV station Feeder		
								11 kV		

SL. No	Name of Sub-Station	Name of 11kV incoming feeders provided with meter	No. of 11kV incoming feeders provided with meter	Name of 11kV incoming feeders without meter	No. of 11kV incoming feeders without meter	Name of 11kV Out-going feeders provided with meters	No. of 11kV Out-going feeders provided with meters	Name of 11kV Out-going feeders without meters	No. of 11kV Out-going feeders without meters	No. of feeders with Energy meter
								Sugunu Feeder		
63	33/ 11 kV Singhat		0	11 kV Incommer	1		0	11 kV Singhat Feeder	2	0
								11 kV Station Feeder		
B	33/11 Sub-Total		70		37		146		72	218
A +B	132 /33 KV Sub Station & 33/11 Kv Sub Station Total		90		37		181		78	273



Directive 22 : Providing of Energy Meters:

It is observed from the Capital Expenditure plan for FY 2018-19, Sl No.9, out of the total capital outlay of Rs.3.71Cr, it is stated that expenditure to the tune of Rs,3.21Cr (i.e., about 87%) were already spent till the ARR filing date. Under these circumstances, Licensee needs explain why there are still lagging behind in the full-fledged metering till date.

If so, how the amount of Rs.3.21 crs was utilised for the purpose of providing energy meters. The report must be submitted to the Commission latest by the 30th June 2019 without fail with due explanation covering all issues.

Petitioner Submission :

Regarding the metering status in the 132kV, 33kV & 11kV feeders, MSPCL has issued work order to *M/S NE Energy Solutions Pvt. Ltd., Kolkata* for supply and installation of tri-vector energy meters on turn-key basis as follows:

132kV feeder meter			
Sl. No.	Work Order Quantity	Installed Quantity	Balance Quantity
1.	47	47	0
33kV feeder meter			
1.	153	125	28
11kV feeder meter			
1.	273	273	0

All the procured energy meters (as per work order) at the 132 kV & 11 kV level have been metered successfully. However, in-case of 33 kV level, 28 No. of energy meters are remaining due to the following reasons:

- 16 No. of the existing 33kV sub-stations are without control panel. Therefore installation work cannot be carried out.
- Another 13 No. of energy meters which were previously installed are still working.

MSPCL has issued work order to *M/S NE Energy Solutions Pvt. Ltd., Kolkata* for supply and installation of tri vector energy meters of 132 kV level - 47 No., 33 kV level - 153 No. and 11 kV level - 273 No. amounting to Rs. 3.47 Cr. vide Order No.



4/MSPCL/METER/SS/132/33/11kV/2014 (Purch)/3536-46, dated 11/09/2015 including Service Tax, Labour cess, Vat, Department charges etc. Out of Rs. 3.47 Cr., MSPCL has utilised Rs. 3.21 crores for supply and installation of the so far installed energy meters at 132 kV, 33 kV & 11 kV level.

At present, NERLDC and NERPC is ready to implement a scheme for installation of new energy meters under SAMAST (Scheduling, Accounting, Metering and Settlement of Transaction in electricity) in NER state entities. Accordingly, necessary information/data of different voltage level sub-stations for installation of energy meters of MSPCL have been submitted to them.



Chapter 7: Prayer

1. MSPCL requests the Hon'ble Commission to:

- Admit the Revised Aggregate Revenue Requirement of FY 2020-21 and the Transmission Tariff Proposal for FY 2020-21 as submitted herewith.
- Admit the Annual Performance Review of FY 2019-20 as submitted herewith.
- Admit the provisional True-up for FY 2018-19 as submitted herewith.
- Condone any inadvertent omissions/ errors/ shortcomings and permit the Petitioner to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date.
- Permit submission of any additional information required by the Commission during the processing of this petition.
- And pass such other and further orders as are deemed fit and proper in the facts and circumstances of the case.



Annexures

3.1 Form F1 - Aggregate Revenue Requirement

(In Rs. Crore)

	Particulars	Form	2018-19	2019-20	2020-21
			Actual	Estimated	Projected
1	Energy Available (MU)				
2	Energy Transmitted (MU)				
3	Transmission Loss %				
A	Capacity Charges (Annual Fixed Charges)				
1	O&M expenses		74.97	73.39	94.13
a	R&M Expense	F18	10.56	14.44	10.56
b	Employee Expenses	F19	54.29	54.34	79.57
c	A&G Expense	F20	10.12	4.61	4.00
2	Depreciation	0	0.85	1.01	1.15
3	Interest on Loans	0	0.00	0.00	0.00
4	Return on Capital Employed	0	1.56	1.56	1.56
5	Interest on Working Capital	F25	3.26	3.63	4.46
6	Income Tax	F29	0.30	0.24	0.24
7	Less: Non-Tariff Income	F26	9.70	9.70	10.20
8	Less: Income from Other Business	F27	0.00	0.00	0.00
9	Less: Expenses Capitalized	F28	0.00	0.00	0.00
	Total		71.24	70.13	91.34

3.2 Form F1a - Projection of Sales

Sl no.	Name of utility to whom energy sold	2017-18 Actual	2018-19 Estimated	2020-21 Projected
1	Not Applicable			
2				

3.3 Form F1a - Projection of Connected Load

Sl no.	Name of utility to whom energy sold	2017-18 Actual	2018-19 Estimated	2020-21 Projected
1	Not Applicable			
2				

3.4 Form F1a - Projection of Peak Demand

Sl no.	Name of utility to whom energy sold	2017-18 Actual	2018-19 Estimated	2020-21 Projected
1	Not Applicable			
2				

3.5 Form F1a - Projection of Minimum Demand

Sl no.	Name of utility to whom energy sold	2017-18 Actual	2018-19 Estimated	2020-21 Projected
1	Not Applicable			
2				

3.6 Form F2 - Details of Transmission Lines and Substations

No.	Name of line	Type of line AC/ HVDC	S/C or D/C	Voltage level kV	Line length Ckt.-Km.
Transmission Lines: 33 KV					
1	Yurembam - Mayang Imphal	AC	S/C	33	23.80
2	Yurembam - Leimakhong	AC	S/C	33	20.00
3	Khuman Lampak - Imphal P/H	AC	S/C	33	3.50
4	Khuman Lampak - Kongba	AC	S/C	33	11.00
5	Napetpalli - Khuman Lampak	AC	S/C	33	16.00
6	Khuman Lampak - Nilakuthi	AC	S/C	33	8.50
7	Mongsangei - Kongba	AC	S/C	33	13.81
8	Leimakhong - Nilakuthi	AC	S/C	33	9.50
9	Kakching - Mayang Imphal	AC	S/C	33	19.00
10	Kakching - New Chayang	AC	S/C	33	18.40
11	Kakching - Tegnoupal	AC	S/C	33	27.00
12	Moirang - Moirang Khunou	AC	S/C	33	6.50
13	Thoubal- Kongba	AC	S/C	33	15.00
14	Kakching - Thoubal via Wangjing	AC	S/C	33	22.00
15	Leimakhong - Kangpokpi	AC	S/C	33	35.00
16	Yaingangpokpi - Hundung via Litan	AC	S/C	33	32.00
17	Yaingangpokpi - Napetpalli	AC	S/C	33	12.40
18	Hundung - Kamjong	AC	S/C	33	56.00
19	Hundung - Tolloi	AC	S/C	33	28.00
20	Jiribam - Rengpang	AC	S/C	33	75.00

