

**FILING OF PETITION  
FOR TRUE-UP OF  
FIRST CONTROL PERIOD  
FY 2012-13 TO FY 2015-16**



**Submitted by:**



**TENUGHAT VIDYUT NIGAM LIMITED  
(A Govt. of Jharkhand Undertaking)  
Hinoo, Doranda, Ranchi - 834002**

**To:**

**Jharkhand State Electricity Regulatory Commission  
(JSERC)**



Jharkhand State  
Electricity Regulatory  
Commission

**February 2023**



## Table of Contents

Chapter 1: Introduction .....	6
1.1 Introduction .....	6
1.2. Regulatory Background.....	6
1.3. MYT Order for First Control Period FY 2012-13 to FY 2015-16 and present true-up Petition.....	8
Chapter 2: True-up for the Control Period FY13 to FY16 .....	9
2.1 Plant Availability Factor.....	9
2.2 Gross Generation and Plant Load Factor.....	10
2.3 Auxiliary Consumption .....	11
2.4 Net Generation .....	11
2.5 Station Heat Rate (SHR) .....	12
2.6 Specific Oil Consumption.....	13
2.7 Gross Calorific Value (GCV) Of Primary and Secondary Fuel .....	15
2.8 Price of primary fuel .....	15
2.9 Energy Charge Rate .....	16
2.10 O&M Expenses.....	17
2.11 Depreciation.....	19
2.12 Interest on loan .....	20
2.13 Interest on working capital.....	21
2.14 Return on Equity.....	22
2.15 Non-tariff income.....	23
2.16 Cost of secondary fuel oil.....	24
2.17 Summary of fixed costs .....	24
2.18 Revenue gap/surplus.....	25
Chapter 3: Prayer .....	28



## List of Tables

Table 1: Previous orders for TVNL issued by JSERC .....	6
Table 2: Actual parameters for the First Control Period .....	9
Table 3: Approved vis-à-vis actual parameters for the First Control Period .....	9
Table 4: Approved vis-à-vis actual Gross Generation for the First Control Period .....	10
Table 5: Actual parameters for the First Control Period .....	10
Table 6: Approved vis-à-vis actual parameters for the First Control Period .....	10
Table 7: Actual Auxiliary Consumption (In %) for the First Control Period .....	11
Table 8: Actual Net Generation (In MUs) for the First Control Period .....	11
Table 9: Approved vis-à-vis actual Net Generation for the First Control Period .....	12
Table 10: Actual Station Heat Rate (SHR) for the First Control Period .....	12
Table 11: Approved vis-à-vis actual Gross Generation for the First Control Period .....	12
Table 12: Approved Station Heat Rate (SHR) for the Second Control Period.....	13
Table 13: Actual Specific Oil Consumption (ml/kWh) for the First Control Period .....	13
Table 14: Specific Oil Consumption (ml/kWh) of similar aged plants .....	14
Table 15: GCV of primary and secondary fuel for the First Control Period .....	15
Table 16: Price of primary fuel for the First Control Period.....	15
Table 17: Approved vis-à-vis actual cost of primary fuel for the First Control Period ....	15
Table 18: Plant parameters and fuel cost determinants (Approved vis-à-vis actual) for the First Control Period .....	16
Table 19: O&M expenses approved for the First Control Period.....	18
Table 20: Depreciation expenses for the First Control Period.....	19
Table 21: Approved vis-à-vis actual depreciation expenses (In Rs. Cr.) for the First Control Period.....	19
Table 22: Interest on loan approved for the First Control Period.....	20
Table 23: Approved vis-à-vis actual vales of interest on loan (In Rs. Cr.) for the First Control Period.....	20
Table 24: Approved vis-à-vis actual interest on working capital (In Rs. Cr.) for the First Control Period.....	21
Table 25: Return on Equity approved for the First Control Period.....	22
Table 26: Approved vis-à-vis actual return on equity (In Rs. Cr.) for the First Control Period.....	23
Table 27: Non-tariff for the First Control Period as per audited accounts .....	23
Table 28: Cost of secondary fuel oil (In Rs. Cr.) as approved for the First Control Period .....	24
Table 29: Secondary fuel oil cost (In Rs. Cr.) as per actuals for the First Control Period	24
Table 30: Total fixed cost approved for the First Control Period (In Rs. Cr.) .....	24
Table 31: Total fixed cost filed for true-up for the First Control Period (In Rs. Cr.).....	25
Table 32: Approved vis-à-vis actual total fixed costs (In Rs. Cr.) for the First Control Period.....	25
Table 33: Total gap/(Surplus) and carrying cost (In Rs. Cr.) for the First Control Period	26



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

### List of Abbreviations

Sl. No.	Abbreviations	Descriptions
1.	MW	Megawatt
2.	TVNL	Tenughat Vidyut Nigam Limited
3.	BU	Billion Units
4.	RES	Renewable Energy Sources
5.	CEA	Central Electricity Authority
6.	FGD	Flue Gas Desulphurization
7.	GW	Gigawatt
8.	NTPC	National Thermal Power Corporation Ltd.
9.	PVUNL	Patratu Vidyut Utpadan Nigam Limited
10.	JBVNL	Jharkhand Bijli Vitran Nigam Limited
11.	DVC	Damodar Valley Corporation
12.	JSERC	Jharkhand State Electricity Regulatory Commission
13.	EA	Electricity Act
14.	SERC	State Electricity Regulatory Commission
15.	TTPS	Tenughat Thermal Power Station
16.	KM	Kilometre
17.	MT	Metric Tonne
18.	DPR	Detailed Project Report
19.	EPC	Engineering, Procurement & Construction
20.	PLF	Plant Load Factor
21.	PAF	Plant Availability Factor
22.	MU	Million Units
23.	ERP	Enterprise Resource Planning
24.	SLDC	State Load Dispatch Centre
25.	SHR	Station Heat Rate
26.	R&M	Repair & Maintenance
27.	MYT	Multi Year Tariff
28.	ARR	Annual Revenue Requirement
29.	A&G	Administrative and General
30.	NAPAF	Normative Annual Plant Availability Factor
31.	SFC	Secondary Fuel Consumption
32.	O&M	Operation & Maintenance
33.	AE	Assistant Engineer
34.	JE	Junior Engineer
35.	CE	Chief Engineer
36.	SE	Superintending Engineer
37.	EE	Executive Engineer
38.	FY	Financial Year
39.	LFC	Landed fuel cost
40.	AFC	Annual Fixed Cost
41.	CWiP	Capital Works In Progress
42.	GCV	Gross Calorific Value
43.	GFA	Gross Fixed Assets
44.	SBI	State Bank of India



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

---

**BEFORE THE JHARKHAND STATE ELECTRICITY REGULATORY  
COMMISSION**

Filing No: \_\_\_\_\_

Case No: \_\_\_\_\_

IN THE MATTER OF:

Filing of Petition for True-up of First Control Period of FY 2012-13 to 2015-16 for TVNL under JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2010 issued by the Hon'ble Jharkhand State Electricity Regulatory Commission (JSERC), hereinafter referred to as Hon'ble Commission.

