CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 107/GT/2015

Coram:

Shri A.K.Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member

Date of Order: 5.4.2018

IN THE MATTER OF

Approval of tariff of Koldam Hydroelectric Power Project (4 x 200 MW) for the period from COD of the station (18.7.2015) till 31.3.2019

AND

IN THE MATTER OF

NTPC Ltd
NTPC Bhawan,
Core-7, SCOPE Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003) **.....Petitioner**

Vs

1. Uttar Pradesh Power Corporation Limited
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226001

2. Jaipur Vidyut Vitran Nigam Ltd
Vidyut Bhawan, Janpath,
Jaipur 302 005

3. Ajmer Vidyut Vitran Nigam Ltd
Old Power House, Hathi Bhata,
Jaipur Road,
Ajmer

4. Jodhpur Vidyut Vitran Nigam Ltd
New Power House, Industrial Area,
Jodhpur

5. Tata Power Delhi Distribution Ltd
Grid Substation, Hudson Road
Kingsway Camp
Delhi – 110009

6. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place, New Delhi – 110019

7. BSES Yamuna Power Ltd
Shakti Kiran Building
Karkardooma
Delhi- 110092

8. Haryana Power Purchase Centre
Shakti Bhawan
Sector – VI, Panchkula
Haryana – 134 109

9. Punjab State Power Corporation Ltd
The Mall
Patiala – 147 001

10. Himachal Pradesh State Electricity Board Ltd
Kumar Housing Complex Building-II
Vidyut Bhawan
Shimla – 171 004

11. Power Development Department
Govt. of J&K,
Civil Secretariat
Srinagar

12. Electricity Department
Union Territory of Chandigarh
Addl. Office Building
Sector-9 D
Chandigarh

13. Uttarakhand Power Corporation Ltd.
Urja Bhavan
Kanwali Road
Dehradun – 248 001 **...Respondents**

Parties present:

Shri Ajay Dua, NTPC
Shri K. K. Narang, NTPC
Shri Sidhartha Shankar, NTPC
Ms. Vibhu Kaushal, NTPC
Shri Prashant Narayan Gaur, NTPC
Shri M.K Malviya, NTPC
Shri S. K. Agarwal, Advocate, Rajasthan Discoms
Shri A.P. Sinha, Advocate, Rajasthan Discoms
Shri Gaurav Priyadarshi, Advocate, TPDDL

ORDER

This petition has been filed by the petitioner, NTPC Limited for approval of tariff of Koldam Hydroelectric Project (4 x 200 MW) ('the generating station/project') for the period from the actual date of commercial operation (COD) of the generating station (18.7.2015) till 31.3.2019, based on the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014 ('the 2014 Tariff Regulations').

2. Koldam HEP is the first hydroelectric project of the petitioner comprising of 4 units, with a capacity of 200 MW each and located at river Sutlej in Bilaspur District of the State of Himachal Pradesh. The project is a run of the river scheme with pondage providing peak power of 800 MW at annual design energy of 3054.79 GWh in a 90% dependable year with 95% machine availability.

3. The Techno Economic Clearance of the project was granted by the Central Electricity Authority (CEA) on 30.6.2002 at a total project cost of ₹4527.15 crore (including IDC & FC of ₹992.62 crore at an exchange rate of 1 US$= ₹47.50 on the foreign component of the Project Cost & WCM of ₹34.37 crore) at the Price Level of December, 2001 and indicative estimated completed cost of ₹5340.07 crore (including IDC & FC of ₹1122.11 crore at an exchange rate of 1 US$=₹47.50 on the foreign component of the project cost & WCM of ₹40.54 crore). As per TEC, the last unit of the project was scheduled to be commissioned in April, 2009. Ministry of Power, Government of India had allocated the power generated from this generating station amongst the beneficiaries located in the Northern Region vide its letter reference No 5/7/2013-Th.II dated 9.7.2015 which was subsequently amended the same vide letter dated 10.2.2016.

4. The petitioner vide affidavit dated 30.3.2015 had claimed tariff based on the anticipated date of commercial operation of Units- I & II (1.7.2015) and Units-III & IV (31.7.2015) respectively. Subsequently, all the four (4) units of the generating station have been declared under commercial operation on 18.7.2015. The petitioner vide affidavit dated 30.7.2015 had submitted the audited balance sheet for the year 2014-15 in respect of the generating station. Accordingly, the capital cost as on 31.3.2015, after adjustment of liabilities, as furnished by the petitioner was as under:

(₹ in lakh)

Gross Block (Tangible and Intangible assets)	127294.78
Capital Works in Progress	541023.53
Actual Capital Expenditure as on 31.3.2015 (a)	**668318.31**
Current liabilities	
Trade Payable	702.96
Other current liabilities	11006.11
Short Term Provisions	7458.08

Non-current liabilities	
Other long term liabilities	109.59
Total liabilities as on 31.3.2015 **(b)**	19276.74
Total Capital cost as on 31.3.2015 (c)=(a)-(b)	**649041.57**

5. Accordingly, the Commission by order dated 2.9.2015 considered the capital cost of ₹551685.33 lakh (constituting 85% of the actual capital cost of ₹649041.57 lakh as on 31.3.2015) and granted interim tariff of the generating station for the period from 18.7.2015 to 31.3.2017, as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	**2016-17**
Depreciation	28862.52	28862.52
Interest on Loan	34351.61	31992.76
Return on Equity	35903.13	35903.13
Interest on Working Capital	3030.39	3025.83
O&M Expenses	13556.89	14457.06
Total	**115704.54**	**114241.30**

6. The interim tariff granted as above is subject to the determination of final tariff of the generating station based on the recommendations of the Designated Independent Agency (DIA) on Vetting of capital cost and time overrun of the generating station. Also, the Commission by letter dated 8.1.2016 directed the petitioner to file revised petition taking into account the actual COD of the generating station. Accordingly, the Petitioner vide affidavit dated 28.6.2016 has amended the petition and revised the annual fixed charges of the generating station claimed, based on the capital expenditure incurred upto the actual COD of the generating station, duly certified by auditors along with projected additional capital expenditure from COD till 31.3.2019. Based on this, the revised annual fixed charges claimed by the petitioner vide affidavit dated 28.6.2016 is as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	**2016-17**	**2017-18**	**2018-19**
Depreciation	33786.44	34598.07	35465.42	35707.52
Interest on Loan	42605.78	40898.55	38628.37	35360.05
Return on Equity	43660.54	44709.38	45830.21	46143.07
Interest on Working Capital	3759.34	3829.00	3893.03	3905.78
O&M Expenses	18028.95	19226.08	20502.69	21864.07
Total (Annualised)	**141841.05**	**143261.08**	**144319.72**	**142980.49**
₹ /kWh of Saleable Energy	**5.391**	**5.445**	**5.485**	**5.434**

7. The Commission vide Record of the Proceedings dated 20.5.2016 directed the petitioner to submit additional information / documents on the following:

> *"a) Documentary proof for each interest rate reset for each loan since infusion, i.e.2007-08 to 2015-16.*
>
> *b) Sanction letter for clearance as referred in Form-9(A), in respect of the forest land (leasehold), additional forest land measuring 44.86 ha which was identified in the Majathal wildlife sanctuary for which clearance was given under FCA 1980 vide letter dated 18.2.2015.*
>
> *c) The Deputy Commissioner, Bilaspur, vide letter dated 24.5.2011 had directed to deposit Rs.78.00 crore towards LADF. However, a claim for Rs.57.52 crore in Form 9(a) has been made. This discrepancy in regard to the claim for Local Area Development Fund shall be clarified.*
>
> *d) As per the MOU dated 3.5.2012, the construction of Engg. College was to be completed within a period of 5 yrs from the date of MOU and the payment towards the same was to be made after completion of different milestones as per the MOU. It appears that an amount of Rs.7.50 crore has to be paid per year for a continuous period of 5 yrs. The status of the construction of Engg. College and the details of the payments made, if any shall be submitted.*
>
> *e) With regard to land acquisition for office, admin, details of Rs.776.18 lakh incurred up to December, 2014 (as per Form-9A). However, the reasons for claiming Rs.50.00 lakh per year towards the same for the period 2015-16 to 2017-18 shall be submitted.*
>
> *f) Detailed reasons for the significant increase in environment and ecology cost from Rs.9716.02 lakh as per Investment Approval to an estimated cost of Rs.45574.00 lakh.*
>
> *g) Report of the DIA along with documentary evidence in justification of the reasons for time overrun, on account of law and order problems and geological surprises."*

8. The petitioner has filed the additional information as sought for by the Commission and has served copies of the same on the respondents. Reply to the petition has been filed by the respondents, UPPCL and Rajasthan Discoms and the petitioner has filed its rejoinder to the said replies. The Commission after hearing the parties reserved order in the petition on 22.12.2016. Based on the submissions of the parties and the documents available on record, we now proceed to determine the tariff of the generating station, on prudence check, as stated in the subsequent paragraphs.

Capital Cost of project

9. The Techno Economic Clearance (TEC) of the project was granted by the Central Electricity Authority (CEA) on 30.6.2002 at a total project cost of ₹452715 lakh (including IDC & FC of ₹99262 lakh at an exchange rate of 1 US$=₹47.50 on the foreign component of the Project Cost & WCM of ₹3437 lakh) at the Price Level of December, 2001 and indicative estimated completed

cost of ₹534007 lakh (including IDC & FC of ₹112211 lakh at an exchange rate of 1 US$=₹47.50 on the foreign component of the project cost & WCM of ₹4054 lakh). As per TEC, the last unit of the project was scheduled to be commissioned in April, 2009. However, the actual COD of the project is 18.7.2015, and hence there is a delay of 75 months (approx.) from the scheduled date of commissioning.

10. The petitioner has submitted that the original capital cost of the generating station increased during implementation of the project due to reasons, which are attributable to Geological surprises, Change of scope, Price escalation and issues pertaining to Wild Life Sanctuary at Majathal etc. Accordingly, the Board of the Petitioner company at its 401st meeting held on 24.12.2013, accorded approval of the Revised Cost Estimate-I (RCE-I) of the project at a cost of ₹721980 lakh (including IDC & FC of ₹219941 lakh & WCM of ₹5165 lakh) at the 3rd Quarter 2013 Price level. Thereafter, the Board of Petitioner company on 30.5.2016, accorded approval of the Revised Cost Estimate-II (RCE-II) of the project as ₹764129 lakh (including IDC & FC of ₹214067 lakh, Exchange Rate Liability of ₹9717 lakh & WCM of ₹5165 lakh). The petitioner, in this petition has claimed the capital cost of ₹689957.00 lakh, excluding liabilities amounting to ₹18077.55 lakh up to COD and capital cost of ₹733232.72 lakh up to the cut-off date.

Time Overrun

11. As per TEC, the last unit of the project was scheduled to be commissioned in April, 2009. As such, there is time overrun of 75 months (approx.) and cost overrun involved in the execution of the project from the scheduled date of commissioning of the project.

12. Regulation 10(2) of the 2014 Tariff Regulations provides for the Vetting of capital cost of hydro power projects by Designated Independent Agencies (DIA) or experts designated by the Commission. In this regard, Commission has empanelled independent agencies for vetting of capital cost of new hydro power projects and by order dated 2.8.2010, has issued guidelines for vetting of capital cost by DIA or experts. In terms of this, the petitioner had engaged M/s. Aquagreen Management Private Limited (AEMPL) as the DIA for vetting of the capital cost. The DIA has submitted its report on 13.9.2016. Copy of the DIA report has been served on the

respondent beneficiaries and the respondents UPPCL and the discoms of Rajasthan have filed its reply/response.

13. The DIA in its report has considered the documents / information / clarification furnished by the petitioner in respect of the project and has furnished its recommendations on the issue of Time and Cost overrun including the capital cost of the generating station. The respondent, UPPCL has prayed that the Commission shall conduct prudence check of the reasons involved in the Time and Cost overrun of the project. It has also submitted that the RCE furnished by the petitioner should be approved by the Ministry of Power, GOI. In response, the petitioner has clarified that the Board of the Petitioner Company is empowered to approve the RCE and the same may be considered for purpose of tariff. In this background, we proceed to examine the report of the DIA on Time and Cost overrun and the capital cost of the project, considering the submissions of the parties and documents available on record, as stated below.

14. As per TEC, the last unit of the project was scheduled to be commissioned in April, 2009. However, the generating station achieved commercial operation on 18.7.2015, thereby causing a delay of 75 months from the scheduled date of commissioning of the project. The petitioner has furnished the detailed justification for Time overrun vide affidavit dated 28.6.2016 and for Cost overrun vide affidavit dated 15.9.2016. The main reasons for Time overrun as submitted by the petitioner and considered by the DIA are as follows:

(a) **Law & Order Problems**
- (i) Obstruction on approach road to Main Dam
- (ii) Illegal strikes
- (iii) Dumper operators shutdown
- (iv) Agitation by Land oustees

(b) **Natural Geological Reasons**
- (i) Work affected due to Flash flood
- (ii) Work affected due to landslide
- (iii) Right Bank Slide>EL535
- (iv) Right Bank Slide<EL535
- (v) Left Bank Seepage

(c) Execution of Additional Quantities due to Geology

(d) Statutory Restrictions

(e) Delay due to Majathal Wild Life Sanctuary

Analysis and decision on Time overrun

15. The timeline for completion of the project from the zero date i.e. Investment Approval dated 28.10.2002, is 78 months. Against this, the petitioner has taken 153 months for completion of the project, thereby resulting in the time overrun of 75 months. The DIA in the findings has observed that the entire delay of 75 months is not attributable to the petitioner. On scrutiny of the reasons and the justification submitted by the petitioner for the delay and the findings of the DIA, the delay of 75 months is discussed hereunder.

16. In order to work out the quantum of delay in the execution of various activities/ sub-activities related to the critical path i.e main dam construction and subsequent delay in the commissioning of the project, we first tabulate the activities for analysis, as under:

Activity	Scheduled Start (a)	Scheduled completion (b)	Actual start (c)	Actual completion (d)	Delay (days) in completion of the activity (b)-(d)
Main dam construction - Excavation	12.3.2004	11.2.2005	9.9.2004	7.4.2007	785 (26 months) (*approx)*
Main dam construction - Grouting below EL 520	12.12.2004	10.4.2005	15.6.2006	18.6.2007	800 (26.5 months)
Main Dam Construction – Clay Filling	11.4.2005	10.1.2008	31.1.2007	31.3.2013	1907 (63.5 months)
Impounding and commissioning of all units (station)	12.1.2008	30.4.2009	3.11.2014	18.7.2015 (COD)	2270 days (75 months) *(approx)*

<u>Delay during Main dam Construction – Excavation</u>

17. The original schedule for Main Dam Construction-Excavation was for 11 months, i.e from 12.3.2004 to 11.2.2005. It is however noticed that this activity could start only from 9.9.2004 and was completed on 7.4.2007. Hence, there is a total delay of 785 days (26 months) with regard to the scheduled completion of this activity. The petitioner has attributed the said delay of 26 months to different events namely (a) the Obstruction & Law and Order problems (b) Flash floods, Landslides and Right Bank Slides (c) increase in excavation quantity due to slides and (d) Execution of additional BOQ quantity. The DIA after scrutiny of the justification and documents furnished by the Petitioner, in its report dated 13.9.2016 has held as under:

"The main dam of Kol Dam HEP is rock-fill dam with clay core. The height of the dam is 167 m from the deepest foundation level. The top of the dam is at EL. 648.0 m and the full reservoir level corresponds to EL. 642.0 m. The excavation for the placing the dam on rock foundation was started by abutment stripping. The total time delay as per the generating company has been shown in Table 10.