No.	Name of line	Type of line AC/ HVDC	S/C or D/C	Voltage level kV	Line length Ckt.-Km.
21	Rengpang - Khoupum	AC	S/C	33	25.00
22	Rengpang - Tamenglong	AC	S/C	33	45.00
23	Ningthoukhong - Churachandpur via Moirang	AC	S/C	33	27.28
24	Karong - Maram	AC	S/C	33	20.00
25	Maram - Tadubi	AC	S/C	33	20.00
26	Kangpokpi - Karong	AC	S/C	33	18.00
27	Ningthoukhong - Bishnupur	AC	S/C	33	8.80
28	Bishnupur - Nambol	AC	S/C	33	7.00
29	Nambol to tapping at malom	AC	S/C	33	3.00
30	Yurembam to Airport	AC	S/C	33	7.00
31	Sagolmang - Saikul	AC	S/C	33	20.00
32	Tengnoupal - Moreh	AC	S/C	33	35.00
33	Yurembam - None	AC	S/C	33	34.50
34	Churachandpur -- Singhat	AC	S/C	33	38.50
35	Toloi - Namrei	AC	S/C	33	43.00
36	Maram - Lakhamai	AC	S/C	33	40.00
37	Kangla	AC	S/C	33	0.10
38	Churachandpur-Thinkew	AC	S/C	33	38.00
39	Jiribam -Shivapurikhal	AC	S/C	33	43.00
40	Kangpokpi - Tamei	AC	S/C	33	50.00
41	Tousem	AC	S/C	33	42.00
42	Namrei - Jessami	AC	S/C	33	50.00
43	Mongsangei to Kakwa	AC	S/C	33	5.00

No.	Name of line	Type of line AC/ HVDC	S/C or D/C	Voltage level kV	Line length Ckt.-Km.
44	Napetpalli - Sagolmang	AC	S/C	33	15.00
45	LILO at Sangaipat	AC	S/C	33	3.20
46	LILO at Sangaiprou	AC	S/C	33	0.20
47	Thinkew- Thanlon	AC	S/C	33	75.00
48	Maram - Willong	AC	S/C	33	37.00
49	LILO Sekmajin	AC	S/C	33	4.00
50	Thanlon - Sinjawl	AC	S/C	33	50.00
51	LILO Ukhrul Khunjao	AC	S/C	33	6.00
52	JNIMS	AC	S/C	33	2.00
53	LILO at Chingarel	AC	S/C	33	4.00
54	LILO Chakpikarong	AC	S/C	33	4.00
55	LILO at Oinamlong from Jiribam - Rengpang	AC	S/C	33	25.00
56	LILO at Gamphajol from Kangpokpi - Leimakhong	AC	S/C	33	2.50
57	LILO at Sekmai from Kangpokpi - Leimakhong	AC	S/C	33	5.00
58	Thoubal - Thoubal Leishangthem	AC	S/C	33	20.00
59	LILO at Khongjom from Kakching - Wangjing	AC	S/C	33	5.00
60	Hundung -Phungyar	AC	S/C	33	42.00
61	None - Loktak Downstream HEP	AC	S/C	33	40.00
62	LILO at Gelnel on Kangpokpi-Tamei	AC	S/C	33	6.00
63	Thinkew -Henglep	AC	S/C	33	25.00
64	LILO Sugnu	AC	S/C	33	3.00
65	MoirangKhunou - Wangoo	AC	S/C	33	13.50
66	Shajaoba(Tadubi) - Mao	AC	S/C	33	10.00

No.	Name of line	Type of line AC/ HVDC	S/C or D/C	Voltage level kV	Line length Ckt.-Km.
67	Hundung -Nungbi Khullen	AC	S/C	33	45.00
68	LJLO at Mayangkhang on Karong Kangpokpi	AC	S/C	33	3.00
69	Thoubal - Kasom Khullen	AC	S/C	33	41.00
70	Yurembam - Mongsangei	AC	D/C	33	8.14
71	Yurembam - Khuman Lampak via Iroisemba (D/C)	AC	D/C	33	13.48
72	Sinam Chingin - Lamphel	AC	D/C	33	3.50
73	Khuman Lampak - Kongba (D/C)	AC	D/C	33	14.26
74	Iroisemba - Leimakhong D/C	AC	D/C	33	18.00
75	PGCIL - Yurembam Multi Circuit	AC	M/C	33	0.68
Total :					1617.04
Transmission Lines: 132 KV					
1	Leimatak -Ningthoukhong	AC	S/C	132	10.50
2	Ningthoukhong - Yurembam	AC	S/C	132	27.50
3	Yurembam - Mao	AC	S/C	132	91.38
4	LJLO at Karong	AC	S/C	132	1.16
5	Yurembam - Yaingangpokpi(i)	AC	S/C	132	41.36
6	Yaingangpokpi - kongba	AC	S/C	132	32.28
7	kongba - Kakching	AC	S/C	132	44.95
8	Leimatak -Rengpang(i/c LJLO)	AC	S/C	132	39.80
9	Rengpang- Jiribam	AC	S/C	132	52.20
10	Heikakpokpi(Kakching) - Chandel	AC	S/C	132	16.07

No.	Name of line	Type of line AC/ HVDC	S/C or D/C	Voltage level kV	Line length Ckt.-Km.
11	Yaingangpokpi - Hundung	AC	S/C	132	26.81
12	Yurembam - Yaingangpokpi (ii)	AC	S/C	132	46.99
13	Link line from 132 kV Kakching to 132kV Thoubal via 400kV Thoubal	AC	S/C	132	4.000
14	LILO at Elangkhangpokpi on Kakching - Churchandpur (State Plan)	AC	S/C	132	5.90
15	132kV Moreh line from Kakching to Moreh	AC	S/C	132	45.00
16	132kV Thadon line from CCpur to Thanlon	AC	S/C	132	69.48
17	LILO at Tipaimukh on Jiribam (PG) - Aizawl (PG)	AC	S/C	132	5.00
18	Link line from 132 kV Kakching to 132kV Thoubal via 400kV Thoubal	AC	D/C	132	7.00
19	Ningthoukhong - Churachandpur	AC	D/C	132	23.02
20	Kakching-Churachandpur D/C	AC	D/C	132	37.86
Total :					628.25