AND

IN THE MATTER OF:

Tenughat Vidyut Nigam Limited ("TVNL")

Hinoo, Doranda, Ranchi

Jharkhand - 834002

.....PETITIONER

The Petitioner respectfully submits



## Chapter 1: Introduction

### 1.1 Introduction

1.1.1. Tenughat Vidyut Nigam Limited is a power generating company incorporated on 26<sup>th</sup> November 1987 under Indian Company's Act, 1956. With the creation of Jharkhand State on 15<sup>th</sup> November 2000 from the erstwhile Bihar State, TVNL became an undertaking of the Government of Jharkhand. TVNL owns and operates an installed power generation capacity of 420 MW with two units of 210 MW each at Tenughat Thermal Power Station located at Lalpania at the banks of Tenughat reservoir in Bokaro district with its head office at Ranchi. The units are under commercial operation as detailed below:

- a) Unit I - September 1996
- b) Unit II - September 1997

1.1.2. Tenughat Thermal Power Station (TTPS) is located at village Lalpania in the District of Bokaro (Jharkhand). It is situated on the left bank of Tenughat reservoir. The nearest railway station is Gomia which is at a distance of 20 km (approx.) by road. The project site is developed with all modern infrastructure like school, hospital, bank, post office, marketing complex etc.

1.1.3. TTPS has an acquired land of 1800 acres (approx.) TVNL has planned its future expansion of existing site/plant by addition of 2x660 MW super critical units. The consultant for extension project has been appointed and the consultancy work is under progress. The DPR has been prepared and global tender for selection of EPC contractor shall be floated shortly for installation of 2x660 MW units. The needed fuel requirement will be met from its allocated coal block Rajbhar E & D located in the district of Latehar. Activity for commencement of coal mining is under progress. Water requirement will be met from Tenu Reservoir of Water Resources Department of the Govt. of Jharkhand. With grey field expansion the total installed capacity of 1740 (2x210 +2x660 MW) MW of TTPS shall be dedicated to the service of the State/Nation.

### 1.2. Regulatory Background

1.2.1. Starting from 2003, TVNL has filed Petitions in accordance with Section 62 of Electricity Act 2003. The details of the previous Orders issued by JSERC on these Petitions are tabulated below:

**Table 1: Previous orders for TVNL issued by JSERC**

Order	Date
Order on Petition for Multi Year Tariff for the period FY 2017-21 (Including truing-up For FY 2014-15 & provisional true-up of FY 2015-16) For Tenughat Vidyut Nigam Limited (TVNL)	28.02.2020 & 14.10.2020



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

Order	Date
Order on Petition for Annual Performance Review for FY 2014-15 (Including truing-up For FY 2012-13 & FY 2013-14) for Tenughat Vidyut Nigam Limited (TVNL)	30.09.2016
Order on Petition for Annual Performance Review for FY 2012-13 (including truing-up for FY 2011-12) for Tenughat Vidyut Nigam Limited (TVNL)	02.07.2014
MYT Order on Business Plan and Annual Revenue Requirement and Determination of Generation Tariff for First Control Period of FY 2012-13 to 2015-16 for Tenughat Vidyut Nigam Limited (TVNL).	30.05.2012
Tariff Order on Annual Revenue Requirement and Determination of Generation Tariff for Financial Years FY 2010-11 & 2011-12 for Tenughat Vidyut Nigam Limited (TVNL).	31.05.2011
Tariff Order on Annual Revenue Requirement and Determination of Generation Tariff for Financial Years FY 2009-10 & 2010-11 for Tenughat Vidyut Nigam Limited (TVNL)	22.11.2010
Tariff Order on ARR and Determination of Generation Tariff for FY 2008-09 & 2009-10 for Tenughat Vidyut Nigam Limited (TVNL)	05.03.2010
Tariff Order for TVNL FY 2007-2008	03.01.2008
Tariff Order for Tenughat Vidyut Nigam Limited (TVNL) FY 2005-06	30.03.2006
Tariff Order for TVNL FY 2004-2005	23.08.2004

1.2.2. The Hon'ble Commission has notified the JSERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2010 published on 27<sup>th</sup> October 2010 (Hereinafter referred to as JSERC Generation Tariff Regulations, 2010) in exercise of the powers conferred by Section 61 and 62 read with Section 181 of the Electricity Act, 2003.

1.2.3. Further Regulations 6.12, 6.13, 6.14 and 6.15 of JSERC Generation Tariff Regulations, 2010 states that:

*"The Commission shall set targets for each year of the Control Period for the items or parameters that are deemed to be "controllable" and which includes:*

- (a) Gross Station Heat Rate*
- (b) Normative Annual Plant Availability Factor*
- (c) Auxiliary Energy Consumption*
- (d) Secondary Fuel Oil Consumption*
- (e) Operation and Maintenance Expenses*
- (f) Financing Cost which includes cost of debt (interest), cost of equity (return)*  
*and*
- (g) Depreciation.*

*Any financial loss on account of underperformance on targets for parameters*





*specified in clause 6.12 (a) to (e) of these Regulations is not recoverable through tariffs. Similarly, any financial gain on account of over performance with respect to these parameters is to the Generating Company's benefit and shall not be adjusted in tariffs.*

*The true up across various controllable parameters shall be conducted as per principles stated below: -*

- (a) any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR; and*
- (b) at the end of the control period –*
  - i. the Commission shall review actual capital investment vis-à-vis approved capital investment.*
  - ii. depreciation and financing cost, which includes cost of debt including working capital (interest), cost of equity (return) shall be trued up on the basis of actual/audited information and prudence check by the Commission.*

*Notwithstanding anything contained in these Regulations, the gains or losses in the controllable items of ARR on account of force majeure factors shall be passed on as an additional charge or rebate in ARR over such period as may be laid down in the order of the Commission."*

### **1.3. MYT Order for First Control Period FY 2012-13 to FY 2015-16 and present true-up Petition**

- 1.3.1. The Hon'ble Commission in its order dated 30<sup>th</sup> May 2012 has determined the ARR for the Control Period FY 2012-13 to FY 2015-16.
- 1.3.2. In compliance to the directives of the Hon'ble Commission, the petitioner herewith submits the true-up petition for the First Control Period of FY 2012-13 to FY 2015-16 based on the statutory audited annual accounts of the aforesaid period under JSERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2010.
- 1.3.3. TVNL also submits the Operational Performance Review for First Control Period of FY 2012-13 to FY 2015-16 based on the actual generation data and Audited Annual Accounts of FY 2012-13 to FY 2015-16.
- 1.3.4. The petitioner would like to submit that the statutory audit of Annual Accounts for the period FY 2012-13 to FY 2015-16 has been completed by M/s. U. Narain & Co., Ranchi (appointed by CAG) and also by the Jharkhand AG.
- 1.3.5. In light of the above mentioned situation, the Petitioner therefore prays to the Hon'ble Commission to admit this True Up petition for FY 2012-13 and FY 2015-16 and Review of Operational Parameters for the First Control Period FY 2012-13 to FY 2015-16.