Table 10: Time Overrun in Main Dam Excavation Activity

Main Dam excavation	***12-Mar-04***	***7-Apr-07***
Obstruction of land owner on Road No. 13	*12-Mar-04*	*13-Jul-04*
Law and order problem due to illegal strike	*14-Jul-04*	*4-Aug-04*
Obstruction on Road No. 13	*5-Aug-04*	*8-Sep-04*
Execution of BOQ quantity @ L2 rate	*9-Sep-04*	*25-Jun-05*
Work affected due to Flash Flood	*26-Jun-05*	*15-Jul-05*
Execution of BOQ quantity @ L2 rate	*16-Jul-05*	*30-Aug-05*
Execution of additional BOQ quantity @L2 rate	*31-Aug-05*	*8-Sep-05*
Work affected due to landslide	*9-Sep-05*	*27-Sep-05*
Execution of additional BOQ quantity @L2 rate	*28-Sep-05*	*13-Jan-06*
Right Bank Slide>EL535	*14-Jan-06*	*25-Sep-06*
Right Bank Slide<EL535	*26-Sep-06*	*7-Mar-07*
Execution of additional BOQ quantity@ L2 rate	*8-Mar-07*	*7-Apr-07*

Delay due to law and order problem created by Sh. Chandu Ram and illegal strike by workers

- *Delay of 159 days for obstruction on Road No.13 due to house of Sh. Chandu Ram, excluding Strike from 14.07.04 to 04.08.04 (21 days) i.e.*
- *From 12.03.04 to 13.07.04 (obstruction on Road No. 13) – 124 days*
- *From 14.07.04 to 04.08.04 (Strike by workers) - 21 Days*
- *From 05.08.04 to 08.09.04 (obstruction on Road No. 13) – 35 days*

Delay due to increase in excavation quantities

The time as per schedule for excavation above river level was 244 days for a quantity of 7.8 Lakh cum @3197 cum/day. However due to quantity increase this activity could not be completed and was in progress when right bank slide occurred. After occurrence of slide, excavation above river level and below river level was carried out together. Hence, these two activities should be clubbed together. The total quantity of these two activities was 9.8 Lakh Cum as per L2.

According to as built drawings final excavation quantity increased from 9.8 to 14.11 Lakh cum for excavation above river level.

Delay due to flash floods and heavy rains

Further, the project was struck by heavy rains and flash floods in the month of Jun'05, Jul'05 and Sep'05 leading to frequent stoppage of work. Hence the delay has been considered on account of flash floods and heavy rains causing land slide.

Delay due to geological occurrence of right bank slide

Actual time delay due to:

- *Right Bank Slide > EL535*
- *Right Bank Slide < EL535*

From 08.03.07 to 07.04.07 (Excavation of additional BOQ quantity):

The original schedule for the dam excavation was supposed to be completed by 11th February, 2005 which is roughly about 11.5 months from the start date of 12th March, 2004 but due to the above mentioned reasons, the dam excavation was completed only by 7th April, 2007 which is about 26 months later than the original scheduled date of completion.

Main Dam excavation	***Start Date***	***End Date***
As per Original L2 schedule	*12-Mar-04*	*11-Feb-05*
Actual Execution	*12-Mar-04*	*7-Apr-07*
As per DIA	*12-Mar-04*	*7-Apr-07*

DIA has reviewed the information provided by the generating company for time delay and found that the time delays are justified."

Commission's View

18. Based on the above deliberations in the DIA report and on prudence check, we are of the considered view that delay of 26 months due to law & order problems, flash floods, geological occurrence etc., as above towards Main Dam Construction- Excavation is not attributable to the petitioner. Accordingly, the delay of 26 months on this count is condoned.

Delay during Main dam Construction – Grouting below EL 520

19. The original schedule for Main Dam Construction – Grouting below EL-520 was for a period of 4 months i.e from 12.12.2004 to 10.4.2005. However, the actual time taken for the completion of grouting was 12 months i.e from 15.6.2006 to 18.6.2007. As such, there has been a total delay of 800 days (26.5 months) for the completion of "Grouting". The petitioner has submitted that the said delay is attributable to the cascading effect of delay in previous activities and the increased grouting requirements on account of additional excavation. In this connection, DIA in its report has observed the following:

"Since the excavation of the main dam was already delayed by 26 months, the generating company from its end did take up the activity of foundation grouting earlier than scheduled to make up the lost time. Originally, the foundation grouting was supposed to be started 2 months prior to the completion of dam excavation but the generating company did indeed take up the grouting below EL. 520.0 m about 10 months prior to completion of dam excavation. Yet the additional quantity of grouting resulted due to increase of excavation led to delay in completion of grouting. As per the original schedule, the grouting was scheduled to start on 12th December, 2004 and was to be completed by 10th April, 2005 but grouting was only taken up on 15th June, 2006 and completed by 18th June, 2007.Delay in excavation carried out below river bed had cascading effect on this activity, however, due to early start of this activity, delay was absorbed to the extent the work was executed at site.

Delay due to increase in grouting quantities

Original envisaged quantity was 15 km and activity time 119 days. Quantity increased by 11.25 km due to poor geological conditions and actual execution at site.

Delay due to quantity Increase for Grouting in River Bed

The amount of grouting in any river valley project is highly uncertain and dependent upon geological conditions. Significant variation in grouting quantities was envisaged at the time of DPR preparation.

The geology volume of the DPR reported that the drilling and water pressure testing indicates that the permeability of the limestone and dolomite foundation parallel to the bedding is significant and that the water table is close to the river level (although effluent ground water conditions prevail). However, the permeability in a direction across the shale interbeds which form a series of aquicludes in an upstream-downstream direction will be much less. Nevertheless a significant program of foundation grouting could be anticipated.

In addition to the above, the grouting area in river bed was very steep and narrow. This limited the number of the equipment that could be deployed to grout the foundation area. Thus it was not possible to accelerate the woks by deploying more equipment.

DIA reviewed the documents justifying the cause of delay and recommend that the delay caused is not attributable to the generating company."

Commission's view

20. It is observed that against the time period of 4 months for completion of the work, the petitioner had taken 12 months in the completion of this activity. However, due to the early commencement of the said work (as against the schedule start of work), the petitioner has contained the delay effectively to 15 days, after adjustment of the delay which has been condoned towards the work of Main Dam- Excavation activity. We are of the considered view that the delay of 26.5 months up to completion of grouting work was due to cascading effect of the delay in excavation carried out below the river bed and the consequential increase in the Grouting quantity/activity. In view of this, we hold that the said delay is beyond the control of the petitioner and is therefore condoned.

<u>Delay during Main Dam Construction – Clay filling</u>

21. It is noticed that the original time schedule for Clay filling was 33 months from 11.4.2005 to 10.1.2008. However, the actual time taken for the completion of Clay filling was 74 months i.e from 31.1.2007 to 31.3.2013. Thus, the petitioner has incurred an additional time period of 41 months (approx.) for the completion of this activity. As such, considering the scheduled date of completion to the actual date of completion of the said work, there has been a delay of 1907 days (63.5

months-approx) in the completion of this activity. Also, after accounting for the delay of 26.5 months towards Main Dam Construction-Clay filing activity which has been condoned, as above, there is an effective delay of 37 months for execution of this work. In this regard, the DIA in its report has observed as under:

"The next activity to be taken up on completion of the foundation grouting was the main dam embankment filling. It was taken up simultaneously where the foundation grouting was completed. The generating company has reported that the delay already caused due to dam excavation and dam foundation grouting has impacted the embankment filling of main dam. The generating company has reported that in addition, the following reasons also caused further delay in the completion of the Project:

- *Delay in embankment filling due to clay core seepage in the left bank*
- *Restricted clay filling due to restriction of movement of trucks which transported clay from the borrow area to dam site.*
- *Deletion of previously identified borrow area (Slapper Clay borrow area)*
- *Delay due to additional quantities*
- *Delay due to monsoon*
- *Law and Order problem at site*

*The time overrun incurred in clay filling activity is given in **Table 11.***

Table 11: Time Overrun in Clay filling Activity

Clay Filling		
Clay filling before schedule	*31-Jan-07*	*28-Jun-07*
Left Bank Seepage	*29-Jun-07*	*5-Jan-08*
Execution of BOQ quantity @ L2 rate	*6-Jan-08*	*30-Apr-08*
Limited progress due to restriction by state authorities	*1-May-08*	*31-May-08*
Clay transportation stopped due to unforeseeable rains	*1-Jun-08*	*30-Jun-08*
Limited progress due to restriction by state authorities	*1-Jul-08*	*31-Jul-10*
Clay transportation stopped due to unforeseeable rains	*1-Aug-10*	*31-Aug-10*
Limited progress due to restriction by state authorities	*1-Sep-10*	*14-Sep-10*
Additional time due to restriction by state authorities	*15-Sep-10*	*21-Oct-10*
Dumper Operators Shutdown	*22-Oct-10*	*15-Nov-10*
Additional time due to restriction by state authorities	*16-Nov-10*	*17-Mar-11*
Dumper Operators Shutdown	*18-Mar-11*	*5-Apr-11*
Additional time due to restriction by state authorities	*6-Apr-11*	*21-Jul-11*
Additional time due to shifting of clay borrow area	*22-Jul-11*	*31-Jul-11*
Clay transportation stopped due to unforeseeable rains	*1-Aug-11*	*31-Aug-11*
Additional time due to shifting of clay borrow area	*1-Sep-11*	*31-Dec-11*
Clay transportation stopped due to unforeseeable rains	*1-Jan-12*	*31-Jan-12*
Additional time due to shifting of clay borrow area	*1-Feb-12*	*31-Jul-12*
Clay transportation stopped due to unforeseeable rains	*1-Aug-12*	*31-Aug-12*
Additional time due to shifting of clay borrow area	*1-Sep-12*	*23-Sep-12*
Additional time due to additional monsoon seasons	*24-Sep-12*	*9-Jan-13*
Execution of additional BOQ quantity @L2 rate	*10-Jan-13*	*11-Feb-13*
Agitation by land oustees	*12-Feb-13*	*5-Mar-13*
Execution of additional BOQ quantity @ L2 rate	*6-Mar-13*	*31-Mar-13*

Although, the generating company has reported that they suffered delays due to rains, the consultant does not agree with such justifications as major Projects such as Koldam

HEP have employed reputed contractors who have the capabilities to restore the lost time lost due to seasonal rains.

The DIA agrees with the generating company on the delays suffered due to transportation of construction material from the borrow area to site due to movement restrictions issued by the District Administration of Sundarnagar. Further, the non-availability of the pre-assigned clay borrow area identified in the DPR during the time of construction hampered the progress. In addition, the delay due to the law and order problem at site has been considered as valid delays during this phase of construction of the project. The consultant has gone through the calculations such as cycle time for placing for dam embankment filling and also the instructions issued by the State Authorities with respect to restricted movement of trucks for transporting materials as well the law and order problems faced by the generating company.

The DIA is agreeing to all the delays except the delay due to rains as reported by the generating company. Therefore, the works of dam clay filling could have been completed by 31st August 2012 instead of the actual completed date of 31st March, 2013. Thereby, allowing the process of impounding the reservoir from 1st September, 2012.

Main Dam Clay Filling	***Start Date***	***End Date***
As per Original L2 Schedule	*11-Apr-05*	*10-Jan-08*
Actual Execution	*31-Jan-07*	*31-Mar-13*
As per DIA	*31-Jan-07*	*31-Aug-12*

Commission's view

22. As per original schedule, the clay filling work was to be started from 11.4.2005, after the scheduled completion of the Grouting work (10.4.2005). However, due to the delay in the previous activities, it is noticed that the petitioner had started the actual clay filling activities much earlier than the actual completion date of Grouting, in order to make up for the delay caused by the previous activities. It is further noticed that the DIA had not condoned the stoppage of work for 7 months (approx.) due to rain, by observing that major projects (like Koldam HEP) should have employed reputed contractors who have the capability to restore the lost time due to seasonal rains. Accordingly, DIA has suggested that the activity of Clay filling should have been completed by 31.8.2012 instead of 31.3.2013.

23. In consideration of the submissions of the petitioner and the observations of the DIA, we are of the considered view that reasons for delay due to Clay core seepage in the left bank, Restriction of movement of trucks which transported clay from the borrow area to dam site, Execution of additional quantity of work, Law and Order problems at site etc., are all factors which cannot be attributable to the petitioner. As regards the observations of the DIA that the delay due

to rain cannot be condoned and such activity of Clay filling should have been completed by 31.8.2012, instead of 31.3.2013, we notice that the said period of delay is of no consequence as the DIA, while considering the delay in completion of the activity namely, the Main Dam Construction – Impounding and Commissioning, had condoned the total delay of 75 months up to COD stating that the reasons for delay are not attributable to the petitioner. Though the delay for the period from 31.8.2012 to 31.3.2013 gets subsumed in the delay due to the activity of impounding and commissioning/COD, we hold that the delay under this head is attributable to the petitioner. For the present, since the item wise expenditure is not available, we are not making any deductions for the same presently. The same will be adjusted at the time of true up after submission of relevant information in this regard by the petitioner.

Delay during Main Dam Construction – Impounding and Commissioning/COD

24. As per TEC, the original schedule for Impounding & Commissioning of project was 15.5 months (approx.) i.e from 12.1.2008 to 30.4.2009. Against the above time period, the petitioner could start the work of Impounding only from 3.11.2014 and could declare the commercial operation of the generating station on 18.7.2015. Thus, there is a time overrun of around 2270 days (75 months approx.) in the declaration of COD of the generating station, as compared to the scheduled date of commissioning of the station.

25. As regards the delay of 75 months up to the declaration of COD on 18.7.2015, it is noticed that the same includes the stoppage of work after 31.3.2013 (i.e end of clay filling activity) till 3.11.2014 (i.e start of impounding). In this connection, DIA in its report has observed as under:

> *"Though the main dam works were completed by March 2013, the reservoir impounding could not be started due to Majthal Wildlife area falling under submergence of Koldam Reservoir. The brief summary of the Majathal Wildlife Sanctuary that has controversially delayed the Project is described below;*
>
> *Koldam was initially conceived by Himachal Pradesh State Electricity Board and later transferred to NTPC for executing the Project. Consequent upon Tripartite Agreement among Govt. of Himachal Pradesh, HPSEB and NTPC, forest clearance of diversion of 954 ha of forest land for construction of Koldam was transferred in favor of NTPC on 23.11.2000. In this clearance there is no mention of forest land falling in Majathal Wild Life area.*
>
> *The letter of Environmental Clearance and Forest Clearance accorded by the concerned statutory authorities to HPSEB and the transfer of the clearances to Koldam HEP along with the affidavit submitted to DIA.*

However, after commencement of construction activities, Forest department of GoHP informed that some portion of diverted Forest land is falling in Majathal Wildlife Sanctuary through its letter WLM/3428 dated 30th October, 2004. Following this letter, the Principal Conservator of Forest (PCCF), Himachal Pradesh had written to the generating company asking for verification of Majathal Wildlife Sanctuary.