No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
Substations - 33/11 taken up by MSPCL							
1	Leimakhong	Conventional	33/11	1	3	April 1979	
2	Ningthoukhong	Conventional	33/11	2	6.3	June 1979	
3	Iroisemba	Conventional	33/11	3	15	31/07/1981	
4	Yurembam*	Conventional	33/11	-	15	June 1979	
5	Mongsangei	Conventional	33/11	2	20	23/04/1982	
6	Moirang*	Conventional	33/11	2	10	05/05/1982	
7	Mayang Imphal	Conventional	33/11	2	6.3	28/07/1983	
8	Kangpokpi	Conventional	33/11	1	3.15	28/09/1983	
9	Kongba	Conventional	33/11	2	20	20/10/1983	
10	Litan	Conventional	33/11	1	3.15	December 1983	
11	Kakching	Conventional	33/11	2	10	31/03/1984	
12	KhumanLampak	Conventional	33/11	4	20	15/07/1987	
13	Thoubal	Conventional	33/11	2	10	06/08/1987	
14	Jiribam	Conventional	33/11	2	10	30/10/1987	
15	Churachandpur	Conventional	33/11	3	15	17/07/2000	
16	Hundung	Conventional	33/11	2	6.3	12/06/1989	
17	Bishnupur (Khawairakpan)	Conventional	33/11	1	6.3	19/07/1989	
18	New Chayang	Conventional	33/11	1	3.15	03/07/1989	

No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
19	Nilakuthi	Conventional	33/11	2	20	15/01/1990	
20	Rengpang	Conventional	33/11	1	3.15	13/12/1991	
21	Yaingangpokpi	Conventional	33/11	1	1	December 1992	
22	Tadubi	Conventional	33/11	1	3.15	03/06/1993	
23	Imphal P/H	Conventional	33/11	3	15		
24	Lamphel	Conventional	33/11	2	20		
25	Tamenglong	Conventional	33/11	1	3.15	05/08/1994	
26	Napetpalli (Lamlai)	Conventional	33/11	1	5	13/11/1994	
27	Tengnoupal	Conventional	33/11	1	4.15	25/03/1995	
28	Khoupum	Conventional	33/11	1	3.15		
29	Wangjing	Conventional	33/11	2	8.15	March 1995	
30	Moirangkhouou	Conventional	33/11	1	3.15	September 1996	
31	Karong (Senapati)*	Conventional	33/11	2	10		
32	Tolloi	Conventional	33/11	1	1	28/04/1999	
33	Airport	Conventional	33/11	1	2	10/07/1999	
34	Nambol	Conventional	33/11	1	5	February 2002	
35	Kamjong	Conventional	33/11	1	1	25/04/2002	
36	Saikul	Conventional	33/11	1	3.15	30/06/2003	
37	Moreh	Conventional	33/11	2	10	27/11/2004	

No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
38	Maram	Conventional	33/11	1	3.15	14/01/2006	
39	Noney	Conventional	33/11	1	3.15	30/11/2005	
40	Singhat	Conventional	33/11	1	3.15	June 2007	
41	Namrei	Conventional	33/11	2	4.15	December 2009	
42	Lakhamai	Conventional	33/11	2	2	December 2009	
43	New Lamka	Conventional	33/11	2	10		
44	Kangla	Conventional	33/11	2	10		
45	Thinkew	Conventional	33/11	2	2		
46	Shivapurikhal	Conventional	33/11	1	3.15	October 2016	
47	Tamei	Conventional	33/11	1	3.15	May 2011	
48	Tousem	Conventional	33/11	1	3.15	November 2011	
49	Jessami	Conventional	33/11	2	5		
50	Kakwa	Conventional	33/11	2	10		
51	Sagolmang	Conventional	33/11	2	6.3		
52	Sangaipat	Conventional	33/11	2	20		
53	Sangaiprou	Conventional	33/11	2	20		
54	Thanlon*	Conventional	33/11	1	2	24/12/2013	
55	JNIMS	Conventional	33/11	2	10		
56	Mantripukhri	Conventional	33/11	2	10		

No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
57	Chingarel	Conventional	33/11	2	10		
58	Sekmajing	Conventional	33/11	2	10		
59	Oinamlong	Conventional	33/11	2	5	14/08/2017	
60	Sinjawl	Conventional	33/11	2	2		
61	GamphajolSaparmeina	Conventional	33/11	2	5		
62	Chakpikarong	Conventional	33/11	2	2		
63	Sekmai	Conventional	33/11	2	10		
64	ThouballLeishangthem	Conventional	33/11	2	10		
65	Khongjom	Conventional	33/11	2	10		
66	Chandel	Conventional	33/11	2	10		
67	Willong	Conventional	33/11	2	5		
68	UkhrullKhunjaio	Conventional	33/11	2	10	14/08/2017	
69	Gelnel	Conventional	33/11	2	5	14/08/2017	
70	Henglep	Conventional	33/11	2	2	14/08/2017	
71	Phungyar	Conventional	33/11	2	5	14/08/2017	
72	Sugnu	Conventional	33/11	2	10	08/05/2017	
73	Joupi	Conventional	33/11	1	2		
74	Machi	Conventional	33/11	1	2		
75	Mayang Langjing	Conventional	33/11	1	3.15		

No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
76	Pherjawl	Conventional	33/11	1	2		
77	Sangaikot	Conventional	33/11	1	2		
78	Urup (Langdum)	Conventional	33/11	1	3.15		
79	Usoipokpi	Conventional	33/11	1	3.15		
80	Wangoo	Conventional	33/11	1	2		
81	Mao	Conventional	33/11	1	10		
82	Mayangkhang	Conventional	33/11	1	10		
83	Nungbi Khullen	Conventional	33/11	1	10		
84	Kasom Khullen	Conventional	33/11	1	5		
Total : 33/11 KV Sub-Stations :				134	596.5		
Substations - 132 KV taken up by MSPCL							
1	Yurembam	Conventional	132/33	3	94.5	13/07/1981	
2	Ningthoukhong	Conventional	132/33	2	40	10/02/1991	
3	Yaingangpokpi	Conventional	132/33	2	60	30/07/1993	
4	Kakching	Conventional	132/33	2	40	27/07/1994	
5	Karong	Conventional	132/33	2	40	18/01/1997	
6	Churachandpur	Conventional	132/33	2	40	17/07/2000	
7	Rengpang	Conventional	132/33	1	12.5		
8	Jiribam	Conventional	132/33	2	26.3		

No	Name of Sub-station	Type of Substation Conventional/ GIS	Voltage level kV	No. of transformers / Reactors/ SVC etc. (with capacity)	Installed Capacity (MVA)	Date of Commercial operation	Covered in this petition (Yes/No)
9	Kongba	Conventional	132/33	2	40		
10	Hundung	Conventional	132/33	2	25		
11	Chandel	Conventional	132/33	2	25		
12	Thoubal	Conventional	132/33	2	40		
13	Elangkhangpokpi	Conventional	132/33	2	40		
14	Moreh	Conventional	132/33	2	25		
15	Thanlon	Conventional	132/33	2	25		
16	Tipaimukh	Conventional	132/33	2	25		
Total : 132 KV Sub Stations :				32	598.3		