## Chapter 2: True-up for the Control Period FY13 to FY16

For the purpose of True Up, TVNL has compared the actual cost incurred for the First Control Period FY 2012-13 to FY 2015-16 with the cost approved by the Hon'ble Commission in MYT Tariff Order dated May 2012 in which Hon'ble Commission has determined ARR for the First Control Period FY 2012-13 to FY 2015-16.

The various parameters for the process of True-up have been discussed below:

### 2.1 Plant Availability Factor

2.1.1 The table below summarizes the actual Plant Availability Factor (PAF based on declared capacity in %) during the First Control Period of FY 2012-13 to FY 2015-16. The same may be verified from system reports generated on daily basis which are then compiled for generating monthly data.

**Table 2: Actual parameters for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
PAF (%)	88.55%	80.10%	79.91%	87.36%

2.1.2 Against the actual PAF for the Control Period FY 2012-13 to FY 2015-16 as mentioned above, the petitioner would like to mention that the Hon'ble Commission had approved figures of 85% for the Control Period FY 2012-13 to FY 2015-16 in the MYT order dated 30<sup>th</sup> May 2012.

**Table 3: Approved vis-à-vis actual parameters for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisio- nal true- up	Final true- up submi- ssion	MYT approved	Provisio- nal true- up	Final true- up submi- ssion	MYT approved	Provisio- nal true- up	Final true- up submi- ssion	MYT approved	Provisio- nal true- up	Final true- up submi- ssion
<b>PAF (%)</b>	85	88.55	88.55	85	80.13	80.10	85	79.91	79.91	85	87.36	87.36

2.1.3 The petitioner submits that the Plant Availability Factor (PAF) approved as per provisional true-up vide orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are mentioned in the table above.

2.1.4 As per Regulations 10.1 of JSERC Generation Tariff Regulations, 2010 which states that:

*"In case of thermal generating stations incentive shall form part of the recovered capacity (fixed) charges. No separate incentive shall be provided."*



2.1.5 TVNL requests the Hon'ble Commission to approve PAF as per actual values for the purpose of true-up of the Control Period FY 2012-13 to FY 2015-16.

## 2.2 Gross Generation and Plant Load Factor

2.2.1 It is submitted that the actual gross generation (in MUs) for the Control Period FY 2012-13 to FY 2015-16 along with the MYT approved and provisionally true-up values is summarized in the following table.

**Table 4: Approved vis-à-vis actual Gross Generation for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
<b>Gross Generation (MU)</b>	3127	2922	2922	3127	2256	2256	3127	2381	2381	3136	2636	2636

2.2.2 It is hereby submitted by the petitioner that the average Plant Availability Factor (in %) during the First Control Period of FY 2012-13 to FY 2015-16 was 83.98% against a NAPAF of 85% approved by the Commission for the Control Period.

2.2.3 However, due to backing down of the plant and other uncontrollable factors there has been loss in Gross generation which is reflected in the difference between actual vis-à-vis approved numbers for Plant Load Factor (In %) during the Control Period.

2.2.4 Thus, TVNL requests the Hon'ble Commission to approve the gross generation (In MUs) as per actual values for the purpose of true-up of the Control Period FY 2012-13 to FY 2015-16.

2.2.5 The table below summarizes the actual Plant Load Factor (PLF in %) during the First Control Period FY 2012-13 to FY 2015-16.

**Table 5: Actual parameters for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
PLF (%)	79.42%	61.32%	64.71%	71.46%

2.2.6 Against the actual PLF for the Control Period FY 2012-13 to FY 2015-16 as mentioned above, the petitioner would like to mention that the Hon'ble Commission had approved figures of 85% for the Control Period FY 2012-13 to FY 2015-16 in the MYT order dated 30<sup>th</sup> May 2012.

**Table 6: Approved vis-à-vis actual parameters for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
<b>PLF (%)</b>	85	79.42	79.42	85	61.32	61.32	85	64.70	64.71	85	71.46	71.46



- 2.2.7 The petitioner submits that the Plant Load Factor (PLF) approved as per provisional true-up vide orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are mentioned in the table above.
- 2.2.8 Actual plant load factor is low because of partial load operation and backing down. TVNL submits that frequent stop/start after reserve shutdown and running of units under backing down affects the performance of the units.
- 2.2.9 TVNL requests the Hon'ble Commission to approve PLF as per actual values for the purpose of true-up of the Control Period FY 2012-13 to FY 2015-16.

### 2.3 Auxiliary Consumption

- 2.3.1 TVNL requests the Hon'ble Commission to approve the Auxiliary Consumption (In %) as per actual values submitted for the Control Period FY 2012-13 to FY 2015-16 mentioned in the table below.
- 2.3.2 TVNL submits that frequent stop/start after reserve shutdown and running of units under backing down affects the performance of the units. During backing down, power generation is reduced, but most of the auxiliaries remain running at nearly full load, which results in an increase in actual auxiliary consumption.
- 2.3.3 The petitioner would like to submit that the deviation from normative auxiliary consumption values is due to frequent stop/start after reserve shutdown and running of units under backing down. TVNL is in constant endeavour to improve the auxiliary consumption to meet the values approved by the Hon'ble Commission.

**Table 7: Actual Auxiliary Consumption (In %) for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Auxiliary Consumption (%)	10.43%	11.29%	11.35%	11.68%

- 2.3.4 Furthermore, TVNL reiterates its submission that Regulation 6.3B of CERC (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 also provides the compensation for auxiliary consumption and Station Heat Rate on account of partial load operations.
- 2.3.5 In view of CERC Order dated 5<sup>th</sup> May 2017 Central Generating Stations have been granted relief on account of part load operation and multi start/stop of units and accordingly are claiming the compensation charge to beneficiaries.

### 2.4 Net Generation

- 2.4.1 The actual net generation of TVNL for the First Control Period of FY 2012-13 to FY 2015-16 is as mentioned in the table below.