The subsequent works of identification of the forest land required by the generating company was forwarded to the concerned State Authorities who had confirmed that the demarcation of Majathal Wildlife Sanctuary was incorrect and proper exercise of demarcating the same would need to be carried out on priority including the areas coming under the jurisdiction of Shimla and Solan Districts of Himachal Pradesh. Thereafter in a meeting chaired by the PCCF, Himachal Pradesh (H.P) in July 2007, it was decided that the demarcation would be done by the revenue officials including the representative of the Forest Dept. and that of generating company.

Also, an application was filed in the Central Empowered Committee (CEC), Supreme Court of India regarding the forest land involved in Majathal Wildlife Sanctuary in September, 2006. Following the application, the PCCF, H.P had instructed his dept. to speed up the works of demarcation so that replies can be made to the application submitted to CEC. Subsequently, the demarcation was carried out as agreed earlier.

Resurvey was carried out wherein 124.0541 ha area is found falling in Majathal Wild life Sanctuary. This constitutes 79.1946 ha of forest land already transferred and 44.8595 ha of additional forest land requiring diversion. Accordingly, Forest department of Govt. of Himachal Pradesh advised NTPC to obtain clearance under Wildlife (Protection) Act 1972 and consequent to the above diversion under Wildlife Protection Act, to obtain diversion of identified additional 44.8595 ha of Forest land under Forest Conservation Act of 1980.

Finally, after much deliberation with the forest dept., revenue officials and other concerned authorities the generating company applied for diversion of forest land coming under Majathal Wildlife Sanctuary in Aug, 2008 to the PCCF, H.P who in turn directed the generating company to file the application to the CEC. The generating company filed the application in December 2008 simultaneously at the State Wild Life Board for the diversion of forest land. The CEC in its letter of February 2009 directed the generating company to first get the recommendation of the State Wildlife Board for the proposal of diversion of forest land. The State Wildlife Board forwarded the proposal with its recommendations to the Standing committee of National Wildlife Board (NBWL) for consideration and approval in the meeting held in October 2010 and the standing committee rejected the proposal based on its assessment that large number of trees are coming under submergence.

The generating company further pursued the proposal of diversion of forest land under the Majathal Wildlife Sanctuary with the Chief Secretary of Govt. of H.P. and meeting was called in November 2010 under the Chairmanship of Additional Director General of Forest (WL). The meeting ended with the decision to study the number of trees that will be affected due to reduction of dam height by 2 m, 3 m and 4 m along with the representatives of the forest dept. The generating company conducted the studies relating to varying height of dam and submitted its findings to the Ministry of Environment and Forest (MoEF). The generating company sought the clearance of the diversion of forest land based on its findings and reported that Koldam HEP was almost 70% complete with an expenditure of about Rs. 3380 crore. The generating company had even agreed to reduce the dam height by a meter to compensate the diverter forest land.

Further the Additional Chief Secretary (Forests) Govt. of H.P. forwarded the revised proposal diversion of forest land in Majathal Wildlife Sanctuary along with the proposal of levying a sum equal to 5% of the project cost as a corpus fund for wildlife conservation and management. Subsequently, the generating company brought to fore that the levying of 5% of total cost would render the Koldam HEP unviable and hence requested the concerned office to reconsider the proposal. In light of the above request the Govt. of H.P agreed to revise the earlier levy and charged an additional Rs. 10.54 crore for wildlife management.

The generating company again forwarded the proposal of diversion of forest land in Majathal Wildlife Sanctuary to the NBWL in its 28th Meeting held in March 2013 and the same was rejected again as the committee observed that the information given in the earlier proposal was wrong and that Majathal Wildlife Sanctuary was an excellent habitat for Cheer Pheasant and also pointed out that the generating company had gone ahead with construction without availing the mandatory clearances.

The generating company presented the proposal again in the 29th meeting of NBWL in June 2013 wherein the members highlighted the following main points:

- *The issue of destruction of Cheer Pheasant and cutting of trees is a matter of concern but the larger issue was the blatant violation on the part of the Generating Company of the Wild Life (Protection) Act, 1972.*

- *Himachal Pradesh Govt. has issued notification of intent of forming Majathal Wildlife Sanctuary in 1974 and that the generating company has started construction of the project without acknowledging the fact that Sanctuary Land was involved.*

- *There was a lapse on the part of the Forest Dept. of Himachal Pradesh and that the project was granted clearance under the FC act and subsequently availed EC for the project.*

- *The generating company has started work on presumptions which should not be the case when huge public money is involved.*

- *The committee further pointed rejecting the proposal was not an option as the project had a huge amount of public money spent in construction and as a mitigation measure recommended acquiring 500 ha of land outside the project area and add it to the sanctuary.*

- *The committee also wanted to know as to who was responsible for such violations.*

The Addl. Chief Secretary, Govt. of H.P. indicated that there was an omission which was primarily on the part of Govt. of H.P and that the generating company was not guilty. This paved the way for NBWL clearance which was also recommended to CEC for approval in December 2013, subjected to the conditions imposed while disposing off the application.

Subsequently, proposal for diversion of additional 44.8595 ha of forest land was considered by Forest Advisory Committee on 30.05.2014 and Stage-I Forest clearance was accorded on 07.10.2014. Due to new requirement of clearance under Forest Rights and Traditional Dwellers Act 2006, the FRA certificates were obtained from concerned Dy. Commissioners, Solan on 20.12.2014 & Shimla 24.12.2014. Based on above, Stage - II forest clearance for diversion of additional 44.8595 ha of Forest land was accorded in February 2015.

The generating company started the filling of the reservoir post February, 2015 while the Project was complete in all aspects and ready for testing & commissioning in March 2013. The generating company also undertook certain measures such as deploying high powered pumps to pump water from the reservoir to conduct the wet testing of equipment which resulted in mitigating time delay to the extent of 401 days (which is roughly about 13 months) in commissioning the Project.

The complete details with regard to the diversion of forest land within Majathal Wildlife Sanctuary were submitted by the generating company for review by DIA.

26. With respect to issues pertaining to Majathal Wildlife Sanctuary, the observations of DIA are as under:

- *Majathal Wildlife Sanctuary was identified in the year 1974 and came into being in the year 1999 through a notification issued in this regard by the concerned statutory authority.*

- *The construction of Koldam HEP was started in June 2002 subsequent to a Tripartite Agreement between the State of Himachal Pradesh, Himachal Pradesh State Electricity Board and the generating company in 2000.*
- *The Project was accorded Forest Clearance and subsequently Environment Clearance in the year 2000.*
- *The first instance of the generating company knowing of the submergence of Majathal Wild Life Sanctuary was in October 2004.*
- *As per the submission of the Addl. Chief Secretary (Forest) of Govt. of H.P, the state forest dept. had an omission on their part and the generating company was not at fault.*
- *The generating company as per the affidavit had fulfilled all the stipulations laid down by the concerned statutory authorities from time to time as per the terms of the Forest and Environment Clearance.*
- *The Project was completed in March 2013 and was awaiting diversion of forest land of Majathal Wild Life Sanctuary for testing and commissioning.*
- *The final clearance for diversion of forest land with the Majathal Wildlife Sanctuary was accorded in February 2015.*
- *The total time taken for the issues of Majathal Wild Life Sanctuary to get solved was close to ten and a half years.*
- *The generating company could have possibly avoided the time delay due to the Majatha Wild Life Sanctuary issue if a due diligence study of the project was carried out wherein the status of the submergence land would have possibly be revealed much earlier than October 2004 and the mitigation measures could have been taken up immediately.*

27. Accordingly, the DIA in its report had recommended the following:

I. The generating company has experienced delays in the completion of Koldam HEP due to geological reasons, law & order problems, environmental issue i.e. Majathal Wild Life Sanctuary which is very unique to this Project. Hence, the time overrun due to these reasons is not attributable to the generating company.

II. Apart from the above, the generating company has also experienced delays in completing the other components of the Project which did not have any direct impact on the schedule of completion as the main dam works were on the critical path.

III. Therefore considering the decisions already taken by the Hon'ble Central Empowered Committee of the Supreme Court of India, National Board of Wild Life, State Wildlife Board and the Forest Dept. of Govt. of Himachal Pradesh, the DIA recommends the total time overrun of 75 months for the purpose of computing the Capital Cost of the Project.

Commission's view

28. It is therefore clear from the observations of the DIA that the petitioner cannot be faulted for the stoppage of work on environmental issues pertaining to Majathal Wild Life Sanctuary. Also, from the submissions of the Additional Chief Secretary (Forest) of the Govt. of H.P, it is evident that there has been certain omission from the Forest Department of Govt. of H.P for which the

generating company cannot be responsible. After the stipulations were fulfilled, NBWL clearance was obtained and was recommended to CEC for approval in December, 2013. Also, the final Forest clearance for diversion of additional 44.8595 ha of Forest land was accorded in February, 2015. In this background, the Commission is of the considered view that the Stoppage of work for the period from 31.3.2013 (i.e. actual completion of dam construction) to 2.11.2014 (i.e. start of impounding activities) due to issues pertaining to Majathal Wild Life Sanctuary cannot be said to be attributable to the petitioner. Also, considering the fact that the actual time of 8.5 months taken by the petitioner towards the activity of Impounding and declaration of COD (i.e between 3.11.2014 to 18.7.2015) is less than the scheduled time of 15.5 months (approx.), we are inclined to hold that the total time overrun of 75 months is not attributable to the petitioner. Accordingly, the delay on this count is condoned.

Cost overrun

29. The DIA in its report has compared the capital cost incurred till COD of the generating station with the TEC approved cost, in order to arrive at the head-wise cost overrun. The same is tabulated as under:

(₹ in lakh)

Sl. No.	Description	Completion Cost as on COD	Liability	Total Capital Cost as on COD	TEC approved cost	Cost overrun till COD
A) Civil Works						
	Direct Charges					
	I-WORKS					
1	A-Preliminary	9902.18	694.06	10596.24	5282.75	5313.49
2	B-Land	90604.67	7457.91	98062.58	52549.55	45513.03
3	C-Civil Works	123485.93	528.47	124014.40	80127.65	43886.75
4	J-Power Plant Civil Works	58017.97	647.46	58665.43	86812.12	(-)28146.69
5	K-Buildings	3327.89	104.21	3432.1	2737.98	694.12
6	M-Plantation	174.69	-	174.69	94.3	80.39
7	O-Miscellaneous	3178.8	87.33	3266.13	7216	-3949.87
8	P-Maintenance during Construction	3308.76	-	3308.76	1865.37	1443.39
9	Q-Special T&P	221.45	-	221.45	344.15	(-)122.7
10	R-Communication	5863.09	21.66	5884.75	9217.5	(-)3332.75
11	X-Environment & Ecology	43903.32	-	43903.32	9716.02	34187.3
12	Y-Losses on stocks	-	-	-	466.34	(-)466.34
	Total of I-Works	341988.76	9541.1	**351529.85**	**256429.73**	**95100.12**
13	II - Establishment	64978.12	-	64978.12	20270.12	44708
14	III - Tools and Plants (1% of I-Works)	-	-	-	2640.72	(-)2640.72

15	IV - Suspense	-	-	-	-	
16	V - Receipt & Recoveries on capital Account	-	-	-	(-)144.64	144.64
	Total of Direct Charges	**406966.87**	**9541.1**	**416507.97**	**279195.93**	**137312.04**
	Indirect charges					
17	Audit and Accounts (Booked in Establishment)	-	-	-	2640.72	(-)2640.72
18	Abatement of land revenue	-	-	-	898.63	(-)898.63
	Total of Indirect Charges	-	-	-	**3539.35**	**(-)3539.35**
	Total of Cost of Civil Works	**406966.87**	**9541.1**	**416507.97**	**282735.28**	**133772.69**
B) Electro-Mechanical Works						
19	S. Power Plant and E&M Works	53973.43	7602.46	61575.89	59639.36	1936.53
20	Hydro-mechanical Works	6085.49	933.99	7019.48	7642.07	(-)622.59
C) Total Hard Cost (Civil + E&M)		467025.79	18077.55	**485103.34**	**350016.71**	**135086.63**
D) Interest During Construction (IDC)		223328.81	-	223328.81	**97044.05**	**126284.76**
E) Financial Charges (FC)		-	-	0.00	2217.89	(-)2217.89
F) Sale of Infirm Power		(-)7562.65	-	(-)7562.65		(-)7562.65
WCM					3436.66	
G) Total Project Cost including WCM		**682791.95**	**18077.55**	**700869.5**	**452715.31**	
Total Project Cost excluding WCM				**700869.5**	**449278.65**	**251590.85**

30. The DIA, after arriving at the head-wise cost overrun, had examined in detail the submissions and justifications submitted by the petitioner. In consideration of the observations of the DIA, we examine the admissibility of head-wise expenditure for the purpose of tariff as under:

31. It is observed from the DIA report that the main heads under which there is major increase in expenditure (as compared to the original approval of CEA) are as under:

(a) A-Preliminary
(b) B-Land
(c) C-Civil Works
(d) J-Power Plant Civil Works
(e) K-Buildings
(f) O-Miscellaneous
(g) P-Maintenance during Construction
(h) R-Communication
(i) X-Environment & Ecology
(j) Establishment
(k) E & M Works
(l) Hydro-Mechanical works
(m) Interest during construction (IDC)

Preliminary works

32. The DIA in its report has recommended the capitalisation of an expenditure of Rs.10596.24 lakh towards Preliminary works, as claimed by the petitioner and has observed the following:

> *"The cost under this head covers the works relating to various investigations, Surveys, Model tests, ecological studies etc. This should be based on the actual cost likely to be incurred and should not exceed 2% of the total cost of I-Works.*
>
> *In TEC, cost of Rs. 52.83 Cr has been provisioned under this head. The cost includes expenditure for transfer of Project from HPSEB to NTPC (Rs.9.0 Cr) and design consultancy charges for Detailed Engineering of the Project (Rs.33.6 Cr).*
>
> *As on COD, the Project has already incurred Rs.105.96 Cr under A-Preliminary head. This includes liability of Rs. 6.94 Cr against design consultancy work that was in progress. In addition, NTPC has provisioned Rs. 5.04 Cr for works to be executed beyond COD under this head.*
>
> *Major items under this head are Design Consultant Charges by EDF for Rs. 74.10 Cr and Rs.18.35 Cr for establishment expenses before investment approval. Total cost of works under A-preliminary has been doubled from approved cost mainly due to time overrun occurred in the Project. Hence the cost overrun incurred under A-Preliminary head in not attributable to generating company*."

Commission's view

33. Considering the fact that the cost towards Preliminary works has increased mainly on account of time overrun, which has been found to be not attributable to the petitioner, the expenditure of 10596.24 lakh (inclusive of liabilities) has been considered as part of capital cost of the project up to COD. Further, the balance expenditure under this head beyond COD and up to the cut-off date, shall be allowed to be capitalized as and when incurred subject to the ceiling limit of ₹503.95 lakh after due diligence.