3.7 Form F2a - Statement of Assets not in use

S. No.	Asset details	Date of Acquisition/ Installation	Historical Cost/Cost of Acquisition	Date of withdrawal from operations	Cumulative depreciation recovered	Proposed residual value

3.8 Form F3 - Normative Parameters considered for tariff computation

	Particulars	Unit	2018-19	2019-20	2020-21
			Actuals	Estimated	Projected
1	Base Rate of Return on Equity	%	15.50%	15.50%	15.50%
2	Tax Rate	%	19.24%	15.60%	15.60%
3	Target Availability	%	98.00%	98.00%	98.00%
4	Maintenance Spares for Working Capital	% of O&M	15.29%	19.53%	17.99%
5	Receivables for Working Capital	in Months	1	1	1
6	Base Rate of SBI as on 1st April of the relevant Financial Year	%	13.80%	13.80%	13.80%

3.9 Form F4 - Abstract of admitted capital cost for existing projects

	Particulars	Unit	Details
1	Capital Cost as admitted by DERC	Rs Crores	
2	Capital cost admitted as on		
3	Foreign Component, if any (In Million US \$ or the relevant Currency)		
4	Domestic Component	Rs Crores	
5	Foreign Exchange rate considered for the admitted Capital cost		
6	Hedging cost, if any, considered for the admitted Capital cost		
7	Total Capital cost admitted	Rs Crores	

Not Applicable

3.10 Form F5 - Details of Foreign Loans

Particulars	Year 1				Year 2				Year 3 and so on			
	Date	Amount (Foreign Currency)	Exchange Rate	Amount t (Rs)	Date	Amount (Foreign Currency)	Exchange Rate	Amount t (Rs)	Date	Amount (Foreign Currency)	Exchange Rate	Amount t (Rs)
Currency ¹												
Date of loan drawl ²												
Scheduled Principal Repayment												
Scheduled Interest payment												
Closing at the end of financial year												
In case of Hedging ³												
At the date of Hedging												
Period of hedging												
Cost of hedging												
Currency ²												
Date of loan drawl ²												
Scheduled Principal Repayment												
Scheduled Interest payment												
Closing at the end of financial year												
In case of Hedging ³												
At the date of Hedging												
Period of hedging												
Cost of hedging												
Currency ³												

Not Applicable

M. S. Srinivas

Particulars	Year 1				Year 2				Year 3 and so on			
	Date	Amount. (Foreign Currency y)	Exchange Rate	Amount t (Rs)	Date	Amount (Foreign Currency y)	Exchange Rate	Amount t (Rs)	Date	Amount (Foreign Currency y)	Exchange Rate	Amount t (Rs)
Date of loan draw ¹ 2												
Scheduled Principal Repayment												
Scheduled Interest payment												
Closing at the end of financial year												
In case of Hedging ³												
At the date of Hedging												
Period of hedging												
Cost of hedging												



3.11 Form F6 - Details of Foreign Equity

Particulars	Year 1			Year 2			Year 3 and so on					
	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs)
Currency1 ¹												
Date of Infusion												
1												
2												
3												
4												
Currency2 ¹												
Date of Infusion												
1												
2												
3												
4												
Currency3 ¹												
Date of Infusion												
1												
2												
3												
4												

Not Applicable

3.12 Form F7 – Capital Cost Estimates and Schedule of Commissioning for new projects

Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
1	2	3	4
A.1	Ongoing Schemes		
A.1.1	400 kV System		
1	Installation of 400 kV Sub-Station at Thoubal(NLCPR)	2015	230.62
2	Construction of 400 kV T/L from Yurembam to Thoubal via Nambol	2016	259.68
3	Installation of 2 nos. 400 kV line bays at Imphal(PG) sub-station	2016	35.24
	Total : A.1.1		525.54
A.1.2	132 kV System		
1	Stringing of 2nd circuit 132 kV line on the existing DC towers from Ningthoukhong to Ccpur-Installation of line bays.	2008	20.08
2	Installation of 132/33 KV S/S at Hundung (Ukhrul) & its associated line(SPA)	2008	20.08
3	R & M of 132/33 kV sub-station at Yurembam (SPA/NEC)	2008	20.08
4	Installation of 132/33 kV S/S at Chandel with associated 132 KV line(NLCPR)	2009	20.09
5	Installation of 1x20 MVA transformer at Yaingangpokpi	2015	20.15

Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
6	Renovation & Modernisation of two nos. of 132/33 KV S/S at Yaingangpokpi & Ningthoukhong(NLCPR)	2012	20.12
7	Renovation & Modernisation of three nos. of 132/33 kV S/S at Kakching, Karong & Churachandpur(NLCPR)	2014	20.14
8	Installation of 132/33 kV S/S at Thanlon with associated line(NLCPR)	2014	20.14
9	Installation of 2x20 MVA,132 kV Sub-Station along with associated 132 kV LILO lines & related works at Thoubal(NEC)	2015	20.15
10	Providing of Energy Meter	2015	20.15
11	Augmentation of Rengpang 132/33 kV sub-station by installing(3x4.16+1x4.16)MVA 132/33 kV single phase transformers	2015	20.15
12	IDC on REC loan	2018	20.18
13	Principal payment on REC loan	2018	20.18
14	Cost for diversion of forest land for construction of trasmission projects	2020	20.20
15	Installation of 132/33 kV sub-station at Moreh with erection of associated 132 kV line(NLCPR)	2015	20.15
16	Augmentation of 132/33 KV S/S at Jiribam (Installation of additional transformers)	2015	20.15

Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
17	Augmentation of 132/33 KV S/S at Ningthoukhong (Installation of additional transformers)	2013	20.13
18	Stringing of 132 kV line (2nd circuit) from Kakching to Churachandpur(NEC)	2015	20.15
19	Construction of 132 kV S/C line(2nd ckt) on D/C towers from Leimatak PH(NHPC) to 132 kV sub-station at Ningthoukhong	2015	20.15
20	Installation of 132 kV sub-station along with associated 132 kV line at Elangkhangpokpi	2015	20.15
21	Construction of 132 kV S/C line(3rd ckt) strung on D/C towers from 132 kV Yurembam sub-station (State) to Yurembam sub-station (PGCIL)	2015	20.15
22	Construction of 132/33 kV sub-station at Tipaimukh	2015	20.15
23	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Kongba, Yaingangpokpi and Hundung on existing Kongba to Kakching 132 kV T/L.	2016	20.16
24	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Kakching & Chandel on existing Kongba to Kakching 132 kV T/L.	2016	20.16



Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
25	Construction of 132 kV link T/L from 400/132 kV sub-station, Thoubal to 132 kV sub-stations at Moreh on Kakching to Moreh 132 kV T/L.	2016	20.16
Total : A.1.2			
A.1.3	33 kV System		503.55
1	Installation of 33/11 kV sub-station at Henglep(NLCPR)	2009	20.09
2	Installation of 33/11 kV sub-station at Chakpikarong(NLCPR)	2009	20.09
3	Installation of 33/11 kV S/S at Sekmajin(NLCPR)	2010	20.10
4	Installation of 33/11 kV S/S at Ukhrul Khunjaio(NLCPR)	2009	20.09
5	Installation of 33/11 kV S/S at Chandel (NEC)	2013	20.13
6	Installation of 33/11 kV S/S at Thoubal Leishangthem with associated 33 KV line(SPA)	2013	20.13
7	Erection of 33 kV feeders from Yurembam POWERGRID sub-station(SCA)	2013	20.13
8	Installation of 2x5 MVA 33/11 kV sub-station with associated 33 KV line at Power House site of Loktak Down Stream HE Project(NEC)	2014	20.14
9	Installation of 33/11 kV sub-station with associated 33 KV line at Sugnu(NLCPR)	2014	20.14

SL No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
10	Installation of 33/11 KV sub-station with associated 33 KV line at Khongjom(NLCPR)	2014	20.14
11	Installation of 33/11 KV sub-station with associated 33 KV line at Sekmai(NLCPR)	2014	20.14
12	Installation of 33/11 KV (2x1 MVA) S/S at Gelhel(NLCPR)	2014	20.14
13	Installation of 33/11 KV (2x1 MVA) S/S at Nungbi Khullen with associated 33 KV line(NLCPR)	2014	20.14
14	Re-stringing & strengthening of 33 kV lines	2015	20.15
15	Installation of 33/11 KV (2x1 MVA) S/S at Gumnom with associated 33 kV line(NLCPR)	2015	20.15
16	Renovation of 33/11 KV S/S at Khoupum	2016	20.16
17	Installation of 33/11 kV sub-station at Phungyar with associated 33 kV line	2015	20.15
18	Installation of 33/11 kV sub-station at Kasom Khullen with associated 33 kV line	2015	20.15
19	Installation of 33/11 kV sub-station at Gamphazol with associated 33 kV line	2015	20.15
20	Installation of 33/11 kV sub-station at Mayangkhang with associated 33 kV line(NEC)	2015	20.15
21	Installation of 33/11 kV sub-station at Mao with associated 33 kV line(NEC)	2015	20.15

Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
22	installation of 33/11 kV sub-station at Poayi at Ukhrul	2016	20.16
23	installation of 33/11 kV sub-station at Thueyng at Senapati	2016	20.16
24	Construction of 33 kV D/C line on STP from 132/33 kV SS at Thoubal to 33/11 kV SS at Thoubal (old)	2016	20.16
25	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Yairipok under IPDS	2016	20.16
26	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangoi under IPDS	2016	20.16
27	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Wangjing under IPDS	2016	20.16
28	Installation of 1x3.15 MVA 33 kV sub-station at along with associated 33 kV line and related works at Heirok under IPDS	2016	20.16
29	Augmentation of 33/11 kV sub-station at Kangpokpi under IPDS	2016	20.16
30	Augmentation of 33/11 kV sub-station at Karong under IPDS	2016	20.16
Total : A.1.3			604.25



Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
A.2	New Schemes		
A.2.1	33 kV System		
1	Installation of 2x5 MVA 33/11 KV sub-station along with associated 33 kV line & related civil works at Chingai, Ukhrul district.	2019	20.19
2	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Kachai, Ukhrul district.	2019	20.19
3	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Sanakeithel, Ukhrul district.	2019	20.19
4	Installation of new 33/11 kV sub-station along with associated 33 kV line at Akampat, Imphal East.	2019	20.19
5	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Liyai Khunou, Senapati district.	2019	20.19
6	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Ibudhou Marjing	2019	20.19
7	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Nambashi, Ukhrul district.	2019	20.19



Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
8	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Khongjaron, Tamenglong district.	2019	20.19
9	Installation of 2x5 MVA, 33/11 kV sub-station along with associated 33 kV line & related civil works at Somdal, Ukhrul District.	2019	20.19
10	Installation of 2x5 MVA, 33/11 kV SS at Gwakhah, Jiribam district.	2019	20.19
11	Installation of 2x5 MVA, 33/11 kV SS at Nampisha, Kamjong district	2019	20.19
12	Augmentation, R&M of 33/11 kV substations-28 nos. (Hill-Tengnoupal, Tolloi, Kamjong, Jiribam, Lakhaimai, Leimakhong, Litan, Maram, New Chayang, Saikul, Shivapurikhal, Singhat, Tadubi, Tamei, Tamenglong, Tousem, Namarei; Valley-Ningthoukhong, Iroisemba, Moirang, Kakching, Bishnupur, Nilakhuthi, Yaingangpokpi, Napetpalli, Wangjing, Moirang Khunou, Nambol)	2020	20.20
13	33/11 kV Sub-Station at Rilamcentre	2020	20.20
14	33/11 kV Sub-Station at Haochong	2020	20.20
15	33/11 kV Sub-Station at Tuinem	2020	20.20
16	33/11 kV Sub-Station at Phadang	2020	20.20



Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
17	33/11 kV Sub-Station at Lambui	2020	20.20
18	33/11 kV Sub-Station at Shirakhong	2020	20.20
19	33/11 kV Sub-Station at Wahong	2020	20.20
20	33/11 kV Sub-Station at Kwatha	2020	20.20
21	33/11 kV Sub-Station at Sita	2020	20.20
22	33/11 kV Sub-Station at Khengjoy	2020	20.20
23	33/11 kV Sub-Station at Patpuihmun	2020	20.20
24	33/11 kV Sub-Station at Thongju Part-II	2020	20.20
25	Reconductoring of Imphal Ring Main 33 kV System with HTLS conductor and renovation of associated sub-stations	2020	20.20
Total : A.2.1			504.89
Sub-Total (I):			2138.23
III	Misc. Scheme		
1	Consultancy for Hydel Investigation	2020	20.20
2	Construction of Administrative Building	2019	20.19
3	Construction of Divisional & Sub-Divisional office buildings, quarters, complain rooms, etc.	2019	20.19
4	Consultancy for assessment of Hydro Power Potential in the State	2020	20.20
5	Compensation cost for 132/33 kV SS at Khenjang	2018	20.18



Sl. No.	Name of the Scheme	Year of commencement of project	Completed Cost (Rs. Crores)
6	Compensation cost for 132 kV towers at Nungba SD	2018	20.18
7	AMC for SCADA	2018	20.18
Total : II			141.32
Total (I+II):			2279.55



3.13 Form F8 – Breakup for project cost for Transmission System

No	Break Down	As per original estimates	Actual capital expenditure as on COD	Liabilities / provisions	Variation (B-C-D)	Reasons for Variation
	A	B	C	D	E	F
A	Transmission Line					
1	Preliminary works					
1.1	Design & Engineering					
1.2	Preliminary investigation, Right of way, forest clearance, PTCC, general civil works etc.					
	Total Preliminary works					
2	Transmission Lines material					
2.1	Towers Steel					
2.2	Conductor					
2.3	Earth Wire					
2.4	Insulators					
2.5	Hardware Fittings					
2.6	Conductor & Earthwire accessories					
2.7	Spares					
2.8	Erection, Stringing & Civil works including foundation					
	Total Transmission Line Materials					
3	Taxes and Duties					
3.1	Custom Duty					
3.2	Other Taxes & Duties					
	Total Taxes & Duties					
	Total -Transmission lines					
B.	Substations					
4	Preliminary works & land					