**Table 8: Actual Net Generation (In MUs) for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Net Generation (MU)	2,617.17	2,001.43	2,110.52	2,328.28



2.4.2 Against the actual values of Net Generation for the First Control Period of FY 2012-13 to FY 2015-16, the values of Net Generation (In MUs) as approved by the Hon'ble Commission in MYT Order dated 30<sup>th</sup> May 2012 and provisional true-up orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are provided below:

**Table 9: Approved vis-à-vis actual Net Generation for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion
<b>Net Generation (MU)</b>	2,830	2,607	2,617	2,830	1,991	2,001	2,830	2,110	2,110	2,838	2,328	2,328

2.4.3 TVNL requests the Hon'ble Commission to approve the net generation (In MUs) as per data based on actual PLF (%) and actual auxiliary consumption (%) in the First Control Period of FY 2012-13 to FY 2015-16 provided in the table above.

## 2.5 Station Heat Rate (SHR)

2.5.1 The actual Station Heat Rate (SHR) of TVNL for the First Control Period FY 2012-13 to FY 2015-16 is as mentioned in the table below:

**Table 10: Actual Station Heat Rate (SHR) for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Station Heat Rate (In kcal/kWh)	2,939.68	2,778.07	2,843.03	2,753.24

2.5.2 The petitioner would further like to submit that over the years it has taken several measures to improve its Station Heat Rate which is also evident from the table given above. The Station Heat Rate has been improved from 2,939.68 kcal/kWh in FY 2012-13 to 2,753.24 kcal/kWh in FY 2015-16.

2.5.3 Against the actual values of Station Heat Rate (SHR) for the First Control Period of FY 2012-13 to FY 2015-16, the values of Station Heat Rate (SHR) as approved by the Hon'ble Commission in MYT Order dated 30<sup>th</sup> May 2012 and provisional true-up orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are provided below:

**Table 11: Approved vis-à-vis actual Gross Generation for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT appro ved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion	MYT appro ved	Provisio n al true- up	Final true- up submi ssion
<b>Station Heat Rate (In kcal/kWh)</b>	2,908	2,908	2,939	2,773	2,773	2,778	2,638	2,638	2,843	2,503	2,503	2,753



- 2.5.4 The petitioner reiterates that Regulation 6.3B of CERC (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 also provides the compensation for auxiliary consumption and Station Heat Rate on account of partial load operations.
- 2.5.5 Also, the petitioner would like to submit that according to the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 published on 20<sup>th</sup> January 2016, under the Norms of Operation for the 2<sup>nd</sup> Control Period (FY 17 to FY 21), Station Heat Rate for TVNL has been decided by the Hon'ble Commission as 3043 kcal/kWh for FY 2016-17.
- 2.5.6 The petitioner would like to mention that as per Schedule-9A of WBERC Tariff Regulations, 2011 notified on 25<sup>th</sup> April 2011, the Station Heat Rate allowed for Kolaghat Thermal Power Station of WBPDC is 2700 kcal/kWh for the period FY 2011-12 to FY 2013-14.
- 2.5.7 The petitioner would like to submit that the age and profile of units at Kolaghat Thermal Power Station (6\*210 MW) is similar to that of TVNL.
- 2.5.8 It is therefore requested to the Hon'ble Commission to consider the same Station Heat Rate norm for this true - up Petition for the First Control Period of FY 2012-13 to FY 2015-16 as decided by the Hon'ble Commission for TVNL in its Generation Tariff Regulations 2015.
- 2.5.9 The Station Heat Rate norms for TVNL for FY 2016-17 to FY 2020-21 as per JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 is presented below:

### Tenughat Thermal Power Station (TVNL)

**Table 12: Approved Station Heat Rate (SHR) for the Second Control Period**

Particular	FY 17	FY 18	FY 19	FY 20	FY21
Station Heat Rate (In kcal/kWh)	3,043	2,908	2,773	2,638	2,503

- 2.5.10 TVNL requests the Hon'ble Commission to approve the actual SHR mentioned in Table No. 10 for the First Control Period of FY 2012-13 to FY 2015-16.

### 2.6 Specific Oil Consumption

- 2.6.1 It is submitted that the specific oil consumption of TVNL for the First Control Period of FY 2012-13 to FY 2015-16 is as mentioned below:

**Table 13: Actual Specific Oil Consumption (ml/kWh) for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Specific Oil Consumption (In ml/kWh)	1.61	1.88	1.49	1.15



- 2.6.2 From the actual values of specific oil consumption for the First Control Period of FY 2012-13 to FY 2015-16, it is evident that the petitioner is in constant endeavour to improve its specific oil consumption which has improved significantly from 1.61 ml/kWh in FY 2012-13 to 1.15 ml/kWh in FY 2015-16 because of various R&M works undertaken during the period.
- 2.6.3 Against the actuals for the First Control Period of FY 2012-13 to FY 2015-16, the petitioner would like to mention that the Hon'ble Commission had approved specific oil consumption of 1 ml/kWh for FY 2012-13 to FY 2015-16 in the MYT order dated 30<sup>th</sup> May 2012 based on "Generation Tariff Regulations, 2010", where the normative specific oil consumption for TTPS has been specified as 1 ml/kWh.
- 2.6.4 The petitioner would like to submit that historically the actual specific oil consumption for TVNL has been in the range of 2-3 ml/kWh. Due to the works carried out under R&M, TVNL has been able to achieve a specific oil consumption of 1.15 ml/kWh in FY 2015-16 which is a considerable improvement.
- 2.6.5 The petitioner shall again like to submit that there is precedence of other similar aged and profile plants in other states having specific consumption of around 2.0 ml/kWh – 3.5 ml/kWh and has been approved by the respective Hon'ble Commissions as shown in table below:

**Table 14: Specific Oil Consumption (ml/kWh) of similar aged plants**

Station	Capacity (In MW)	COD	State	Year	Specific Oil Consumption (ml/kWh)
Gandhinagar (Unit - 5)	210	17.03.1998	Gujarat	FY 2011-12 to FY 2015-16	3.50
Wanakbori 7 TPS	210	31.12.1998	Gujarat	FY 2011-12 to FY 2015-16	3.50
Kolaghat (Unit-5)	210	17.03.1991	West Bengal	FY 2014-15, FY 2015-16 & FY 2016-17	2.00
Kolaghat (Unit-6)	210	16.01.1993	West Bengal	FY 2014-15, FY 2015-16 & FY 2016-17	2.00



2.6.6 TVNL would further like to submit that it has been able to recover lesser cost of secondary fuel oil due to this norm and hence it requests relaxation to at least 2.0 ml/kWh i.e. in line with precedence for similar profile power plants in the country.