Land

34. Against the expenditure of ₹98062.58 lakh (inclusive of liabilities) incurred towards "Land and R&R ", the DIA has recommended an expenditure of ₹72954.58 lakh. The reasons furnished by the DIA for restricting the expenditure are as under:

> *"The cost under this head covers Acquisition of land, rehabilitation & resettlement including compensation for property, Interest charges, Solatium charges, demarcation & measurement charges etc. Total cost of Rs. 525.49 Cr has been provisioned under this head. An amount of Rs.980.63 Cr has been incurred as on COD, this includes liability of Rs.74.58 Cr. A provision of Rs. 356.50 Cr has been kept considering future expenses anticipated by NTPC under B-Land head.*
>
> *Total increase in cost from approved cost is Rs. 811.63 Cr due to the following;*

a) Price Escalation : Rs.168.75 Cr

Though the area of private land reduced from 497 Ha to 365.3 Ha, due to increase in the cost of private land, cost for this item increased from Rs.179.72 Cr to Rs.348.47 Cr. Area of Government land to be acquired has been increased from 647 Ha to 1151.48 Ha due to under provision at DPR stage. The government land has been taken on lease basis for 40 years for a total amount of Rs.108.29 Cr. In addition, cost for wildlife mitigation, cost for NPV of forest and wildlife has been paid to GoHP. This cost has been booked under X-Environment and Ecology head.

b) Change in Scope : - Rs.36.26 Cr

There is a reduction of Rs.36.26 Cr due change in scope, i.e. items under compensation has been moved Local Area Development Fund.

c) Statutory Reasons : Rs.613.83 Cr

The cost increase under this head is due to change of enhanced Compensation to Private Land Owners as per Honorable High Court of HP order and depreciation cost of lease land from agreement date to COD of the Project.

The cost of Rs.145.08 Cr has been provisioned for local area development fund i.e. Rs.107.52 Cr (1.5% of Completion Cost to be paid to GoHP as per State Hydro Policy) and Rs.37.50 Cr for Hydro Engineering College at Bilaspur.

Depreciation cost of Rs.251.08 Cr till COD of the Project has been booked under B-Land head. Deprecation cost has been added to the actual expenditure incurred for lease hold land, cost of NPV of wildlife, forest and trees and wildlife mitigation charges i.e, 5% of Project Cost for Majathal Wild life.

Project will depreciate after COD and hence the depreciation cost booked is not allowed in the Capital Cost by DIA.

d) Under Estimation : Rs.65.30 Cr

The total area of land requirement has increased from 1144 Ha to 1516.78 Ha. Following table shows the comparison between area requirements in the DPR versus actual land acquired.

Sl. No.	Description	DPR (in Ha)	Actual (in Ha)
1	Private Land	497	365.30
2	Government Land	647	1151.48
3	Total Area	1144	1516.78

The cost overrun incurred under "B-Land and R&R" head is not attributable to the generating company. However depreciation cost of Rs.251.08 Cr till COD of the Project booked under B-Land is not allowed for inclusion in Capital Cost. Therefore total cost recommend under B-Land head is Rs.729.54 Cr."

35. The respondent, UPPCL has submitted that considering the depreciation of leased land during the construction period i.e. up to the COD, as part of capital cost, would result in duplication of the capital cost. It has further submitted that the lease hold charges paid initially have already been accounted for as part of capital cost of the project and adding depreciation on leasehold charges paid during the Construction period would tantamount to including the same expenditure

twice. Accordingly, UPPCL has prayed that the Commission may not to consider the depreciation cost of ₹25108 lakh in the capital cost.

Commission's view

36. In line with the observations of the DIA above under the head “B-Land and R&R”, we hold that the Cost Overrun is not attributable to the generating company. As regard the disallowance of the depreciation cost by DIA, we are of the view that as per accounting standards, depreciation on assets during the Construction period is allowed to form part of the capital cost of the generating station for the purpose of tariff. Accordingly, the depreciation expenditure of ₹25108 lakh disallowed by DIA has been allowed on prudence check. As such, the entire expenditure of ₹98062.58 lakh under the head “B-Land” is allowed. Further, the balance expenditure under this head beyond the COD and up to the Cut-off date of the generating station is allowed to be capitalized subject to the ceiling limit of ₹35649.76 lakh. Further the issues raised by respondent, UPPCL has been considered while deciding the admissibility of IEDC.

Civil Works

37. Against the expenditure of ₹124014.40 lakh (inclusive of liabilities) incurred towards Civil Works, the DIA has recommended an expenditure of ₹101566.40 lakh. The reasons furnished by the DIA for restricting the expenditure are as under:

“The Project components under this head are Cofferdam, Diversion Tunnels, Rock-fill Dam and Spillway Structure. The total cost provisioned in TEC by CEA under C-works is Rs.801.28 Cr. Awarded cost of the Works under this head is Rs.652.66 Cr. The details of contract packages for major work are given below;

Actual cost incurred upto COD under C-works is Rs. 1240.14 Cr, which includes liability of Rs.5.28 Cr. A cost of Rs.44.70 Cr has been provisioned for balance works beyond COD. The breakup of cost under sub-components / sub-head wise is given in Table 12.

Table 12: C-Works Cost Details Component Wise (Rs. Cr)

Sl. No.	Components	TEC Cost	Awarded Cost	Completion Cost
1	Diversion Tunnels	137.60	166.64	156.66
2	Rock-fill Dam	345.01	264.97	302.64
3	Spillway	318.66	221.05	336.04
4	Power Charges	-	-	43.93
5	Advance to the Dam Contractor (ITD)	-	-	224.48
6	Escalation	-	-	137.89

Sl. No.	Components	TEC Cost	Awarded Cost	Completion Cost
7	Royalty	-	-	22.69
8	Non-Package Works	**-**	**-**	15.82
9	Total	**801.27**	**652.66**	**1240.14**

Total cost overrun under this head with respect to awarded cost is Rs.587.48 Cr. The cost overrun occurred due to the following;

a) Price escalation (Rs.137.89 Cr)

Price escalation has been paid to the Contractor as per the Contract provisions.

b) Royalty to GoHP : Rs.22.69 Cr

As per terms of Contract, NTPC has to bear the cost of royalty to be paid by the Contractor to the State Government.

c) Unrecovered advance to Dam Contractor (ITD) : Rs.224.48 Cr

As per information provided by generating company, ITD contractor faced fund constraints and work was slowed. To bring back the Contactor, NTPC has made direct payment based on the certification by ITD to its subvendors/ sub-contractors for materials, staff cost administrative and other expenses. The amount paid has to be deducted from running and escalation bills. The amount paid to the contractor is beyond the provisions of the Contract. Any unrecovered money may have to be absorbed by NTPC. Further arbitration case between the ITD and NTPC is pending with court. The amount of Rs.224.48 Cr would have to be adjusted against arbitration award otherwise the cost is attributable to the generating company.

d) Change in Scope : Rs.142.68 Cr

Due to increase quantity of rock excavation and grouting as per geological conditions encountered during the execution of civil works.

e) Power Charge: Rs.43.93 Cr

Construction power is to be supplied by NTPC to the Contractors. Cost of power charges has been booked under C-works.

In view of the above, DIA recommends the total cost of Rs.1015.66 Cr under C-works for inclusion in Capital Cost of the Project."

38. The respondent, UPPCL has submitted that since the DIA has categorically observed that the amount paid is beyond the provisions of contract and is an excess payment by the petitioner, the amount of ₹22448 lakh disallowed by DIA, may be deducted by the Commission from the capital cost.

39. As regards the reduction of ₹22448 lakh towards payment to the contractor M/s ITD, for the Dam is concerned, the submissions of the petitioner is as under:

"With regard to payment of an amount of Rs.224.48 cr. to Contractor for the Dam-M/S ITD, it is submitted that M/s ITD invoked the arbitration. This resulted in slowdown in progress of work at Site by the Contractor. In order to expedite work, it was decided to release payment

corresponding to work done to the sub-contractors of M/s ITD, after verification by M/s ITD. Accordingly, progressive payments were released to the sub-contractors of M/s ITD against the execution of work and same was capitalised. As the amount of Rs. 224.48 Crores was actually spent on execution and completion of work, it forms integral part of the capital cost of the project.

Further, it is submitted that the Main Dam Contractor (M/s ITD) has invoked Arbitration Clause in the Contract, raising certain claims which NTPC has disputed. Pending award of Arbitration, the amount has been shown as Advance. Therefore, under the circumstances, since NTPC has already incurred expenditure, created asset and put them to use, exclusion of Rs. 224.48Cr from the capital cost by DIA is not justified and the same may be allowed."

Commission's view

40. It is observed from the submission of the parties that the petitioner, based on the certification by M/s ITD, had made direct payment to sub-vendors/ sub-contractors towards materials, Staff cost Administrative and other expenses, mainly to expedite the works. The petitioner has also clarified that the amount paid to the sub-vendors/sub-contractors was actually spent towards the execution and completion of work and thus forms an integral part of the capital cost. It is further observed from the petitioner's submission that the Contractor, M/s ITD has invoked the arbitration clause of the contract, raising certain claims which have been disputed by the petitioner. In our view, since the payment was made by the Petitioner in respect of the works already executed, the observations of the DIA that the amount paid by the petitioner to the contractor is beyond the provisions of the Contract is erroneous. It is noticed that the petitioner has classified the said amount as advance considering the fact that the 'arbitration claim' by the Contractor is pending before the Court. Since, complete details of the disputed amount and the nature and status of 'Arbitration' has not been made available by the petitioner, we are not inclined to allow the claim in this order. However, liberty is granted to the petitioner to claim the expenditure of ₹22448 lakh along with all supporting documents detailing items including LD charges and status of the arbitration claim etc., at the time of truing up exercise in terms of Regulation 8 of the 2014 Tariff Regulations. However, the balance expenditure under this head beyond COD and up to the cut-off date is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹4470.00 lakh. We direct accordingly.

Power plant Works

41. The petitioner has claimed an amount of ₹58665.43 lakh under this head as against the Investment Approval of ₹86812.12 lakh. The DIA in its report has recommended the capitalisation of the said expenditure as claimed by the petitioner under this head and observed as under:

> *"The cost overrun over awarded cost is Rs.60.53 Cr. However, there is overall deduction of Rs.281.47 Cr under J-Works with respect to TEC cost mainly due to design changes carried out in de-silting arrangement. Following are the reasons for increase in cost of J-works over the awarded cost.*
>
> *a) Change in Scope: (-) Rs.68.12 Cr*
> *b) Price Escalation: Rs.88.88 Cr*
> *c) Power Charges: Rs.25.30 Cr*
> *d) Non-package works: Rs.14.48 Cr*
>
> *Therefore the total cost of Rs.586.65 Cr under J-works is recommended for inclusion in the Capital Cost of Koldam HEP."*

Commission's view

42. Considering the fact that the cost under J-works has reduced *vis-a-vis* the TEC approved cost on account of the design changes carried out in the de-silting arrangement and since the cost overrun *vis-a-vis* the awarded cost is for the reasons not attributable to the petitioner, we allow the expenditure of ₹58665.43 lakh (inclusive of liabilities) as part of completion cost of the project.

Buildings

43. The DIA in its report had recommended the capitalisation of an expenditure of Rs.3432.10 lakh towards Buildings, as claimed by the petitioner and had observed the following:

> *"Total cost provision kept under the head K-Building in TEC is Rs.27.38 Cr. Actual cost incurred as on COD is Rs.34.32 Cr and a sum of Rs.42.73 Cr has been provisioned for buildings to be constructed beyond COD. Hence total cost overrun under this head is Rs.49.68 Cr. The reason for increase in cost is mainly due to price escalation. The breakup of cost overrun is due the following;*
>
> *Price Escalation : Rs.46.74 Cr*
>
> *Scope Change : Rs.2.93 Cr*
>
> *In DIA view, total cost of Rs.34.32 Cr incurred under K-Buildings may be allowed in completion cost for inclusion in tariff computations. Further, a cost of Rs.42.73 Cr may be allowed to be capitalized as and when incurred."*

Commission's view

44. We have examined the matter in the light of the observations of the DIA. Considering the fact that the cost towards Buildings had increased mainly on account of Price escalation during the

time overrun, as the time overrun has been decided to be beyond the control of the petitioner. As such the expenditure of ₹3432.10 lakh (inclusive of liabilities) is considered as part of the completion cost of the project up to COD. Further, the balance expenditure under this head beyond COD and up to the cut-off date shall be allowed to be capitalized as and when incurred subject to the ceiling limit of ₹4273.36 lakh after due diligence at the time of truing up.

Miscellaneous

45. The DIA has recommended the capitalization of an expenditure of ₹3266.13 lakh (inclusive of liabilities) up to COD under the head "Miscellaneous" as against the total expenditure of ₹7216 lakh provisioned in the TEC for items like capital cost and maintenance of water supply, sewage disposal and drainage works, recreation, medical, firefighting equipment, inspection vehicle, school bus, pay van, welfare works, etc.

Commission's view

46. We are of the considered view that the expenditure on Miscellaneous activities / works / assets vary from plant to plant based on site location. Since, there is an overall reduction under this head as compared to the CEA approved cost, the amount of ₹3266.13 lakh has been allowed under this head. Further, the balance expenditure under this head beyond COD and up to the cut-off date is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹42.73 crore.

Maintenance during Construction

47. The DIA has recommended the capitalisation of an expenditure of ₹3308.76 lakh towards "Maintenance during construction", as claimed by the petitioner and had observed the following:

> *"Cost under this head covers the cost of maintenance of all works during the construction period. The cost should be 1% of the total cost under the heads of C-Works, J-Power House Civil Works and K-Buildings.*
>
> *A cost provision kept in concurred DPR under P-Maintenance head is Rs.18.65 Cr. The Project has incurred cost of Rs.33.09 Cr as on COD. Thus a cost overrun of Rs.9.94 Cr has been incurred under this head.*
>
> *In DIA view, the cost overrun incurred is mainly associated with time overrun incurred in the Project execution. Hence the cost overrun of Rs.9.94 Cr is not attributable to the Generating Company. Thus total cost of Rs.33.09 Cr is recommended for inclusion in Capital Cost of the Project under this head."*

Commission's view

48. It has been verified from the final “Head wise variation” sheet attached as Annexure-I to the DIA report that the cost overrun should be ₹14.44 crore instead of ₹9.94 crore mentioned therein. The cost overrun under “Maintenance during construction” claimed by the petitioner is mainly on account of the time overrun experienced in the project execution. Since, time overrun has been condoned on the ground that the same is beyond the control of the petitioner, the cost overrun under this head is allowed. Accordingly, the cost of ₹3308.76 lakh is allowed for the purpose of tariff.

Communication

49. The DIA has recommended the capitalisation of an expenditure of ₹5884.75 lakh towards “Communication”, as claimed by the petitioner and had observed as under:

> *“Cost under this head covers the construction of main approach roads, quarry roads, temporary or permanent river crossing, Railways, Bridges, connecting roads, water ways and airstrip/helipad.*
>
> *The total cost provisioned for this head in TEC is Rs.92.17 Cr. The actual cost incurred by the generating company as on COD is Rs.58.85 Cr and this includes liability of Rs.0.22 Cr. In addition, a provision of Rs.24.16 Cr has been kept for works to be carried out beyond COD. Hence overall cost under the head R-Communication would be Rs.83.01 Cr. There is reduction of Rs.9.17 Cr from the approved cost due to over provision at DPR Stage.*
>
> *DIA recommends cost of Rs.58.85 Cr under R-Communication for inclusion in Capital Cost of the Project.”*

Commission's view

50. It is observed that there is an overall reduction of cost under this head as compared to the CEA approved cost by ₹9217.46 lakh, perhaps due to over provision at the DPR stage. Accordingly, the amount of ₹5884.75 lakh is allowed for purpose of tariff up to COD. Further, the balance expenditure under this head beyond COD and up to cut-off date, is allowed to be capitalized as and when incurred, subject to the ceiling limit of ₹2416.00 lakh

Environment & Ecology

51. The DIA has recommended the capitalisation of an expenditure of ₹43903.32 lakh towards “Environment and Ecology”, as claimed by the petitioner and had observed as under:

"In TEC, an amount of Rs.97.16 Cr has been provisioned under the head X-Environment and Ecology. The actual cost incurred by the generating company is Rs.439.03 Cr and an amount of Rs.3.56 Cr has been provisioned for works to be executed after COD of the Project.