No	Break Down	As per original estimates	Actual capital expenditure as on COD	Liabilities / provisions	Variation (B-C-D)	Reasons for Variation
	A	B	C	D	E	F
4.1	Design & Engineering					
4.2	Land					
4.3	Site preparation					
	Total Preliminary works & land					
5	Civil Works					
5.1	Control Room & Office Building including HVAC					
5.2	Township & Colony					
5.3	Roads and Drainage					
5.4	Foundation for structures					
5.5	Misc. civil works					
	Total Civil Works					
6	Substation Equipment					
6.1	Switchgear (CT,PT, Circuit Breaker, Isolator etc.)					
6.2	Transformers					
6.3	Compensating Equipment(Reactor, SVCs etc.)					
6.4	Control , Relay & Protection Panel					
6.5	PLCC					
6.6	HVDC package					
6.7	Bus Bars/ conductors/Insulators					
6.8	Outdoor lighting					
6.9	Emergency D.G. Set					
6.1	Grounding System					
6.1	Structure for switchyard					
	Total Substation Equipment					

No	Break Down	As per original estimates	Actual capital expenditure as on COD	Liabilities / provisions	Variation (B-C-D)	Reasons for Variation
7	A	B	C	D	E	F
	Spares					
8	Taxes and Duties					
8.1	Custom Duty					
8.2	Other Taxes & Duties					
	Total Taxes & Duties					
	Total (Sub-station)					
9	Construction and pre-commissioning expenses					
9.1	Site supervision & site admin.etc.					
9.2	Tools and Plants					
9.3	construction Insurance					
	Total Construction and pre commissioning expenses					
10	Overheads					
10.1	Establishment					
10.2	Audit & Accounts					
10.3	Contingency					
	Total Overheads					
11	Total Cost (Plant and Equipment)					
12	IDC, FC, FERV & Hedging Cost					



No	Break Down	As per original estimates	Actual capital expenditure as on COD	Liabilities / provisions	Variation (B-C-D)	Reasons for Variation
	A	B	C	D	E	F
12.1	Interest During Construction (IDC)					
12.2	Financing Charges (FC)					
12.3	Foreign Exchange Rate Variation (FERV)					
12.4	Hedging Cost					
	Total of IDC, FC, FERV & Hedging Cost					
13	Capital Cost incl IDC, FC, FERV & Hedging Cost					



3.14 Form F9 - Breakup of Construction/Supply/Service Packages

	Particulars	1	2	3	4	5	6	----
1	Name/ No. of Construction / Supply / Service Package							
2	Scope of works ¹ (in line with head of cost break-ups as applicable)							
3	Whether awarded through ICB/DCB/ Departmentally/ Deposit Work							
4	No. of bids received							
5	Date of Award							
6	Date of Start of work							
7	Date of Completion of Work							
8	Value of Award ² in (Rs. Lakhs)							
9	Firm or With Escalation in prices							
10	Actual capital expenditure till the completion or up to COD whichever is earlier (Rs. Cr.)							
11	Taxes & Duties and IEDC							
12	IDC, FC, FERV & Hedging Cost							
13	Sub -total (9+10+11)							

Not Applicable

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3.15 Form F10 – Draw Down Schedule for Calculation of IDC & Financing Charges

No	Draw Down Particulars	Quarter 1			Quarter 2			Quarter n (COD)		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	Loans									
1.1	Foreign Loans									
1.1.1	Foreign Loan 1									
	Draw down Amount									
	IDC									
	Financing charges									
1.1.2	Foreign Loan 2									
	Draw down Amount									
	IDC									
	Financing charges									
1.1.3										
	Total Foreign Loans									
	Draw down Amount	0	0	0	0	0	0	0	0	0
	IDC	0	0	0	0	0	0	0	0	0
	Financing charges	0	0	0	0	0	0	0	0	0
1.2	Indian Loans									
1.2.1	Indian Loan 1									
	Draw down Amount									
	IDC									
	Financing charges									

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No	Draw Down Particulars	Quarter 1			Quarter 2			Quarter n (COD)		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1.2.2	Indian Loan 2									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.3	--									
	--									
	--									
	Total Indian Loans									
	Draw down Amount	0	0	0	0	0	0	0	0	0
	IDC	0	0	0	0	0	0	0	0	0
	Financing charges	0	0	0	0	0	0	0	0	0
	Total of Loans drawn	0	0	0	0	0	0	0	0	0
	IDC	0	0	0	0	0	0	0	0	0
	Financing charges	0	0	0	0	0	0	0	0	0
2	Equity									
2.1	Foreign equity drawn									
2.2	Indian equity drawn									
	Total equity deployed	0	0	0	0	0	0	0	0	0



3.16 Form F11 - Financial Package upto COD

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency	Amount	Currency	Amount	Currency	Amount
Loans	Not Applicable					
Loan-I						
Loan-II						
Loan-III						
and so on						
Total Loan		0		0		0
Equity						
Foreign						
Domestic						
Total Equity		0		0		0
Debt : Equity Ratio						

3.17 Form F12 - Details of Project Specific Loans

Particulars	Package 1	Package 2	Package 3	Package 4	Package 5	Package 6
Source of Loan ¹						
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.2011/ COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor ⁹	Not Applicable					
If above is yes, specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
Are foreign currency loan hedged?						
If above is yes, specify details ^{17, 18, 19}						

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3.18 Form F13 – Details of Allocation of corporate loans to various transmission projects

Particulars	Package 1	Package 2	Package 3	Package 4	Package 5	Package 6
Source of Loan ¹						
Currency ²						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.2011/ COD ^{3,4,5,13,15}						
Interest Type ⁶						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁷						
Margin, if Floating Interest ⁸						
Are there any Caps/Floor ⁹						
If above is yes, specify caps/floor						
Moratorium Period ¹⁰						
Moratorium effective from						
Repayment Period ¹¹						
Repayment effective from						
Repayment Frequency ¹²						
Repayment Instalment ^{13,14}						
Base Exchange Rate ¹⁶						
Are foreign currency loan hedged?						
If above is yes, specify details ^{17, 18, 19}						

Not Applicable

Distribution of loan packages to various transmission projects

Name of the Projects	Total
Transmission Project 1	
Transmission Project 2	

Main

3.19 Form F14 - Statement of Additional Capitalisation after COD

No	Year	Work/ Equipment proposed to be added after COD up to Cut off Date/ Beyond Cut off Date	Amount capitalised and Proposed to be capitalised	Justification	Regulations under which covered	Admitted Cost ¹
1						
2						
3						
4						
5						