2.6.7 Therefore, Petitioner would like to request the Hon'ble Commission to kindly consider the facts mentioned above and thus allow the relaxation in secondary fuel oil consumption norms for the Petitioner and requests the Hon'ble Commission to approve specific oil consumption as per actuals submitted for the First Control Period of FY 2012-13 to FY 2015-16.

## 2.7 Gross Calorific Value (GCV) Of Primary and Secondary Fuel

2.7.1 TVNL requests the Hon'ble Commission to approve the GCV of Primary Fuel and GCV of Secondary Fuel for the First Control Period of FY 2012-13 to FY 2015-16 as mentioned in the table below:

**Table 15: GCV of primary and secondary fuel for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
GCV of primary fuel (kcal/kg)	4,037.17	3,886.63	3,601.78	3,623.14
GCV of secondary fuel (kcal/L)	9,359	9,359	9,359	9,359

2.7.2 The GCV of Secondary Fuel Oil is in line with the approved figures for FY 2012-13 to FY 2015-16 in the MYT order dated 30<sup>th</sup> May 2012.

## 2.8 Price of primary fuel

2.8.1 TVNL submits the actual fuel cost for the First Control Period of FY 2012-13 to FY 2015-16 as mentioned in table below:

**Table 16: Price of primary fuel for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Cost of primary fuel (Rs./MT)	1,924.08	1,757.70	2,072.44	2,491.60

2.8.2 Against the actual values of Cost of primary fuel (Rs. /MT) for the First Control Period of FY 2012-13 to FY 2015-16, the values of Cost of primary fuel (Rs./MT) as approved by the Hon'ble Commission in MYT Order dated 30<sup>th</sup> May 2012 and provisional true-up orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are provided below:

**Table 17: Approved vis-à-vis actual cost of primary fuel for the First Control Period**





True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Cost of primary fuel (Rs./MT)	1,659	1,943	1,924	1,659	1,765	1,757	1,659	1,959	2,072	1,659	2,489	2,491

2.8.3 In view of the submissions made in previous sections regarding performance parameters, TVNL humbly prays to the Hon'ble Commission to approve the actual fuel cost for the First Control Period of FY 2012-13 to FY 2015-16 as mentioned in the table above.

## 2.9 Energy Charge Rate

2.9.1 The table below summarizes the results of True up of plant parameters and fuel cost determinants for the two Units of Tenughat Thermal Power Station for the First Control Period of FY 2012-13 to FY 2015-16.

**Table 18: Plant parameters and fuel cost determinants (Approved vis-à-vis actual) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Capacity (MW)	420	420	420	420	420	420	420	420	420	420	420	420
PAF (%)	85	88.55	88.55	85	80.13	80.10	85	79.91	79.91	85	87.36	87.36
PLF (%)	85	79.42	79.42	85	61.32	61.32	85	64.70	64.70	85	71.46	71.46
Gross Generation (MU)	3,127	2,922	2,922	3,127	2,256	2,256	3,127	2,380	2,380	3,136	2,636	2,636
Auxiliary consumption (%)	9.50	9.50	10.43	9.50	9.50	11.29	9.50	9.50	11.35	9.50	9.50	11.68
Net Generation (MU)	2,830	2,607	2,617	2,830	1,991	2,001	2,830	2,110	2,110	2,830	2,328	2,328
Station Heat rate (kcal/kWh)	2,908	2,908	2,939	2,773	2,773	2,778	2,638	2,638	2,843	2,503	2,503	2,753
GCV of coal (kcal/kg)	4,368	4,037	4,037	4,368	3,887	3,887	4,368	3,602	3,602	4,368	3,623	3,623
Transit loss (%)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total coal consumption (MT)	2079 264	2102 269	2121 022	1982 426	1607 282	1605 588	1885 587	1740 769	1873 799	1793 649	1818 121	1999 528
Cost of coal (Rs. /MT)	1,659	1,943	1,924	1,659	1,765	1,757	1,659	1,959	2,072	1,659	2,489	2,491
Total cost of coal (Rs. Cr.)	345	408	408	328	283	282	312	341	388	297	452	498
<b>Energy Charge</b>	<b>1.22</b>	<b>1.55</b>	<b>1.56</b>	<b>1.16</b>	<b>1.39</b>	<b>1.41</b>	<b>1.11</b>	<b>1.58</b>	<b>1.84</b>	<b>1.05</b>	<b>1.90</b>	<b>2.14</b>



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Rate (Rs. /kWh)												

2.9.2 TVNL request the Hon'ble Commission to approve the Energy Charge rate based on actual basis for the First Control Period of FY 2012-13 to FY 2015-16.

## 2.10 O&M Expenses

2.10.1 The Operations & Maintenance expenses of a company includes:

- Employee expenses
- Repair & Maintenance expenses
- Administrative and General expenses

2.10.2 Employee expenses consist of salaries, overtime allowance, leave salary and expenses for staff & officers' welfare.

2.10.3 Repair and Maintenance is meant for the upkeep of the generating station. Further, as every asset requires repair and maintenance at some point, to keep the thermal generating station healthy and reliable the petitioner must infuse certain amounts of funds on R&M activities. TVNL is trying its best to ensure achievement of parameters as specified by the Hon'ble Commission and accordingly making necessary expenditure on R&M activities.

2.10.4 Administrative and General expenses mainly consist of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

2.10.5 Further Regulations 6.12, 6.13 and 6.14(a) of JSERC Generation Tariff Regulations, 2010 states that:

*"The Commission shall set targets for each year of the Control Period for the items or parameters that are deemed to be "controllable" and which includes:*

- Gross Station Heat Rate*
  - Normative Annual Plant Availability Factor*
  - Auxiliary Energy Consumption*
  - Secondary Fuel Oil Consumption*
  - Operation and Maintenance Expenses*
  - Financing Cost which includes cost of debt (interest), cost of equity (return)*
- and*
- Depreciation.*

*Any financial loss on account of underperformance on targets for parameters specified in clause 6.12 (a) to (e) of these Regulations is not*



*recoverable through tariffs. Similarly, any financial gain on account of over-performance with respect to these parameters is to the Generating Company's benefit and shall not be adjusted in tariffs.*