Cost overrun incurred under Environment & Ecology is Rs.345.43 Cr, which is 356% more than CEA approved cost. The main reason for increase in the cost is due to Compensation paid against submergence area falling under Majathal Wildlife Sanctuary which was not originally noticed either by the Generating Company as well as Government of Himachal Pradesh. Hence the total incurred cost of Rs.439.03 Cr under X-Environment and Ecology is recommended by DIA."

Commission's view

52. We have in this order discussed under 'Time Overrun' the delays experienced by the petitioner in the completion of the project on account of Geological reasons, Environmental issues pertaining to the Majathal Wild Life Sanctuary etc., which had led to significant increase in the compensation paid. In consideration of the decisions taken by the Central Empowered Committee of the Hon'ble Supreme Court of India, the National Board of Wild Life, the State Wildlife Board and the Forest Department of the State Govt. of HP, the expenditure incurred by the Petitioner was statutory in nature. Accordingly, the cost incurred under the head "Environment & Ecology" is considered as ₹43903.32 lakh up to COD and is allowed. Further, the balance expenditure under this head beyond COD and up to the cut-off date, is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹356.03 lakh.

Establishment cost

53. It is observed that the DIA, in accordance with the CEA norms, has recommended the capitalization of ₹64978.12 lakh under the head "Establishment" as claimed by the petitioner up to COD. In this regard, the observations of DIA are as under:

"As per CEA Norms; For the cost I-Works minus B-work (I-B) between Rs. 1500 Cr to Rs. 3000 Cr, establishment cost shall not exceed Rs. 90 Cr + 3% of cost exceeding Rs.1500 Cr (Basic Establishment Cost-Civil).

The Project involves concentrated works and the gestation period is more than 6 years. The computations for establishment cost the Project as per CEA norms are as follows;

- *Cost of I-B Works : Rs.2534.67 Cr*
- *Basic Establishment Cost-Civil : Rs.90.0 Cr + (2534.76 –1500.00)x3% : Rs. 121.04 Cr*
- *Additional 10% per year : Rs.121.04 x (0.1 x 7 years) : Rs.84.73 Cr.*
- *Basic Establishment Cost-E-M : 6% of E-M Woks: Rs.36.94 Cr*
- *Additional 7.5% per year : Rs.36.94 x (0.075 x 7 years): Rs.19.40 Cr.*

Hence, the total establishment cost as per CEA norms, should be Rs.262.11 Cr. In addition, CEA allows cost increase revision of pay scale, increase in DA and increment etc. The cost *provisioned in TEC for establishment is Rs.202.70 Cr (10% of I-B works) as per prevalent guidelines at the time of DPR preparation.*

Actual cost incurred by generating company under Establishment head is Rs.649.78 Cr and a provision of Rs.31.86 Cr has been kept for balance works to be carried out beyond COD. The major sub-heads under establishment head and their percentage contribution on total cost is as follows;

a) Salary, PF and other welfare schemes : Rs.339.11 Cr (50%)
b) Corporate Expenses for the Project : Rs.143.84 Cr (21%)
c) Security Expenses (CISF) : Rs.76.07 Cr (11%)
d) Amortization : Rs.51.18 Cr (8%)

The cost of salary and wages includes cost impact due to pay revision of Rs.83.32 Cr. Further, it is observed that the Project has kept CISF security, which is not common in hydro power Project. The generating company (NTPC) has followed the security policy followed in their thermal plants.

Cost overrun incurred under this head over the TEC cost is Rs.447.08 Cr, which is 220% higher than approved cost. The increase in establishment cost is linked with time overrun occurred for Project execution. Since time overrun incurred in the Project is not attributable to the generating company, cost overrun incurred under establishment head is not attributable to the generating company. Hence the total incurred cost of Rs.649.78 Cr is recommended by DIA."

Commission's view

54. The Establishment cost evaluated by the DIA as per CEA norms, amounts to ₹26211 lakh as against the cost provisioned in TEC for ₹20270 lakh, as per guidelines prevalent at the time of preparation of DPR. It is observed that the cost up to COD claimed by the petitioner for ₹64978 lakh is significantly higher than the TEC approved cost. Further, the petitioner has also booked the charges towards 'Audit and account/Indirect charges' under this head. Moreover, the deviation from norms as regards the expenditure may occur based on actual site conditions, actual manpower deployed, wage revision during the construction period. In addition, the actual annual cost indices and the scope of work, etc. would also impact the expenditure. It is observed that the CEA Guidelines for Formulation of Detailed project Reports also indicate that any likely increase in the establishment cost during the construction period on account of wage revision, increase in DA, etc. should be allowed at the completion stage as per actuals. Since, the increase in cost is due to parameters beyond the control of the petitioner, the actual establishment cost of ₹64978.12 lakh incurred by the petitioner has been considered as part of the completion cost. Further, the balance expenditure under this head beyond COD and up to the cut-off date, is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹3186.51 lakh.

Sale of infirm power

55. It is noticed that the revenue of ₹7562.65 lakh earned by the petitioner by sale from infirm power has been adjusted in the capital cost by the DIA. However, the petitioner has not furnished any documentary proof in support of the same. Considering the fact that the adjustment of revenue came from sale of infirm power in capital cost is in terms of the 2014 Tariff Regulations, the same is allowed in this order. This is however subject to the petitioner furnishing on affidavit the details of the infirm power duly certified by the concerned RLDC at the time of truing up of tariff of the generating station.

Electrical & Mechanical works

56. With respect to actual expenditure on Electrical & Mechanical (E&M) works, the DIA has observed as follows:

> *"As per TEC concurred by CEA, an amount of Rs.596.39 Cr has been estimated for generation Plant supply / Electro-mechanical works. The Electro-Mechanical works for 4x200MW Koldam Project has been awarded to the following three packages through ICB;*
>
> - *400kV Switch yard : L&T Limited*
> - *82 MVA GT Package : BHEL*
> - *Electro-Mechanical Works : BHEL*
>
> *The award value, contract value as per latest amendment, cost of escalation, ERV & royalty and actual expenditure under each contract is **given in Table 14.***

Table 14: E-M Works Cost Abstract

Sl. No.	*Name/No. of Construction / Supply /Service Package*	*Original Value of Award (Rs. Lakh)*	*Value as per Latest Amendment (Rs. Lakh)*	*Actual Value of Work (Rs. Lakh)*	*Escalation & ERV (Rs. Lakh)*	*Actual Expenditure (Rs. Lakh)*
1	*400 KV Switchyard*	*5473.87*	*5692.60*	*5692.60*	*919.50*	*6612.10*
2	*82 MVA GT Package*	*3526.23*	*3526.23*	*3526.23*	*616.44*	*4142.67*
3	*Electro Mechanical Package*	*40633.33*	*43185.43*	*43185.43*	*7361.00*	*50546.43*
4	*Non-Package works*	*-*	*-*	*-*	*-*	*274.69*
5	*Total E-M Works*	*49633.43*	*52404.26*	*52404.26*	*8896.94*	*61575.89*

> *Increase in actual cost of E-M works from the TEC cost is Rs.19.40 Cr, which is 3.2% higher than the CEA cleared cost. Increase in actual completed cost of E-M works from original award is Rs.119.37 Cr, which is 24% higher than awarded cost. The value of total E-M works as per latest amendments executed is Rs.524.04 Cr. The cost incurred on account of escalation and ERV is Rs.88.96 Cr. Hence the cost overrun incurred under E-M works is not attributable to the generating company. Further a cost of Rs.33.80 Cr has been provisioned for works to be executed beyond COD. The same may be allowed to capitalized as and when occurred."*

Commission's view

57. It is observed that the contract was awarded for ₹49633.43 lakh and the same is lower by ₹10006 lakh as compared to the CEA approved cost of ₹59639.36 lakh at 2002 Price level. However, the actual cost up to the COD had increased vis-a-vis the CEA approved cost by ₹1936.53 lakh (approx). As noted by the DIA, the increase in cost is mainly due to Price escalation and ERV. In our considered view, the increase in cost on these counts is beyond the control of the petitioner. Thus, the total increase of ₹1936.53 lakh under this head is considered reasonable on account of escalation during the Construction period and FERV variation etc. As such, the capital expenditure of ₹61575.89 lakh (inclusive of liabilities) up to COD has been allowed. Further, the balance expenditure under this head beyond COD and up to the cut-off date is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹3380.34 lakh.

Hydro-Mechanical works

58. The DIA has recommended the capitalisation of an expenditure of ₹7019.48 lakh towards "Hydro-Mechanical works", as claimed by the petitioner and has observed the following:

> '*Cost of hydro-mechanical works is generally added to the relevant civil component of the Project under C & J-Works. The generating company awarded the hydro-mechanical works (gates and hoists) to M/s Om Metals Contractor for Rs.47.46 Cr on 29.03.2003. The actual cost incurred till COD under H-M works is Rs.67.28 Cr. The value of contract as per latest amendment is Rs.50.57 Cr and Rs.16.71 Cr accounts for price variation and ERV. A cost of Rs.6.80 Cr has been provisioned for works to be executed beyond COD.*
>
> *The value of H-M works in DPR is Rs.76.42 Cr. Variation in H-M cost with respect to DPR cost is Rs.0.57 Cr. Cost overrun over the original awarded cost is Rs.19.82 Cr, which is 42% higher than the awarded cost. The cost overrun occurred is due to price variation, exchange rate variation and scope change. In addition, power charges cost of Rs.2.92 Cr has been booked under H-M works. Hence, the total cost of Rs.70.19 Cr under H-M works is allowed and the cost overrun incurred under this head is not attributable to the generating company.*

Commission's view

59. The increase in cost is mainly on account of Price escalation, Exchange rate variation and Change in scope of work. As such, the increase in cost on these counts is beyond the control of the petitioner. Accordingly, the total expenditure of ₹7019.48 lakh under this head is allowed as part of the capital cost up to COD. Further, the balance expenditure under this head beyond COD and up to the cut-off date is allowed to be capitalized as and when incurred subject to the ceiling limit of ₹680.00 lakh.

Initial spares

60. The cut-off date of the generating stations is 31.3.2018. Regulation 13 of the 2014Tariff Regulations provides for the capitalisation of initial spares as a percentage of the Plant and Machinery cost upto the cut-off date, subject to ceiling limit of 4%. The total cost of initial spares claimed by the petitioner up to the cut-off date (as per Form-5C) is ₹5211.17 lakh (₹1830.83 lakh up to COD, ₹983.60 lakh in 2016-17, ₹2396.74 lakh in 2017-18). The total Plant & Machinery cost (inclusive of liabilities to be discharged up to cut-off date) up to the cut-off date as per form 5B is ₹71271.89 lakh including initial spares. As such, the initial spares claimed by the petitioner are in excess of ₹2458.64 lakh. Accordingly, the initial spares claimed by the petitioner in the additional capital expenditure have been restricted to the admissible limit of ₹2752.53 lakh.

Capital Cost as on COD

61. The petitioner has claimed capital cost amounting to ₹689957.00 lakh as on COD of the generating station. This claim of the petitioner has been reconciled with the audited gross block, as stated under:

(₹in lakh)

	As on COD 18.7.2015
Gross Block	**700869.50**
Less: Un discharged liabilities	18077.55
Gross block on cash basis	**682791.95**
Add: Short-term FERV Charged to P&L A/c	122.75
Add: Notional IDC	7018.51
Add: Inter unit transfers	23.79
Capital Cost claimed for the purpose of tariff	**689957.00**

62. The capital cost claimed as on COD includes IDC & FC, FERV and IEDC amounting to ₹213611.17 lakh, ₹9717.64 lakh and ₹102610.73 lakh, respectively. The details of change in rate of interest corresponding to loan as submitted by the petitioner in the petition are not adequate to verify the IDC claim and hence, the calculations in the soft copy furnished by the petitioner have been considered. Hence, the petitioner is directed to furnish the complete details of the change in rate of interest, at the time of truing-up exercise for this generating station. It is observed that the petitioner has claimed IDC & FC and FERV based on FIFO method of repayment as against the consistent methodology of considering Average method of repayment. Considering the Average

method of repayments, the allowable IDC &FC and FERV works out to ₹217604.00 lakh and ₹9717.64 lakh respectively and the same is considered for the purpose of tariff, subject to truing-up. Further, based on the details of IEDC submitted by the petitioner, the allowable IEDC works out to ₹72384.05 lakh, subject to truing-up exercise.

Notional IDC

63. As regards the petitioner claim for Notional IDC amounting to ₹7018.51 lakh as on COD, we notice that the provisions of the 2014 Tariff Regulations do not provide for the same. However, the said regulations provide for normative IDC over and above the actual IDC. Accordingly, considering the debt-equity position corresponding to actual cash expenditure, the normative IDC (over and above the actual IDC) works out to ₹3025.68 lakh and the same is allowed, subject to truing-up exercise.

Short-term FERV

64. The Short-term FERV charged to P&L has been allowed as part of the capital cost upto COD, for the purpose of tariff.

Inter-Unit transfers

65. As per consistent methodology adopted by the Commission, inter-unit transfers amounting to ₹23.79 lakh is allowed. However, the petitioner is directed to furnish at the time of truing-up, the details of the transferee station along with the year in which the asset has been transferred.

66. Based on the above discussions, the capital cost allowed as on COD of the generating station, is as under:

(₹in lakh)

	As on COD 18.7.2015
Capital cost claimed	689957.00
Less: Capital cost disallowed (amount paid directly to the sub-vendors/ sub-contractors of M/s. ITD)	22448.00
Add: Additional IDC & FC allowed on considering Average method of repayment	3992.83
Less: Notional IDC disallowed	7018.51
Add: Normative IDC over and above the actual IDC	3025.68
Less: IEDC disallowed	30226.68
Capital Cost allowed	**637282.31**

Actual/ Projected Additional Capital Expenditure from COD to 31.3.2019

67. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted up to 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19. Clause 1 and Clause 3 of Regulation 14 of the 2014 Tariff Regulations, provides as under:

> ***"14. Additional Capitalisation and De-capitalisation:***
>
> *(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*
>
> *(i) Undischarged liabilities recognized to be payable at a future date;*
>
> *(ii) Works deferred for execution;*
>
> *(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;*
>
> *(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and*
>
> *(v) Change in law or compliance of any existing law:*
>
> *Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.*
>
> *14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*
>
> *(ii) Change in law or compliance of any existing law;*
>
> *(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;*
>
> *(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;*
>
> *(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;
(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

68. The year-wise break-up of the projected additional capital expenditure claimed by the petitioner for the period from COD (18.7.2015) till 2018-19 is as under:

(₹ in lakh)

2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19	Total
7654.67	25678.25	9942.81	0.00	43275.73

69. The respondents, UPPCL, BRPL and TPDDL have submitted that the works deferred for execution can be considered under Regulation 14(1)(ii). However, they have submitted that since the petitioner has not submitted the details of works which have been deferred for execution, it is not possible to identify the items under the original scope of works. Accordingly, they have prayed

that as no works in the original scope was left, the claim is liable to be rejected. With regard to the claim of the petitioner for additional capital expenditure under Regulation 14(1)(iii), these respondents have submitted that in absence of details, the procurement of initial capital spares is liable to be rejected. In this regard it is pertinent to mention that the petitioner's claim for capital cost till 31.3.2019 including the additional capital expenditure is `733232.72 lakh and the same is within the cost of `766129.86 lakh which represents the sum of RCE-II cost, Notional IDC, FERV charged to revenue and Inter unit transfers. Accordingly, it can be construed that the additional capital expenditure claimed by the petitioner is within the original scope of work of the project. However, the petitioner is directed to furnish the complete details with regard to defered works and actual capital expenditure on initial spares incurred after COD upto cut-off date at the time of truing-up.