3.20 Form F15 - Financing of Additional Capitalization

Financial Year (Starting from COD)	Actual					Admitted				
	Year 1	Year 2	Year 3	Year 4	Year 5 & so on	Year 1	Year 2	Year 3	Year 4	Year 5 & so on
Amount capitalised in Work/ Equipment										
Financing Details										
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan ²										
Equity										
Internal Resources										
Others										
Total										

3.21 Form F16 – Statement of Capital Cost

(in Rs. Crores)

		Particulars	2018-19 (Actuals)	2019-20 (Estimated)	2020-21 (Projected)
A	a	Opening Gross Block Amount as per books	934.43	1279.92	1369.64
	b	Amount of capital liabilities in A(a) above			
	c	Amount of IDC, FC, FERV & Hedging cost included in A(a) above			
	d	Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a)			
B	a	Additional Gross Block Amount as per books	345.49	89.72	259.68
	b	Amount of capital liabilities in B(a) above			
	c	Amount of IDC, FC, FERV & Hedging cost included in B(a) above			
	d	Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a)			

		Particulars	2018-19 (Actuals)	2019-20 (Estimated)	2020-21 (Projected)
B	a	Closing Gross Block Amount as per books	1279.92	1369.64	1629.32
	b	Amount of capital liabilities in C(a) above			
	c	Amount of IDC, FC, FERV & Hedging cost included in C(a) above			
	d	Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a)			



3.22 Form F17 - Statement of Capital Work in Progress

(In Rs. Crores)

		Particulars	2018-19	2019-20	2020-21
A	a	Opening CWIP Amount as per books	549.85	420.34	457.98
	b	Amount of capital liabilities in above			
	c	Amount of IDC, FC, FERV & Hedging cost included in a above			
B	a	Addition/ Adjustment in CWIP Amount during the period	215.97	127.36	247.65
	b	Amount of capital liabilities in above			
	c	Amount of IDC, FC, FERV & Hedging cost included in a above			
C	a	Capitalization/Transfer to Fixed asset of CWIP Amount during the period	345.48	89.72	259.68
	b	Amount of capital liabilities in above			
	c	Amount of IDC, FC, FERV & Hedging cost included in a above			
D	a	Closing CWIP Amount as per books	420.34	457.98	445.95
	b	Amount of capital liabilities in above			
	c	Amount of IDC, FC, FERV & Hedging cost included in a above			



3.23 Form F18 - R&M Expenses (In Rs. Crores)

	Particulars	2018-19	2019-20	2020-21
		Actual	Estimated	Projected
1	Plant and Machinery	10.56	14.44	10.56
2	Building			
6	Vehicles			
7	Furniture and Fixtures			
8	Office Equipment			
11	Computer	10.56	14.44	10.56
12	Land and land development			
	Total			
13	Any other items (Capitalisation)	0.00	0.00	0.00
	Total	10.56	14.44	10.56

3.24 Form F19 – Employee Expenses**(In Rs. Crores)**

	Particulars	2018-19	2019-20	2020-21
		Actuals	Estimated	Projected
1	Salaries	18.96	17.78	17.78
2	Additional Pay	3.76	3.52	3.52
3	Dearness Allowance (DA)	23.99	22.49	22.49
4	House Rent Allowance	1.81	1.69	1.69
5	SCA	2.29	2.15	2.15
6	Medical Expenses Reimbursement	0.00	0.00	0.00
7	Travelling Allowance(Conveyance Allowance)	1.07	1.00	1.00
8	Provident Fund Contribution	2.42	2.27	2.27
9	Impact of VII Pay Commission	0.00	1.20	15.27
10	Work Charge & Muster Roll	0.00	0.00	0.00
11	New Employee Salaries	0.00	2.23	13.39
12	Net Employee expenses (D)-(E)	54.29	54.34	79.57

3.25 Form 19a - Employee Strength

	Particulars	2018-19		2019-20		2020-21	
		Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year	Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year	Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year
1	Board of Directors		5	1	5	1	5
2	Support staff to Board of Directors						
2(a)	Technical						
2(b)	Administrative						
2(c)	Accounts & Finance						
2(d)	Others (please specify)						
3	All Other Staff						
3(a)	Technical	1279	1960	1197	1960	1469	1960
3(a)(i)	Officers	43		154		245	
3(a)(ii)	Staff	1236		1043		1224	
3(b)	Non-technical	355	486	367	486	407	486
3(b)(i)	Administrative						
3(b)(i)(a)	Officers	5		7		7	
3(b)(i)(b)	Staff	350		360		400	
3(b)(ii)	Accounts & Finance	4	0	6	0	6	0
3(b)(ii)(a)	Officers	1		4		4	
3(b)(ii)(b)	Staff	3		2		2	
3(b)(iii)	Others (please specify)	0	0	0	0	0	0
3(b)(iii)(a)	Officers						
3(b)(iii)(b)	Staff						

Particulars	2018-19		2019-20		2020-21	
	Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year	Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year	Working Strength At The Beginning Of The Year	Sanctioned Strength At The Beginning Of The Year
Total	1638	2451	1571	2451	1883	2451

(In Rs. Crores)

3.26 Form F20 - Administration and General Expenses

	Particulars	2018-19	2019-20	2020-21
		Actuals	Estimated	Projected
1	Telephone, Postage, Telegram & Telex Charges	0.10	0.04	0.04
2	Conveyance And Travelling	0.15	0.07	0.06
3	Vehicle Expenses	0.32	0.15	0.13
4	Printing And Stationery	0.05	0.02	0.02
5	Advertisement Expenses	0.14	0.06	0.06
6	Electricity Charges To Offices	0.00	0.00	0.00
7	Miscellaneous Expenses	0.02	0.01	0.01
8	Legal Charges	0.00	0.00	0.00
9	Auditor's Fee	0.60	0.27	0.24
10	Vehicle Running Expenses Truck / Delivery Van	0.12	0.06	0.05
11	Fabrication Charges	0.00	0.00	0.00
12	Office related expenses	0.20	0.09	0.08
13	Running expenses of assets	8.40	3.83	3.32
	Total A&G Expenses	10.12	4.61	4.00
	Less: A&G Expenses Capitalised			
	Total A&G Expenses	10.12	4.61	4.00

3.27 Form F21 - Fixed Assets and Depreciation

(In Rs. Crores)

Name of Asset	Depreciation rate ¹	2018-19			
		Opening	Addition	Adjustment & Deduction	Actual
Land owned under full ownership					Closing
Land under lease	0.00%	17.33	6.41		0.00
For investment in land					23.74
For cost of clearing site					0.00
Plant and Machinery					0.00
Building	5.28%	867.53	320.75		1188.28
Furniture and Fittings	3.34%	46.51	17.20		63.71
Computer	6.33%	0.81	0.30		1.11
Office Equipment	15.00%	0.93	0.34		1.27
Vehicles	6.33%	0.15	0.06		0.21
	9.50%	1.17	0.43		1.60
Total		934.43	345.49	0.00	1279.92