*"Any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR"*

- 2.10.6 The Hon'ble Commission in its previous tariff orders for true-up of 2012-13, 2013-14 and 2014-15 dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 has trued-up the parameters mentioned in 6.12 (a), (c) and (e) based on the set targets for the Control Period and for parameters (b) and (e) based on actuals.
- 2.10.7 As the aforesaid regulation mentions that any financial loss on account of underperformance or any financial gain on account of overperformance shall not be adjusted in tariffs and any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR.
- 2.10.8 The petitioner is constantly striving to improve upon its operational performance which is evident from the actuals submitted but has to face strong headwinds due to the age of the plant and several other constraints. The Hon'ble Commission in its approach for true-up of "controllable" parameters has approved some parameters based on actuals and some parameters based on the set targets which has led to considerable under recovery of fixed charges by the petitioner.
- 2.10.9 The petitioner thus requests the Hon'ble Commission to adopt a uniform methodology for approving "controllable" parameters as mentioned in 6.12 (a) to (e) of JSERC Generation Tariff Regulations, 2010 based on either actuals or based on values as approved in MYT Order dated 30<sup>th</sup> May 2012.
- 2.10.10 Thus, TVNL requests the Hon'ble Commission to approve the O&M expenses for the First Control Period of FY 2012-13 to FY 2015-16 as approved in MYT Order dated 30<sup>th</sup> May 2012 mentioned in table below:

**Table 19: O&M expenses approved for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Employee expenses (Rs. Cr.)	31.57	33.84	36.30	38.97
R&M expenses (Rs. Cr.)	18.97	20.56	22.29	24.17
A&G expenses (Rs. Cr.)	91.82	99.54	107.90	116.97
<b>Total O&amp;M Expenses (Rs. Cr.)</b>	<b>142.4</b>	<b>153.9</b>	<b>166.5</b>	<b>180.1</b>



## 2.11 Depreciation

2.11.1 The depreciation for the First Control Period of FY 2012-13 to FY 2015-16 has been computed based on the asset classification, cost of acquisition and additional capitalization of assets during the Control Period.

2.11.2 The petitioner has followed "JSERC Generation Tariff Regulations, 2010" for the calculation of depreciation expense which has following methodology –

- "Depreciation shall be allowed maximum up to 90% of the capital cost of the asset and the salvage value of the asset shall be considered as 10%.*
- Depreciation shall be calculated annually as per the straight-line method and at the rates specified in the Appendix-I of the said Regulations.*
- In case of existing projects, during the transition period the balance depreciable value as on 01.04.2011 shall be worked out by deducting the cumulative depreciation including AAD as admitted by the Commission up to 31.03.2011 from the gross depreciable value of the assets.*
- The rate of depreciation shall be continued to be charged at the rate specified in Annexure-I till the cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%."*

2.11.3 TVNL submits the actual depreciation expenses for the First Control Period of FY 2012-13 to FY 2015-16 as mentioned in table below:

**Table 20: Depreciation expenses for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Depreciation expenses (Rs. Cr.)	70.39	65.58	53.03	35.27

2.11.4 Against the actual values of depreciation Cost (In Rs. Cr.) for the First Control Period of FY 2012-13 to FY 2015-16, the values of depreciation Cost (In Rs. Cr.) as approved by the Hon'ble Commission in MYT Order dated 30<sup>th</sup> May 2012 and provisional true-up orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020 are provided below:

**Table 21: Approved vis-à-vis actual depreciation expenses (In Rs. Cr.) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Depreciation Expenses (Rs. Cr.)	69.68	69.68	70.39	70.44	70.44	65.58	70.92	53.03	53.03	71.52	35.26	35.26



2.11.5 Accordingly, TVNL requests the Hon'ble Commission to approve the depreciation as per actuals for the First Control Period of FY 2012-13 to FY 2015-16.

## 2.12 Interest on loan

2.12.1 As per the JSERC Generation Tariff Regulations, 2010:

*"7.20 The normative loan outstanding as on 1.4.2011 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2011 from the gross normative loan for the Transition period.*

*During Control Period, the normative loan outstanding as on 1.4.2012 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2012 from the gross normative loan*

*7.21 The repayment for any year during the Tariff Period shall be deemed to be equal to the depreciation allowed for that Year."*

2.12.2 In the MYT tariff order dated 28<sup>th</sup> May 2012, the Hon'ble Commission had followed Generation Tariff Regulations, 2010 to approve Interest on Loan as mentioned in the table below for the First Control Period of FY 2012-13 to FY 2015-16.

**Table 22: Interest on loan approved for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Interest on loan (Rs. Cr.)	65.72	57.93	49.93	41.71

2.12.3 Against the approved values of interest on loan (In Rs. Cr.) for the First Control Period of FY 2012-13 to FY 2015-16 by the Hon'ble Commission in MYT Order dated 30<sup>th</sup> May 2012 and provisional true-up orders dated 30<sup>th</sup> September 2016 and 28<sup>th</sup> February 2020, the actual values of interest on loan (In Rs. Cr.) as per audited accounts are provided below:

**Table 23: Approved vis-à-vis actual vales of interest on loan (In Rs. Cr.) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisioal true-up	Final true-up submission	MYT approved	Provisioal true-up	Final true-up submission	MYT approved	Provisioal true-up	Final true-up submission	MYT approved	Provisioal true-up	Final true-up submission
Interest on loan (Rs. Cr.)	65.72	65.72	99.38	57.93	65.72	99.48	49.93	49.93	102.23	41.71	41.71	103.13



2.12.4 The Petitioner would like to submit to the Hon'ble Commission that it is difficult for TVNL to service its debt timely due to delayed and partial payments being made by JBVNL. As on 31<sup>st</sup> March 2016, JBVNL owes TVNL cumulative dues of Rupees Three Thousand Eighty Two Crores Seventy One Lakhs only i.e., INR 3,082.71 Crores. Due to the late payment of dues by JBVNL to TVNL, debt could not be serviced timely in the past and hence in the First Control Period of FY 2012-13 to FY 2015-16 TVNL had to pay penalties along with the Interest on Loan.

2.12.5 Therefore, TVNL requests the Hon'ble Commission to approve the actual interest on loan as per table above for the First Control Period of FY 2012-13 to FY 2015-16.

### 2.13 Interest on working capital

2.13.1 As per JSERC Generation Tariff Regulations, 2010 the norms for calculation of interest on working capital is as follows:

- i. *"Cost of Coal for 1.5 months for pithead generating stations and for 2 months in non-pithead generating stations for generation corresponding to the Normative Annual Plant Availability Factor"*
- ii. *Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil*
- iii. *Maintenance spares @ 20% operation and maintenance expenses*
- iv. *Operation and maintenance expenses for 1 month*
- v. *Receivables equivalent to 2 months of capacity and energy charges from sale of electricity calculated on the NAPAF."*

2.13.2 Against the actual values of interest on working capital (In Rs. Cr.) for the First Control Period of FY 2012-13 to FY 2015-16, the values of interest on working capital (In Rs. Cr.) as approved by the Hon'ble Commission in MYT Order dated 30th May 2012 and provisional true-up orders dated 30th September 2016 and 28th February 2020 are provided below:

**Table 24: Approved vis-à-vis actual interest on working capital (In Rs. Cr.) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Cost of coal for 1.5 months (Rs. Cr.)	43.05	43.05	48.94	41.04	41.04	34.38	39.04	39.04	45.86	37.21	37.21	61.72
Cost of secondary fuel oil for two months (Rs. Cr.)	3.12	3.12	4.88	3.12	3.12	4.41	3.12	3.12	3.40	3.13	3.13	2.28



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
O&M expenses for 1 month (Rs. Cr.)	11.86	11.86	11.86	12.83	12.83	12.83	13.87	13.87	13.87	15.01	15.01	15.01
Maintenance spares @20% of O&M expenses (Rs. Cr.)	28.47	28.47	28.47	30.79	30.79	30.79	33.30	33.30	33.3	36.02	36.02	36.02
Receivables for two months (Rs. Cr.)	116.2	116.2	134.6	114.4	114.4	107.4	112.7	112.7	121.7	111.2	111.2	147.8
<b>Total working capital (Rs. Cr.)</b>	202.7	202.7	228.8	202.2	202.2	189.8	202.0	202.0	218.1	202.6	202.6	262.8
Rate of interest	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %	14.75 %
<b>Interest on working capital (Rs. Cr.)</b>	<b>29.9</b>	<b>29.9</b>	<b>33.7</b>	<b>29.8</b>	<b>29.8</b>	<b>28.0</b>	<b>29.8</b>	<b>29.8</b>	<b>32.2</b>	<b>29.9</b>	<b>29.9</b>	<b>38.8</b>

2.13.3 TVNL request the Hon'ble Commission to approve the interest on working capital as per actuals submitted for the First Control of FY 2012-13 to FY 2015-16.

## 2.14 Return on Equity

2.14.1 As per JSERC Generation Tariff Regulations, 2010 the return on equity shall be calculated on pre-tax basis at the base rate of 15.50% to be grossed up with the normal tax rate applicable to the generating company.

2.14.2 Since there is no income tax paid by the petitioner during the First Control Period of FY 2012-13 to FY 2015-16, the post-tax rate of equity has been considered.

2.14.3 In the MYT tariff order dated 28th May 2012, the Hon'ble Commission had followed Generation Tariff Regulations, 2010 to approve Return on Equity as mentioned in the table below for the First Control Period of FY 2012-13 to FY 2015-16.

**Table 25: Return on Equity approved for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Return on Equity (Rs. Cr.)	26.57	27.25	27.86	28.38





True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

2.14.4 Against the approved values of return on equity (In Rs. Cr.) for the First Control Period of FY 2012-13 to FY 2015-16 by the Hon'ble Commission in MYT Order dated 30th May 2012 and provisional true-up orders dated 30th September 2016 and 28th February 2020, the actual values of return on equity (In Rs. Cr.) as per actuals are provided below:

**Table 26: Approved vis-à-vis actual return on equity (In Rs. Cr.) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
Equity (Opening balance) (Rs. Cr.)	169.1	169.1	163.8	173.7	173.7	163.8	177.8	177.8	164.1	181.5	181.5	205.0
Net additions during the year (Rs. Cr.)	4.54	4.54	0.05	4.12	4.12	0.25	3.74	3.74	40.96	3.06	3.06	0.38
Equity (Closing balance) (Rs. Cr.)	173.7	173.7	163.8	177.8	177.8	164.1	181.5	181.5	205.0	184.6	184.6	205.4
Average equity (Rs. Cr.)	171.4	171.4	163.8	175.7	175.7	163.9	179.7	179.7	184.5	183.1	183.1	205.2
Rate of return on equity (%)	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %	15.50 %
<b>Return on equity (Rs. Cr.)</b>	<b>26.5</b>	<b>26.5</b>	<b>25.4</b>	<b>27.2</b>	<b>27.2</b>	<b>25.4</b>	<b>27.8</b>	<b>27.8</b>	<b>28.6</b>	<b>28.3</b>	<b>28.3</b>	<b>31.8</b>

2.14.5 TVNL request the Hon'ble Commission to approve the return on equity as per actuals submitted for the First Control of FY 2012-13 to FY 2015-16.

## 2.15 Non-tariff income

2.15.1 TVNL requests the Hon'ble Commission to approve the non-tariff income as per audited accounts for the First Control Period of FY 2012-13 to FY 2015-16 as provided in the table below:

**Table 27: Non-tariff for the First Control Period as per audited accounts**

Particular	FY 13	FY 14	FY 15	FY 16
Non-tariff income (Rs. Cr.)	30.17	32.59	35.70	34.63



## 2.16 Cost of secondary fuel oil

2.16.1 The Hon'ble Commission has followed JSERC Generation Tariff Regulations, 2010 to calculate the cost of secondary fuel oil on normative plant availability. The cost of secondary fuel oil (In Rs. Cr.) as approved by the Hon'ble Commission in the MYT Order dated 30<sup>th</sup> May 2012 is as mentioned in the table below:

**Table 28: Cost of secondary fuel oil (In Rs. Cr.) as approved for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Cost of secondary fuel oil (Rs. Cr.)	18.71	18.71	18.71	18.76

2.16.2 The computation of cost of secondary fuel oil is presented in the table below:

**Table 29: Secondary fuel oil cost (In Rs. Cr.) as per actuals for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Gross Generation (MUs)	2922	2256	2380	2636
Specific oil consumption (ml/kWh)	1.61	1.88	1.49	1.15
Cost of oil (Rs. /KL)	61,913	63,866	61,581	44,995
Oil consumption (KL)	4,729	4,138	3,307	3,039
<b>Total cost of oil (Rs. Cr.)</b>	<b>29.28</b>	<b>26.43</b>	<b>20.37</b>	<b>13.67</b>

2.16.3 TVNL request the Hon'ble Commission to approve the cost of secondary fuel oil actuals submitted for the First Control of FY 2012-13 to FY 2015-16.

## 2.17 Summary of fixed costs

2.17.1 In the MYT tariff order dated 28<sup>th</sup> May 2012, the Hon'ble Commission had followed Generation Tariff Regulations, 2010 to approve total fixed costs as mentioned in the table below for the First Control Period of FY 2012-13 to FY 2015-16.