70. Accordingly, the claims of the petitioner for additional capital expenditure from 18.7.2015 to 31.3.2019 is examined and allowed, on prudence check, as detailed below:

71. It is observed that the petitioner has claimed EDC and IDC upto the cut -off date, but has not furnished any details for the same. As per consistent methodology adopted by the Commission, IDC & EDC components have been allowed in respect of assets admitted for additional capitalisation. Accordingly, IDC & EDC components of admissible assets have been considered for the purpose of tariff.

72. It is further observed that the additional capital expenditure of Rs 7654.67 lakh claimed by the petitioner is mostly towards discharge of liabilities, deferred works within the cut-off date and initial spares, under Regulation 14(1)(i), (ii) and (iii) of the 2014 Tariff Regulations. The projected discharge of liabilities claimed by the petitioner vide affidavit dated 28.6.2016 is allowed on projection basis under Regulation 14(1)(i). Accordingly, the claim of the petitioner for additional capital expenditure under Regulation 14 (1) (i), (ii) and 14 (1) (iii) for the period from COD to 2018-19 is allowed on prudence check, as under:

2015-16

(₹in lakh)

S.No	Head of Work / Equipment	Justification of the Petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
1	Discharge of liabilities		4657.59	4657.59
2	**Preliminary Works**			
	Bathymetry Survey of the Plunge Pool	The balance/ remaining works are expected to be completed by cut-off date.	3.95	3.95
3	**Land**			
	Land Acquisition Office Admin expenses	The private land for Koldam project has been acquired under the provisions of the Land Acquisition Act (1894) through the Land Acquisition Office at Bilaspur established by Govt. of HP and the expenses for this office are borne by NTPC as per Clause 2.2 of the agreement signed between Government of HP (GoHP), HPSEB and NTPC Ltd. on 26th Feb 2000. Subsequent to the reservoir impounding, there have been reports of large scale landslides and destabilization of the geographical profile along the Koldam reservoir in both the banks of river Sutlej in all the four Districts namely Bilaspur, Solan, Mandi and Shimla. These landslides have gone beyond our acquisition boundary and various other facilities of the local people like pathways, Jhoolas (Ropeways for crossing the river) etc. have been affected. The local residents have given representations to the respective District administration as well as to NTPC and have demanded various remedial measures including due compensation to the land and property affected. In view of the above, the services of the land acquisition staff shall be required further for 2-3 years. Further expenditure of ₹150 lakh is kept for next 3 years @ ₹50 lakh per year.	50.00	50.00
4	**Rehabilitation & Resettlement (R&R)**			
	R&R Works	These works have been necessitated due to the damages that have occurred to	401.74	401.74

S.No	Head of Work / Equipment	Justification of the Petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
		the pathways, cremation grounds, roads, houses, land, public & private property due to the rising of the water level in the reservoir because of the impounding of reservoir of Koldam HEPP.		
5	**BUILDINGS (Township & Infra Works)**			
5.1	**Township**			
5.1.1	Construction of Balance Quarters, misc. township works completion & other associated facilities at township	The balance/ remaining works are expected to be completed by cut-off date.	20.00	20.00
5.1.1.1	EDC		17.47	17.47
5.1.1.2	IDC		6.23	6.23
5.2	**Infrastructure**			
5.2.1	Implementation of Offsite Buildings: Admin Building along with VSAT Building, construction of Trainee Hostel, CISF Barracks, Armoury, Gate Complex, Mess, Recreation Centre, CISF Complex (CISF A, B, C Type Quarters, Internal Roads/Pathways/Culvert , auditorium completion etc.	The balance/ remaining works are expected to be completed by cut-off date.	603.85	603.85
5.2.1.1	EDC		485.64	485.64
5.2.1.2	IDC		64.39	64.39
	Sub-Total (Works) in 5		623.85	623.85
	Sub-Total (EDC) in 5		**503.11**	**503.11**
	Sub-Total (IDC) in 5		70.62	70.62
	Sub-Total 5 (Works + EDC +IDC)		**1197.58**	**1197.58**
6.0	**Plantation**			
	Sub-Total			
7.0	**Miscellaneous Works**			
	Flood Forecasting & Flood Warning System	The balance/ remaining works are expected to be completed by cut-off date.	39.90	39.90
	Misc. plant civil works		23.18	23.18
	Misc. plant electrical Works		36.00	36.00
	Miscellaneous IT & communication Works		31.00	31.00
	Lab Equipment's		7.50	7.50
	Weigh Bridge & EOT Crane for Store		10.63	10.63
	Sub-Total (Works) in 7		**148.21**	**148.21**
	Sub-Total (EDC) in 7		**53.97**	**53.97**
	Sub-Total (IDC) in 7		11.30	11.30

S.No	Head of Work / Equipment	Justification of the Petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
	Sub-Total 7 (Works + EDC + IDC)		**213.48**	**213.48**
8.0	**Tools and Plants**			
	Tools and Plants	The balance/ remaining works are expected to be completed by cut-off date.	50.00	50.00
9.0	**Communications: Construction/ resurfacing of new/ existing roads and associated works**			
9.1	Construction of new road of length 1.66 Km	The balance/ remaining works are expected to be completed by cut-off date.	50.00	50.00
9.2	Restoration/ protection works & surfacing works: Maitri Setu to PWD road junction to bottom outlet on right bank. Construction of approach road to CISF main gate in front of FQA lab & peripheral road at Harnoda		100.00	100.00
	EDC In 9.2		4.98	4.98
	IDC In 9.2		0.67	0.67
9.3	Surfacing work on road for CISF gate to spillway control room & from gallery No.14 to 13	The balance/ remaining works are expected to be completed by cut-off date.	100.00	100.00
	EDC In 9.3		16.77	16.77
	IDC in 9.3		1.88	1.88
	Sub-Total (Works) in 9		250.00	250.00
	Sub-Total (EDC) in 9		**21.75**	**21.75**
	Sub-Total (IDC) in 9		2.56	2.56
	Sub-Total 9 (Works + EDC + IDC)		274.30	274.30
10	**Environment & Ecology**			
	Real time online monitoring of 15% min environmental flow	The balance/ remaining works are expected to be completed by cut-off date.	6.03	6.03
	Sub-Total 10		6.03	6.03
11	**Major Civil Works**			
11.1	Additional Protection work in Plunge pool area	The balance/ remaining works are expected to be completed by cut-off date.	500.00	500.00
11.2	Dam-Miscellaneous works		300.00	300.00
	Sub Total-11		**800.00**	**800.00**
12	**HM-Works**			
13	**Electro-Mechanical Works**			
	Total			
	Discharge of Liabilities		4657.59	4657.59
	Grand Total (Works)		2333.78	2333.78
	Grand Total (EDC)		578.83	578.83
	Grand Total (IDC)		84.48	84.48
	Grand Total		**7654.67**	**7654.67**

2016-17

73. It is observed that the additional capital expenditure of ₹25678.25 lakh claimed is mainly towards deferred works/liabilities and towards the capitalization of spares within the cut-off date. On prudence check, the expenditure claimed as above is allowed as claimed by the petitioner. However, as discussed in para 60 above, the initial spares claimed has been restricted and the excess initial spares of ₹61.90 lakh has been disallowed from the additional capital expenditure allowed during the claimed the year. Accordingly, the actual additional capital expenditure incurred is allowed as under:

(₹in lakh)

S.N.	Head of Work / Equipment	Justification of the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
1	Discharge of Liabilities	Discharge of Liabilities	11641.03	11641.03
2	**Preliminary Works**			
	Prime Consultant (EDF)	Balance payment to the Prime consultant EDF.	500.00	500.00
3	**Land**			
3.1	Private Land (Freehold)	364.56 Ha free hold land has been acquired under the provision of Land Acquisition Act 1894 and mutated in the name of NTPC. Subsequent to the reservoir impounding, there have been large scale landslides and destabilization of the geographical profile along the Koldam reservoir in both the banks of river Satluj in all the four districts. These landslides have gone beyond our acquisition boundary. Landowners, whose land has been damaged due to landslides are raising the issue of payment of compensation. Accordingly, 30.895 Bigha i.e. 2.3695 Ha land has been identified for which compensation to be paid as per the last has awarded rate of ₹12 lakh per bigha. The compensation details are enclosed at Annexure-4.	370.74	370.74
3.2	Land Acquisition Office Admin expenses	Same as provided at Sl.no. 3 of table under para no. 72 above.	50.00	50.00
3.3	Cost of Trees on Govt./Forest land other than Majathal Wildlife Area	₹690.09 lakh has been already paid as cost of trees standing on Govt/ Forest land other than	1227.83	1227.83

S.N.	Head of Work / Equipment	Justification of the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
		Majathal wildlife sanctuary. The forest department has intimated that due to revision in rates of the trees, further payment amounting to ₹686.11 lakh on trees and ₹541.72 lakh on saplings is also payable by NTPC. Details enclosed at Annexure-5.		
	Sub-Total-3		**1648.57**	**1648.57**
4.0	**Rehabilitation & Resettlement (R&R)**			
4.1	R&R Works	These works have been necessitated due to the damages that have occurred to the pathways, cremation grounds, roads, houses, land, public & private property due to the rising of the water level in the reservoir because of the impounding of reservoir of Koldam HEPP.	602.32	602.32
	Sub-Total-4		**602.32**	**602.32**
5	**BUILDINGS (Township & Infra Works)**			
5.1	**Township**			
5.1.1	Construction of Balance Quarters, misc. township works completion & other associated facilities at township	The balance/ remaining works are expected to be completed by cut-off date.	299.00	299.00
5.1.1.1	EDC		318.96	318.96
5.1.1.2	IDC		67.18	67.18
5.2	**Infrastructure**			
5.2.1	Implementation of Offsite Buildings: Admin Building along with VSAT Building, construction of Trainee Hostel, CISF Barracks, Armory, Gate Complex, Mess, Recreation Centre, CISF Complex (CISF A, B, C Type Quarters, Internal Roads/Pathways/Culvert, auditorium completion etc.	The balance/ remaining works are expected to be completed by cut-off date.	2574.22	2574.22
5.2.1.1	EDC		2056.49	2056.49
5.2.1.2	IDC		275.02	275.02
	Sub-Total (Works) in 5		**2873.22**	**2873.22**
	Sub-Total (EDC) in 5		**2375.45**	**2375.45**
	Sub-Total (IDC) in 5		**342.20**	**342.20**
	Sub-Total 5 (Works + EDC+IDC)		**5590.87**	**5590.87**
6.0	**Plantation**			
6.1	Landscaping, plantation including that of Power	The balance/ remaining works are expected to be completed by	250.00	250.00

S.N.	Head of Work / Equipment	Justification of the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
	House	cut-off date.		
7.0	**Miscellaneous Works**			
	Boat for reservoir inspection	The balance/ remaining works are expected to be completed by cut-off date.	68.00	68.00
	Misc. plant civil works		70.66	70.66
	Misc. plant electrical Works		20.00	20.00
	Miscellaneous IT & communication Works		199.00	199.00
	Lab Equipments		217.93	217.93
	Providing of Floating boom barrier in the reservoir		100.00	100.00
	Weigh Bridge & EOT Crane for Store		19.28	19.28
	Sub-Total (Works) in 7		**694.87**	**694.87**
	Sub-Total (EDC) in 7			
	Sub-Total (IDC) in 7			
	Sub-Total-7 (Works + EDC +IDC)		**694.87**	**694.87**
8.0	**Tools and Plants**			
8.1	Tools and Plants	The balance/ remaining works are expected to be completed by cut-off date.	100.00	100.00
9.0	**Communications: Construction/ resurfacing of new/ existing roads and associated works**			
9.1	Right bank Protection work of river satluj from Maitri setu to Diversion tunnel	The balance/ remaining works are expected to be completed by cut-off date.	400.00	400.00
9.2	Area development work at right bank of river satluj from Maitri setu to Diversion tunnel		100.00	100.00
9.3	Construction of new road of length 1.66 Km		50.00	50.00
9.4	Restoration/ protection works & surfacing works: Maitri Setu to PWD road junction to bottom outlet on right bank. Construction of approach road to CISF main gate in front of FQA lab & peripheral road at Harnoda		300.00	300.00
	EDC In 9.4		14.94	14.94
	IDC In 9.4		2.02	2.02
9.5	Surfacing work on road for CISF gate to spillway control room & from gallery No.14 to 13	The balance/ remaining works are expected to be completed by cut-off date.	145.00	145.00
	EDC In 9.5		24.31	24.31
	IDC in 9.5		2.73	2.73

S.N.	Head of Work / Equipment	Justification of the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
9.6	Construction of Retaining wall along left bank of River in front of Power House	The balance/ remaining works are expected to be completed by cut-off date.	363.00	363.00
9.7	Removal of Boulder from Rover to lower down the River Bed to avoid Head Loss		145.00	145.00
	Sub-Total (Works) in 9		**1503.00**	**1503.00**
	Sub-Total (EDC) in 9		**39.25**	**39.25**
	Sub-Total (IDC) in 9		**4.75**	**4.75**
	Sub-Total-9 (Works+ EDC+ IDC)		**1547.00**	**1547.00**
10	**Environment & Ecology**			
10.1	Supply, installation, testing & commissioning & maintenance of seismic observatory station for NTPC Koldam	The balance/ remaining works are expected to be completed by cut-off date.	350.00	350.00
	Sub-Total 10		**350.00**	**350.00**
11	**Major Civil Works**			
11.1	Additional Protection work in Plunge pool area	The balance/ remaining works are expected to be completed by cut-off date.	1270.00	1270.00
11.2	Dam-Misc works		200.0	200.0
	Sub Total 11		**1470.00**	**1470.00**
12	**HM-Works**			
12.1	Providing fix rope drum hoist for individual gates of Draft Tube	The balance/ remaining works are expected to be completed by cut-off date.	300.00	300.00
13	**Electro-Mechanical Works**			
13.1	**Initial Spares**	The balance/ remaining works are expected to be completed by cut-off date. These are critical spares recommended by OEM reqd. for proper functioning of the plant over a period of next 35 years when most of the spares being available as of now are likely to get obsolete and won't be available at the time when they will be needed in future as these would go out of production by then.	983.60	921.70*
	Grand Total			
	Discharge of Liabilities		11641.03	11641.03
	Grand Total (Works)		11275.58	11213.68
	Grand Total (EDC)		2414.70	2414.70
	Grand Total (IDC)		346.95	346.95
	Grand Total		**25678.25**	**25616.36**

**With reference to para no. 60, amount of initial spares has been restricted to ₹921.70 lakh after accounting for Initial spares of ₹1830.83 lakh capitalized up to COD.*