Name of Asset	Depreciation rate ¹	2019-20				
		Estimated				
		Opening	Addition	Adjustment & Deduction	Depreciation	Closing
Land owned under full ownership		0.00			0.00	0.00
Land under lease	0.00%	23.74	0.00		0.00	23.74
For investment in land		0.00			0.00	0.00
For cost of clearing site		0.00			0.00	0.00
Plant and Machinery	5.28%	1188.28	89.72		65.11	1278.00
Building	3.34%	63.71	0.00		2.13	63.71
Furniture and Fittings	6.33%	1.11	0.00		0.07	1.11
Computer	15.00%	1.27	0.00		0.19	1.27
Office Equipment	6.33%	0.21	0.00		0.01	0.21
Vehicles	9.50%	1.60	0.00		0.15	1.60
Total		1279.92	89.72	0.00	67.66	1369.64



Name of Asset	Depreciation rate ¹	2020-21				
		Projected				
		Opening	Addition	Adjustment & Deduction	Depreciation	Closing
Land owned under full ownership		0.00			0.00	0.00
Land under lease	0.00%	23.74	0.00		0.00	23.74
For investment in land		0.00			0.00	0.00
For cost of clearing site		0.00			0.00	0.00
Plant and Machinery	5.28%	1278.00	259.68		74.33	1537.68
Building	3.34%	63.71	0.00		2.13	63.71
Furniture and Fittings	6.33%	1.11	0.00		0.07	1.11
Computer	15.00%	1.27	0.00		0.19	1.27
Office Equipment	6.33%	0.21	0.00		0.01	0.21
Vehicles	9.50%	1.60	0.00		0.15	1.60
Total		1369.64	259.68	0.00	76.89	1629.32

3.28 Form F21a – Consumer Contribution and grants towards cost of capital assets (In Rs. Crores)

		2018-19		2019-20		2020-21	
		Actual		Estimated		Projection	
		Additions during the Year	Balance at the end of the Year	Additions during the Year	Balance at the end of the Year	Additions during the Year	Balance at the end of the Year
1	Consumer Contribution towards Cost Of Capital Assets						
3	Grant towards Cost Of Capital Assets	215.96	1,655.94	127.36	1,783.30	247.65	2,030.95
	Total	215.96	1655.94	127.36	1783.3	247.64	2030.95

3.29 Form 22 - Interest and Finance Charges

	Loan Details	Loan Tenure (yrs)	FY 2018-19					Closing Balance
			Rate of Interest	Opening Balance	Amount received	Principal repayment	Interest Due	
A	Interest charges on State Govt. Loans, Bonds And Advances							
1	State Government Loans							
2	Bonds							
3	Foreign Currency Loans / Credits							
4	Debentures							
	Sub-total							
	Interest on Long Term Loans / Credits from the Fls/ banks/ organisations approved by the State Government							
A	Secured Loans							
	Loan 1							
	Loan 2							
	Loan 3							
	Loan 4							
	Sub-total							
B	Unsecured Loans							
	Loan 1							
	Loan 2							
	Loan 3							
	Loan 4							
	Sub-total							

Not Applicable

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	Loan Details	Loan Tenure (yrs)	FY 2018-19				
			Actual				
			Rate of Interest	Opening Balance	Amount received	Principal repayment	Interest Due
C	Other Interest & Finance Charges						
	Cost of raising Finance / Bank Charges						
	Interest on Security Deposit						
	Penal Interest Charges						
	Lease Rentals						
	Sub-total						
D	Grand Total Of Interest & Finance Charges (A + B + C)						
E	Less: Interest & Finance Charges Capitalised						
	Net Total Of Interest & Finance Charges (D - E)						

3.30 Form 23 - Statement of Equity

	Loan Details	Unit	2018-19	2019-20	2020-21
			Actual	Estimated	Projected
1	Equity (Opening Balance)	Rs Crores	10.05	10.05	10.05
2	Net additions during the year	Rs Crores	0.00	0.00	0.00
3	Equity (Closing Balance)	Rs Crores	10.05	10.05	10.05
4	Average Equity	Rs Crores	10.05	10.05	10.05
5	Rate of Return on Equity	%	15.50%	15.50%	15.50%



3.31 Form 24 - Return on Equity

(In Rs. Crores)

No	Loan Details	Form	2018-19	2019-20	2020-21
			Actuals	Estimated	Projected
1	Regulated Rate Base				
2	Original Costs of Fixed Assets				
3	Accumulated Depreciation				
4	Addition in Regulated Rate Base				
a	Investments during the year				
b	Depreciation				
5	Change in Working Capital				
6	Equity (Average)	F23	10.05	10.05	10.05
7	Debt				
8	Rate of return on Equity	F23	15.50%	15.50%	15.50%
9	Rate of Return on Debt				
10	Weighted Avg Cost of Capital (WACC)		15.50%	15.50%	15.50%
11	Return on Equity (without tax)		1.56	1.56	1.56



3.32 Form 25 – Working Capital requirements

(in Rs. Crores)

	Particulars	Unit	2018-19	2019-20	2020-21
			Actual	Estimated	Projected
1	Receivables for one months calculated on NATAF	Rs Crores	5.94	5.84	7.61
2	Maintenance Spares	Rs Crores	11.47	14.33	16.94
3	O&M expenses for 1 month	Rs Crores	6.25	6.12	7.84
	Total Working Capital	Rs Crores	23.65	26.29	32.39
	Rate of Interest	%	13.80%	13.80%	13.80%
	Interest on Working Capital	Rs Crores	3.26	3.63	4.46

3.33 Form 26 – Details of Non-Tariff Income (in Rs. Crores)

No	Particulars	Unit	2018-19	2019-20	2020-21
			Actual	Estimated	Projected
1	Income from SLDC	Rs Crores	3.00	3.00	3.50
2	Agency Charges	Rs Crores	2.65	2.65	2.50
3	Bank Interest	Rs Crores	3.95	3.95	4.00
4	Other Income	Rs Crores	0.10	0.10	0.20
	Total	Rs Crores	9.70	9.70	10.20

3.34 Form 27 - Income from other Businesses

No	Particulars	Unit	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
			Actuals		Estimated				Projected	
1		Rs Crores	Not Applicable							
2		Rs Crores								
3		Rs Crores								

3.35 Form 28 - Expenses capitalized (In Rs. Crores)

		2018-19	2019-20	2020-21
		Actual	Estimated	Projected
1	Interest & Finance charges Capitalised			
2	Employee expenses	0.00	0.00	0.00
3	A&G Expenses			
4	Others, if any			
	Grand Total	0.00	0.00	0.00



3.36 Form 29 – Income Tax Provisions

(In Rs. Crores)

		2018-19	2019-20	2020-21
		Actuals	Estimated	Projected
1	Income Tax on the Return on Equity	0.30	0.24	0.24
2	As Per Return Filed For The Year			
3	As Assessed For The Year			
4	Credit/Debit Of Assessment Year(s) (Give Details)			
	Total	0.30	0.24	0.24