**Table 30: Total fixed cost approved for the First Control Period (In Rs. Cr.)**

Particular	FY 13	FY 14	FY 15	FY 16
O&M Expenses	142.36	153.94	166.49	180.11
Depreciation	69.68	70.44	70.92	71.52
Interest on loans	65.72	57.93	49.93	41.71
Return on equity	26.57	27.25	27.86	28.38
Cost of secondary fuel	18.71	18.71	18.71	18.76
Interest on working capital	29.90	29.82	29.80	29.88
<b>Total fixed cost</b>	<b>352.95</b>	<b>358.09</b>	<b>363.70</b>	<b>370.36</b>



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

2.17.2 The total fixed costs filed for true-up of First Control Period FY 2012-13 to FY 2015-16 is submitted below:

**Table 31: Total fixed cost filed for true-up for the First Control Period (In Rs. Cr.)**

Particular	FY 13	FY 14	FY 15	FY 16
O&M Expenses	142.36	153.94	166.49	180.11
Depreciation	70.39	65.58	53.03	35.27
Interest on loans	99.38	99.48	102.23	103.13
Return on equity	25.39	25.42	28.61	31.81
Cost of secondary fuel	29.28	26.43	20.37	13.67
Interest on working capital	33.75	28.00	32.18	38.77
<b>Total fixed cost</b>	<b>400.55</b>	<b>398.85</b>	<b>402.91</b>	<b>402.76</b>

2.17.3 TVNL request the Hon'ble Commission to approve the total fixed costs as per MYT approved values and actuals as per audited accounts for the First Control of FY 2012-13 to FY 2015-16.

## 2.18 Revenue gap/surplus

2.18.1 The total fixed and variable charges for TVNL for the First Control Period of FY 2012-13 to FY 2015-16 works out to be as mentioned in the table below:

**Table 32: Approved vis-à-vis actual total fixed costs (In Rs. Cr.) for the First Control Period**

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
O&M Expenses	142.4	159.1	142.4	153.9	88.6	153.9	166.5	102.3	166.5	180.1	123.8	180.1
Depreciation	69.7	69.7	70.4	70.4	70.4	65.6	70.9	53.0	53.0	71.5	35.3	35.3
Interest on loans	65.7	65.7	99.4	57.9	65.7	99.5	49.9	49.9	102.2	41.7	41.7	103.1
Return on equity	26.6	26.6	25.4	27.2	27.2	25.4	27.9	27.9	28.6	28.4	28.4	31.8
Cost of secondary fuel	18.7	19.3	29.3	18.7	20.4	26.4	18.7	19.2	20.4	18.8	13.5	13.7
Interest on working capital	29.9	29.9	33.7	29.8	29.8	28.0	29.8	29.8	32.2	29.9	29.9	38.8
<b>Total fixed cost</b>	<b>352.9</b>	<b>370.3</b>	<b>400.6</b>	<b>358.1</b>	<b>302.2</b>	<b>398.9</b>	<b>363.7</b>	<b>282.1</b>	<b>402.9</b>	<b>370.4</b>	<b>272.5</b>	<b>402.8</b>
<b>Total energy charges</b>	<b>344.4</b>	<b>408.7</b>	<b>408.1</b>	<b>329.0</b>	<b>283.8</b>	<b>282.2</b>	<b>312.9</b>	<b>341.0</b>	<b>388.3</b>	<b>297.7</b>	<b>452.6</b>	<b>498.2</b>
Total expenses	697.4	778.9	808.7	687.1	585.9	681.1	676.6	623.2	791.2	668.0	725.0	901.0
Less: NTI	16.9	28.3	30.2	16.9	32.4	32.6	16.9	35.7	35.7	16.9	34.5	34.6
Net total expenses	680.5	750.7	778.5	670.2	553.5	648.5	659.7	587.5	755.5	651.1	690.5	866.3



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

Particular	FY 13			FY 14			FY 15			FY 16		
	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission	MYT approved	Provisional true-up	Final true-up submission
PAF based incentive/disincentive			16.73			(22.99)			(24.13)			11.18
Total amount billed by TVNL as per accounts			810.8			481.3			692.2			815.0
Gap/(Surpluses) for the year			(15.62)			144.19			39.17			62.49

2.18.2 The regulatory provisions for Carrying Cost/Holding Cost provided in the JSERC Generation Tariff Regulations 2010 are extracted for reference as under:

*"6.16 If the Tariff already recovered is more than the Tariff determined after true up, the Generating Company shall refund to the Beneficiaries the excess amount so recovered along with simple interest at the rate equal to short term prime lending rate of State Bank of India as on 1<sup>st</sup> April of the respective Year.*

*6.17 Similarly, in case the Tariff already recovered is less than the Tariff determined after true up, the Generating Company shall recover from the Beneficiaries, the less recovered amount along with simple interest at the rate equal to short term prime lending rate of State Bank of India as on 1<sup>st</sup> April of the respective Year/Years subject to adhering to the timelines specified by the Commission for filling of True-up application. In case, it is found that the filling of True-up is delayed due to the reasons attributable to the Generating Company, the under recovery shall not bear any interest expenses.*

*6.18 The amount under-recovered or over-recovered, along with simple interest, shall be recovered or refunded by the Generating Company, in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission after the truing up exercise."*

2.18.3 The table below provides the computation of carrying cost and the resultant final true-up Surplus for the First Control Period of FY 2012-13 to FY 2015-16 as follows:

**Table 33: Total gap/(Surplus) and carrying cost (In Rs. Cr.) for the First Control Period**

Particular	FY 13	FY 14	FY 15	FY 16
Gap/(surplus) for the year	(15.62)	144.19	39.17	62.49
Carrying cost	(24.15)	201.83	49.11	69.12
Total revenue gap/(surplus)	(39.77)	346.03	88.28	131.61



True-up Petition for Tenughat Vidyut Nigam Limited for the First Control Period FY 2012-13 to FY 2015-16

---

Particular	FY 13	FY 14	FY 15	FY 16
Total revenue gap/(surplus) for the control period	<b>526.15</b>			



### Chapter 3: Prayer

TVNL respectfully prays to the Hon'ble Commission:

1. To admit this true-up Petition for the First Control Period of FY 2012-13 to FY 2015-16.
2. To approve Revenue Requirement and Capital Expenditure for the First Control Period of FY 2012-13 to FY 2015-16.
3. To approve the operational and financial parameters as proposed by TVNL considering the constraints of the old machines and consider the same for recovery of full fixed cost.
4. To approve the Station's operating parameters viz. PAF, Auxiliary Consumption, Station Heat Rate, Transit Loss, Specific Oil Consumption and actual fuel rate for recovery of variable cost considering the constraints of the old machines as well as site specific constraints.
5. To condone the delay in filing this Petition.
6. To grant any other relief as the Hon'ble Commission may consider appropriate.
7. To approve the ARR based on the operating parameters as per the norms provided in the Regulation and allow the Petitioner to retain the gains on account of the efficiency improvement in the Operating Parameters.
8. The Petitioner craves leave of the Hon'ble Commission to allow further submissions, addition and alteration to this Petition as may be necessary from time to time.
9. Pass any other order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.

Declaration that the subject matter of the petition has not been raised by the petitioner before any other competent forum, and that no other competent forum is currently seized of the matter or has passed any orders in relation thereto.