2017-18

74. It is observed that the additional capital expenditure of ₹9942.81 lakh claimed is mostly towards deferred works/liabilities and towards the capitalization of spares within the cut-off date. On prudence check, the expenditure as claimed by the petitioner is allowed in terms of the regulations. However, as discussed earlier, the excess initial spares of Rs.2396.74 lakh has been disallowed from the additional capital expenditure allowed during the year. Accordingly, the actual additional capital expenditure incurred is allowed as under:

(₹in lakh)

S.N.	Head of Work / Equipment	Justification submitted by the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
1	Discharge of Liabilities	Discharge of Liabilities	1778.94	1778.94
2	**Land**			
	Land Acquisition Office Admin expenses	Same as provided at Sl.no. 3 of table under para no. 72 above.	50.00	50.00
3	**BUILDINGS (Township & Infra Works)**			
	Township			
	Construction of Balance Quarters, misc. township works completion & other associated facilities at township	The balance/ remaining works are expected to be completed by cut-off date.	100.00	100.00
	Infrastructure			
	Implementation of Offsite Buildings: Admin Building along with VSAT Building, construction of Trainee Hostel, CISF Barracks, Armory, Gate Complex, Mess, Recreation Centre, CISF Complex (CISF A, B, C Type Quarters, Internal Roads/Pathways/Culvert, auditorium completion etc.	The balance/ remaining works are expected to be completed by cut-off date.	676.28	676.28
	EDC		162.22	0.00
	IDC		21.46	0.00
	Sub-Total (Works) in 3		776.28	776.28
	Sub-Total (EDC) in 3		162.22	162.22
	Sub-Total (IDC) in 3		21.46	21.46
	Sub-Total-5 (Works +EDC+IDC)		959.96	959.96
4.0	**Miscellaneous Works**			
	Office Furniture	The balance/ remaining works are expected to be completed by cut-off date.	300.00	300.00
	Fire Fighting System		27.55	27.55
	Plant Boundary Wall &		200.00	200.00

S.N.	Head of Work / Equipment	Justification submitted by the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
	Fencing			
	Permanent water supply scheme (civil works)		503.73	503.73
	Sewage system incl. sewage treatment plant at admin building site Harnora		300.00	300.00
	Providing of Floating boom barrier in the reservoir		50.00	50.00
	Sub-Total (Works) in 4		**1381.28**	**1381.28**
	Sub-Total (EDC) in 4		**18.94**	**18.94**
	Sub-Total (IDC) in 4		**1.45**	**1.45**
	Sub-Total-4 (Works + EDC+IDC)		**1401.67**	**1401.67**
5.0	**Tools and Plants**			
	Tools and Plants	The balance/ remaining works are expected to be completed by cut-off date.	100.00	100.00
6.0	**Communications: Construction/ resurfacing of new/ existing roads and associated works**			
	Right bank Protection work of river satluj from Maitri setu to Diversion tunnel	The balance/ remaining works are expected to be completed by cut-off date.	250.00	250.00
	Area development work at right bank of river satluj from Maitri setu to Diversion tunnel		200.00	200.00
	Restoration/ protection works & surfacing works: Maitri Setu to PWD road junction to bottom outlet on right bank. Construction of approach road to CISF main gate in front of FQA lab & peripheral road at Harnoda		213.00	213.00
	EDC In 6		10.60	10.60
	IDC In 6		1.44	1.44
	Sub-Total (Works) in 6		**663.00**	**663.00**
	Sub-Total (EDC) in 6		**10.60**	**10.60**
	Sub-Total (IDC) in 6		**1.44**	**1.44**
	Sub-Total (Works + EDC+IDC)		**675.04**	**675.04**
7	**Major Civil Works**			
	Additional Protection work in Plunge pool area	The balance/ remaining works are expected to be completed by cut-off date.	2000.00	2000.00
	Dam-Misc works		200.0	200.0
	Sub Total		**2200.00**	**2200.00**
8	**HM-Works**			
	Providing fix rope drum	The balance/ remaining	380.00	380.00

S.N.	Head of Work / Equipment	Justification submitted by the petitioner	Additional capital expenditure claimed	Additional capital expenditure allowed
	hoist for individual gates of Draft Tube	works are expected to be completed by cut-off date.		
9	**Electro-Mechanical Works**			
10	**Initial Spares**	The balance/ remaining works are expected to be completed by cut-off date. These are critical spares recommended by OEM reqd. for proper functioning of the plant over a period of next 35 years when most of the spares being available as of now are likely to get obsolete and won't be available at the time when they will be needed in future as these would go out of production by then.	2396.74	0.00*
	Grand Totals			
	Discharge of Liabilities		1778.94	1778.94
	Grand Total (Works)		7947.31	5550.56
	Grand Total (EDC)		**192.98**	**192.98**
	Grand Total (IDC)		**23.58**	**23.58**
	Grand Total		**9942.81**	**7546.06**

**With reference to para no. 60, amount of initial spares has been restricted to ₹0.00 after accounting for ₹2761.83 lakh upto 31.3.2017.*

2018-19

75. It is observed that the petitioner has indicated a provision for a total expenditure of ₹33042.73 lakh towards (i) Land cases (₹18540.73 lakh), (ii) Local Area Development Fund (₹10752.00 lakh) and for establishing an Engineering College (₹3750.00 lakh) during the year 2018-19. However, the petitioner has not projected the additional expenditure for capitalisation. Hence, the admissibility of the said expenditure has not been considered in this order. The petitioner, if so advised, is at liberty to claim the said expenditure, at the time of truing-up of tariff and the same will be examined on prudence check, in accordance with law.

76. Based on the above, the additional capital expenditure allowed for the period from 18.7.2015 till 31.3.2019 is summarised as under:

(₹in lakh)

	2015-16 (18.7.2015-313.2016)	2016-17	2017-18	2018-19
Additional capital expenditure allowed	6991.37	22854.71	7329.50	0.00
Add: Corresponding IDC & EDC components	663.30	2761.65	216.56	0.00
Total Additional capital expenditure allowed	**7654.67**	**25616.36**	**7546.06**	**0.00**

77. Accordingly, the capital cost allowed for the purpose of tariff for the period from 18.7.2015 to 31.3.2019 is as under:

(₹in lakh)

	2015-16 (18.7.2015-313.2016)	2016-17	2017-18	2018-19
Opening Capital Cost	637282.31	644936.98	670553.34	678099.40
Add: Additional capital expenditure	7654.67	25616.36	7546.06	0.00
Closing Capital Cost	**644936.98**	**670553.34**	**678099.40**	**678099.40**
Average Capital Cost	**641109.65**	**657745.16**	**674326.37**	**678099.40**

Debt-Equity Ratio

78. Regulation 19 of the 2014 Tariff Regulations provides as under:

"19. Debt-Equity Ratio

(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio."

79. The petitioner has considered the debt-equity ratio of 70:30 which has been worked out after considering the debt & cumulative cash expenditure position as on COD of the generating station. Accordingly, debt-equity ratio of 70:30 has been considered for the purpose of tariff as on COD along with the admitted additional capital expenditure, This is subject to truing-up exercise.

Return on Equity

80. Regulation 24 of the 2014 Tariff Regulations provides as under:

*"**24. Return on Equity**: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that
i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.

81. Regulation 25 of the 2014 Tariff Regulations provides as under:

*"**Tax on Return on Equity***
(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company *or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.*

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis."

82. The petitioner has claimed return on equity considering base rate of 16.50% and effective tax rate of 21.342% (i.e. MAT rate for FY 2015-16) for the period from COD to 31.3.2019. The same has been considered for the purpose of tariff, subject to true-up. Accordingly, return on equity has been worked out as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	**2016-17**	**2017-18**	**2018-19**
Notional Equity- Opening	191184.69	193481.10	201166.00	203429.82
Addition of Equity due to additional capital expenditure	2296.40	7684.91	2263.82	0.00
Normative Equity - Closing	193481.10	201166.00	203429.82	203429.82
Average Normative Equity	192332.89	197323.55	202297.91	203429.82
Return on Equity (Base Rate)	16.500%	16.500%	16.500%	16.500%
Effective Tax Rate for respective years	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax)	20.977%	20.977%	20.977%	20.977%
Return on Equity (Pre Tax)- Annualised	**40345.67**	**41392.56**	**42436.03**	**42673.47**

Interest on Loan

83. Regulation 26 of the 2014 Tariff Regulations provides as under:

***"26. Interest on loan capital**: (1)The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such refinancing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999,as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

84. The interest on loan has been worked out as mentioned below:

i) Gross normative loan corresponding to 70% of the admissible capital cost works out to ₹446097.62 lakh as on COD.

ii) Cumulative repayment as on COD being 'nil', the net normative opening loan as on COD works out to ₹446097.62 lakh.

iii) Addition to normative loan on account of additional capital expenditure approved above has been considered.

iv) Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2014-19.

v) The petitioner has considered Weighted Average Rate of Interest (WAROI) of 8.9935%, 8.9651%, 8.9080% and 8.8064% for the year / period from 2015-16 (18.7.2015 to 31.3.2016), 2016-17, 2017-18 and 2018-19, respectively. However, considering the loan details as submitted in the petition, weighted average rate of interest works out to 8.9935%, 8.9650%, 8.9080% and 8.8063% for the year / period from 2015-16 (18.7.2015 to 31.3.2016), 2016-17, 2017-18 and 2018-19, respectively. The calculations are enclosed as **Annexure-I** to this order.

vi) The necessary calculation is as under:

(₹ in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
Gross opening loan	446097.62	451455.89	469387.34	474669.58
Cumulative repayment of loan upto previous year / period	0.00	20967.54	51484.01	82769.77
Net Loan Opening	446097.62	430488.35	417903.33	391899.81
Addition due to ACE	5358.27	17931.45	5282.24	0.00
Repayment of loan during the year	20967.54	30516.47	31285.76	31460.81
Net Loan Closing	430488.35	417903.33	391899.81	360439.00
Average Loan	438292.98	424195.84	404901.57	376169.41
Weighted Average Rate of Interest on Loan	8.9935%	8.9650%	8.9080%	8.8063%
Interest on Loan	**39417.80**	**38029.37**	**36068.73**	**33126.78**

Depreciation

85. Regulation 27 of the 2014 Tariff Regulations provides as under:

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff: Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services."

86. The petitioner has claimed depreciation considering weighted average rate of depreciation (WAROD) of 4.8699% for the period from COD to 31.3.2019. However, considering the rates of depreciation as specified in Appendix-II to the 2014 Tariff Regulations, corresponding to assets as on 18.7.2015, the WAROD works out as 4.6396%. The same has been considered for the purpose of tariff. Necessary calculations in support of depreciation are as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	**2016-17**	**2017-18**	**2018-19**
Average Capital Cost	641109.65	657745.16	674326.37	678099.40
Freehold land (other than land under reservoir) included above	13323.58	13323.58	13323.58	13323.58
Depreciable value @ 90%	565007.46	579979.43	594902.51	598298.24
Balance depreciable value	565007.46	559011.88	543418.51	515528.47
Depreciation (for the period)	**20967.54**	**30516.47**	**31285.76**	**31460.81**
Depreciation (annualized)	**29744.65**	**30516.47**	**31285.76**	**31460.81**
Cumulative depreciation at the end	**20967.54**	**51484.01**	**82769.77**	**114230.58**

O&M expenses

87. Regulation 29 (3) (c) of the 2014 Tariff Regulations provides as under:

a. xxxxx
b. xxxxx

"(c) In case of the hydro generating stations, which have not been in commercial operation for a period of three years as on 1.4.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) for the first year of commercial operation. Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @6.04% per annum up to the year 2013-14 and then averaged to arrive at the O&M expenses at 2013-14 price level. It shall be thereafter escalated @ 6.64%per annum to arrive at operation and maintenance expenses in respective year of the tariff period.

(d) In case of the hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years."

88. Considering the capital cost of ₹678099.40 lakh and R&R expenses of ₹12074.55 lakh as on cut-off date of the generating station i.e. 31.03.2018, the O&M expenses (annualised) has been worked out and allowed in line with Regulation 29(3)(c) of the 2014 Tariff Regulations as under:

(₹in lakh)

2015-16 (18.7.2015 to 31.3.2016)	**2016-17**	**2017-18**	**2018-19**
16650.62	17756.22	18935.24	20192.54

Interest on working capital

89. Sub-section (c) of Clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

"28. Interest on Working Capital:

(1) The working capital shall cover

(c) Hydro generating station including pumped storage hydro electric generating Station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29; and

(iii) Operation and maintenance expenses for one month."

90. **(i) O&M Expenses for one month**: O&M equivalent to 1 month of the O&M expenses as allowed above has been considered for the purpose of tariff.

(₹in lakh)

2015-16 (18.7.2015 to 31.3.2016)	**2016-17**	**2017-18**	**2018-19**
1387.55	1479.69	1577.94	1682.71

(ii) Maintenance Spares: Maintenance spares equivalent to 15% of O&M expenses as allowed above has been considered for the purpose of tariff.

(₹in lakh)

2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
2497.59	2663.43	2840.29	3028.88

(iii) Receivables: The receivables equivalent to two months of fixed charges / cost has been considered for the purpose of tariff.

(₹in lakh)

2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
21599.87	21867.68	22049.82	21839.67

(iv) Rate of Interest on working capital: In line with the Regulation 28(3) rate of interest on working capital has been considered as 13.50%.

2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
13.5000%	13.5000%	13.5000%	13.5000%

91. Accordingly, the computation of interest on working capital is summarized as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
O&M expenses – One month	1387.55	1479.69	1577.94	1682.71
Maintenance Spares @ 15% of O&M expenses	2497.59	2663.43	2840.29	3028.88
Receivables – Two months	21599.87	21867.68	22049.82	21839.67
Total Working Capital	**25485.01**	**26010.80**	**26468.05**	**26551.26**
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%
Interest on Working Capital	**3440.48**	**3511.46**	**3573.19**	**3584.42**

Annual Fixed Charges

92. Accordingly, the annual fixed charges approved for the generating station for the period 2014-2019 are as under:

(₹in lakh)

	2015-16 (18.7.2015 to 31.3.2016)	2016-17	2017-18	2018-19
Depreciation	29744.65	30516.47	31285.76	31460.81
Interest on loan	39417.80	38029.37	36068.73	33126.78
Return on equity	40345.67	41392.56	42436.03	42673.47
Interest on working capital	3440.48	3511.46	3573.19	3584.42
O&M expenses	16650.62	17756.22	18935.24	20192.54
Total	**129599.22**	**131206.08**	**132298.95**	**131038.03**

Normative Annual Plant Availability Factor

93. Clause (4) of Regulation 37 of the 2014 Tariff Regulations provides for the Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations already in operation. In order dated 6.9.2015, the petitioner was allowed NAPAF of 90% for the period 2015-17. The petitioner vide affidavit dated 28.6.2016 has claimed NAPAF of 90% for the said period. The respondent, UPPCL has submitted that the Commission may disallow the request of the petitioner for further allowance in NAPAF and that the claim may be considered as per provisions of the 2014 Tariff Regulations. In response, the petitioner has submitted that it has considered NAPAF of 90% only for the purpose of computing tariff as per 2014 Tariff Regulations and has sought liberty, in future, on the ground that operating conditions of the generating station are likely to be affected due to formation of silt with the passage of time. We have in this order considered the NAPAF of 90% for this generating station for the period 2014-19 in accordance with the 2014 Tariff Regulations. As regards liberty prayed for by the petitioner, we make it clear that any relief prayed for by the petitioner shall be examined on merits and in accordance with law.

Design Energy

94. The annual Design Energy (DE) of 3054.79 MUs for the generating station has been approved by CEA in the TEC. The same has been considered for the purpose of tariff of the generating station. The month-wise details are as under:

Month		**Design Energy (MUs)**
April	I	59.21
	II	57.80
	III	89.80
May	I	103.87
	II	186.01
	III	206.82
June	I	64.92
	II	171.32
	III	118.63
July	I	155.60
	II	192.00
	III	211.20
August	I	192.00
	II	192.00
	III	211.20
September	I	129.86

Month		Design Energy (MUs)
	II	93.03
	III	71.50
October	I	46.88
	II	44.33
	III	41.29
November	I	30.49
	II	27.94
	III	25.39
December	I	24.48
	II	24.48
	III	26.93
January	I	24.48
	II	24.48
	III	26.93
February	I	24.48
	II	24.48
	III	19.58
March	I	24.48
	II	39.39
	III	47.51
Total		**3054.79**

Application Fee and Publication Expenses

95. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19. The petitioner has deposited tariff filing fees of ₹2500600/- for the period from anticipated COD i.e. 1.7.2015 for Units- I & II and 31.7.2015 for Units- III & IV.in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The petitioner vide affidavit dated 10.6.2015 has submitted that it has incurred ₹670770/- as charges towards publication of the said tariff petition in the newspapers. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission’s order dated 6.1.2016 in Petition No.232/GT/2014, the petitioner shall be entitled to recover the filing fees for the period from actual COD i.e. 18.7.2015 and the expenses incurred on publication of notices for the period 2015-17 *pro-rata* from the respondents. The filing fees for the remaining years of the tariff period 2017-19 shall be recovered pro rata after deposit of the same and production of documentary proof. Excess payment of filing fees, if any, shall be adjusted against any other petition to be filed by the petitioner in future.

96. The tariff determined as above shall be adjusted against the interim tariff allowed vide Commission's order dated 2.9.2015. Also, the annual fixed charges approved for the period 2015-19 as above is subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

97. Petition No. 107/GT/2015 is disposed of in terms of the above.

sd/-	sd/-	sd/-
(Dr. M.K. Iyer)	**(A.S.Bakshi)**	**(A.K.Singhal)**
Member	**Member**	**Member**

Name of Company	: NTPC Ltd.
Name of Station	: Koldam Hydro Electric Power Project (4 x 200 MW)
Petition no.	: 107/GT/2015
Tariff Period	: 2014-19

Annexure-I

Calculation of WAROI

(Rs. in lakh)

S.N.	Lenders	Particulars	2015-16 (18.07.2015 to 31.03.2016)	2016-17	2017-18	2018-19
1	Bond XVIII	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	5.980%	5.980%	5.980%	5.980%
		Interest	-	-	-	-
2	Bond XXI	Net Opening - Loan	1,000.00	800.00	600.00	400.00
		Addition	-	-	-	-
		Repayment	200.00	200.00	200.00	200.00
		Net Closing - Loan	**800.00**	**600.00**	**400.00**	**200.00**
		Average Loan	**900.00**	**700.00**	**500.00**	**300.00**
		ROI	7.74000%	7.740%	7.740%	7.740%
		Interest	**69.66**	**54.18**	**38.70**	**23.22**
3	Bond XXII	Net Opening - Loan	5,775.00	5,250.00	4,200.00	3,150.00
		Addition	-	-	-	-
		Repayment	525.00	1,050.00	1,050.00	1,050.00
		Net Closing - Loan	**5,250.00**	**4,200.00**	**3,150.00**	**2,100.00**
		Average Loan	**5,512.50**	**4,725.00**	**3,675.00**	**2,625.00**
		ROI	8.210%	8.210%	8.210%	8.210%
		Interest	**452.58**	**387.92**	**301.72**	**215.51**
4	Bond XXIII	Net Opening - Loan	1,020.00	850.00	680.00	510.00
		Addition	-	-	-	-
		Repayment	170.00	170.00	170.00	170.00
		Net Closing - Loan	850.00	680.00	510.00	340.00
		Average Loan	**935.00**	**765.00**	**595.00**	**425.00**
		ROI	8.410%	8.410%	8.410%	8.410%
		Interest	**78.63**	**64.34**	**50.04**	**35.74**
5	Bond XXIV	Net Opening - Loan	4,800.00	4,000.00	3,200.00	2,400.00
		Addition	-	-	-	-
		Repayment	800.00	800.00	800.00	800.00
		Net Closing - Loan	4,000.00	3,200.00	2,400.00	1,600.00
		Average Loan	**4,400.00**	**3,600.00**	**2,800.00**	**2,000.00**
		ROI	8.640%	8.640%	8.640%	8.640%
		Interest	**380.16**	**311.04**	**241.92**	**172.80**
6	Bond XXVI	Net Opening - Loan	4,995.00	4,280.00	2,850.00	1,420.00
		Addition	-	-	-	-
		Repayment	715.00	1,430.00	1,430.00	1,420.00
		Net Closing - Loan	**4,280.00**	**2,850.00**	**1,420.00**	**-**
		Average Loan	**4,637.50**	**3,565.00**	**2,135.00**	**710.00**
		ROI	9.090%	9.090%	9.090%	9.090%
		Interest	**421.55**	**324.06**	**194.07**	**64.54**
7	Bond XXVIII	Net Opening - Loan	12,500.00	12,500.00	12,500.00	12,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	12,500.00
		Net Closing - Loan	**12,500.00**	**12,500.00**	**12,500.00**	**-**
		Average Loan	**12,500.00**	**12,500.00**	**12,500.00**	**6,250.00**
		ROI	11.030%	11.030%	11.030%	11.030%
		Interest	**1,378.75**	**1,378.75**	**1,378.75**	**689.38**
8	Bond XXIX	Net Opening - Loan	33,000.00	33,000.00	33,000.00	33,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	33,000.00
		Net Closing - Loan	**33,000.00**	**33,000.00**	**33,000.00**	**-**
		Average Loan	**33,000.00**	**33,000.00**	**33,000.00**	**16,500.00**
		ROI	8.680%	8.680%	8.680%	8.680%
		Interest	**2,864.40**	**2,864.40**	**2,864.40**	**1,432.20**
9	Bond XXX	Net Opening - Loan	3,000.00	3,000.00	3,000.00	3,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**3,000.00**	**3,000.00**	**3,000.00**	**3,000.00**
		Average Loan	**3,000.00**	**3,000.00**	**3,000.00**	**3,000.00**
		ROI	7.920%	7.920%	7.920%	7.920%
		Interest	**237.60**	**237.60**	**237.60**	**237.60**
10	Bond XXXI	Net Opening - Loan	10,000.00	10,000.00	10,000.00	10,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**10,000.00**	**10,000.00**	**10,000.00**	**10,000.00**
		Average Loan	**10,000.00**	**10,000.00**	**10,000.00**	**10,000.00**
		ROI	8.810%	8.810%	8.810%	8.810%
		Interest	**881.00**	**881.00**	**881.00**	**881.00**
11	Bond XXXII	Net Opening - Loan	7,000.00	6,533.33	6,066.67	5,600.00
		Addition	-	-	-	-
		Repayment	466.67	466.67	466.67	466.67

		Net Closing - Loan	**6,533.33**	**6,066.67**	**5,600.00**	**5,133.33**
		Average Loan	**6,766.67**	**6,300.00**	**5,833.33**	**5,366.67**
		ROI	8.880%	8.880%	8.880%	8.880%
		Interest	**600.88**	**559.44**	**518.00**	**476.56**
12	Bond XXXIV	Net Opening - Loan	3,900.00	3,900.00	3,640.00	3,380.00
		Addition	-	-	-	-
		Repayment	-	260.00	260.00	260.00
		Net Closing - Loan	**3,900.00**	**3,640.00**	**3,380.00**	**3,120.00**
		Average Loan	**3,900.00**	**3,770.00**	**3,510.00**	**3,250.00**
		ROI	8.740%	8.740%	8.740%	8.740%
		Interest	**340.86**	**329.50**	**306.77**	**284.05**
13	Bond XXXVII	Net Opening - Loan	6,000.00	6,000.00	6,000.00	6,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**6,000.00**	**6,000.00**	**6,000.00**	**6,000.00**
		Average Loan	**6,000.00**	**6,000.00**	**6,000.00**	**6,000.00**
		ROI	8.960%	8.960%	8.960%	8.960%
		Interest	**537.60**	**537.60**	**537.60**	**537.60**
14	Bond XXXVIII	Net Opening - Loan	700.00	700.00	653.33	606.67
		Addition	-	-	-	-
		Repayment	-	46.67	46.67	46.67
		Net Closing - Loan	**700.00**	**653.33**	**606.67**	**560.00**
		Average Loan	**700.00**	**676.67**	**630.00**	**583.33**
		ROI	9.200%	9.200%	9.200%	9.200%
		Interest	**64.40**	**62.25**	**57.96**	**53.67**
15	Bond XXXIX	Net Opening - Loan	3,100.00	3,100.00	3,100.00	2,893.33
		Addition	-	-	-	-
		Repayment	-	-	206.67	206.67
		Net Closing - Loan	**3,100.00**	**3,100.00**	**2,893.33**	**2,686.67**
		Average Loan	**3,100.00**	**3,100.00**	**2,996.67**	**2,790.00**
		ROI	9.420%	9.420%	9.420%	9.420%
		Interest	**292.02**	**292.02**	**282.29**	**262.82**
16	Bond XLI	Net Opening - Loan	3,000.00	3,000.00	3,000.00	2,800.00
		Addition	-	-	-	-
		Repayment	-	-	200.00	200.00
		Net Closing - Loan	**3,000.00**	**3,000.00**	**2,800.00**	**2,600.00**
		Average Loan	**3,000.00**	**3,000.00**	**2,900.00**	**2,700.00**
		ROI	9.701%	9.701%	9.701%	9.701%
		Interest	**291.04**	**291.04**	**281.34**	**261.94**
17	Bond XLII	Net Opening - Loan	7,500.00	7,500.00	7,500.00	7,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**7,500.00**	**7,500.00**	**7,500.00**	**7,500.00**
		Average Loan	**7,500.00**	**7,500.00**	**7,500.00**	**7,500.00**
		ROI	9.030%	9.030%	9.030%	9.030%
		Interest	**677.25**	**677.25**	**677.25**	**677.25**
18	Bond XLVII	Net Opening - Loan	8,500.00	8,500.00	8,500.00	8,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**8,500.00**	**8,500.00**	**8,500.00**	**8,500.00**
		Average Loan	**8,500.00**	**8,500.00**	**8,500.00**	**8,500.00**
		ROI	8.870%	8.870%	8.870%	8.870%
		Interest	**753.95**	**753.95**	**753.95**	**753.95**
19	Bond XLVIII	Net Opening - Loan	5,500.00	5,500.00	5,500.00	5,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**5,500.00**	**5,500.00**	**5,500.00**	**5,500.00**
		Average Loan	**5,500.00**	**5,500.00**	**5,500.00**	**5,500.00**
		ROI	8.760%	8.760%	8.760%	8.760%
		Interest	**481.80**	**481.80**	**481.80**	**481.80**
20	Bond XLIX	Net Opening - Loan	3,200.00	3,200.00	3,200.00	3,200.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**3,200.00**	**3,200.00**	**3,200.00**	**3,200.00**
		Average Loan	**3,200.00**	**3,200.00**	**3,200.00**	**3,200.00**
		ROI	8.830%	8.830%	8.830%	8.830%
		Interest	**282.56**	**282.56**	**282.56**	**282.56**
21	Bond L1A	Net Opening - Loan	6,023.64	6,023.64	6,023.64	6,023.64
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**6,023.64**	**6,023.64**	**6,023.64**	**6,023.64**
		Average Loan	**6,023.64**	**6,023.64**	**6,023.64**	**6,023.64**
		ROI	8.440%	8.440%	8.440%	8.440%
		Interest	**508.40**	**508.40**	**508.40**	**508.40**
22	Bond L2A	Net Opening - Loan	3,085.05	3,085.05	3,085.05	3,085.05
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**3,085.05**	**3,085.05**	**3,085.05**	**3,085.05**
		Average Loan	**3,085.05**	**3,085.05**	**3,085.05**	**3,085.05**
		ROI	8.510%	8.510%	8.510%	8.510%
		Interest	**262.54**	**262.54**	**262.54**	**262.54**
23	Bond L3A	Net Opening - Loan	3,851.31	3,851.31	3,851.31	3,851.31

		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**3,851.31**	**3,851.31**	**3,851.31**	**3,851.31**
		Average Loan	**3,851.31**	**3,851.31**	**3,851.31**	**3,851.31**
		ROI	8.690%	8.690%	8.690%	8.690%
		Interest	**334.68**	**334.68**	**334.68**	**334.68**
24	Bond L1B	Net Opening - Loan	2,575.20	2,575.20	2,575.20	2,575.20
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**2,575.20**	**2,575.20**	**2,575.20**	**2,575.20**
		Average Loan	**2,575.20**	**2,575.20**	**2,575.20**	**2,575.20**
		ROI	8.690%	8.690%	8.690%	8.690%
		Interest	**223.78**	**223.78**	**223.78**	**223.78**
25	Bond L2B	Net Opening - Loan	1,128.05	1,128.05	1,128.05	1,128.05
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**1,128.05**	**1,128.05**	**1,128.05**	**1,128.05**
		Average Loan	**1,128.05**	**1,128.05**	**1,128.05**	**1,128.05**
		ROI	8.760%	8.760%	8.760%	8.760%
		Interest	**98.82**	**98.82**	**98.82**	**98.82**
26	Bond L3B	Net Opening - Loan	4,936.75	4,936.75	4,936.75	4,936.75
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**4,936.75**	**4,936.75**	**4,936.75**	**4,936.75**
		Average Loan	**4,936.75**	**4,936.75**	**4,936.75**	**4,936.75**
		ROI	8.940%	8.940%	8.940%	8.940%
		Interest	**441.35**	**441.35**	**441.35**	**441.35**
27	Bond LIA	Net Opening - Loan	6,500.00	6,500.00	6,500.00	6,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**6,500.00**	**6,500.00**	**6,500.00**	**6,500.00**
		Average Loan	**6,500.00**	**6,500.00**	**6,500.00**	**6,500.00**
		ROI	8.220%	8.220%	8.220%	8.220%
		Interest	**534.30**	**534.30**	**534.30**	**534.30**
28	Bond LIB	Net Opening - Loan	4,200.00	4,200.00	4,200.00	4,200.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**4,200.00**	**4,200.00**	**4,200.00**	**4,200.00**
		Average Loan	**4,200.00**	**4,200.00**	**4,200.00**	**4,200.00**
		ROI	8.660%	8.660%	8.660%	8.660%
		Interest	**363.72**	**363.72**	**363.72**	**363.72**
29	Bond LII	Net Opening - Loan	4,100.00	4,100.00	4,100.00	4,100.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**4,100.00**	**4,100.00**	**4,100.00**	**4,100.00**
		Average Loan	**4,100.00**	**4,100.00**	**4,100.00**	**4,100.00**
		ROI	9.370%	9.370%	9.370%	9.370%
		Interest	**384.17**	**384.17**	**384.17**	**384.17**
30	Bond LIII	Net Opening - Loan	6,500.00	6,500.00	6,500.00	6,500.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**6,500.00**	**6,500.00**	**6,500.00**	**6,500.00**
		Average Loan	**6,500.00**	**6,500.00**	**6,500.00**	**6,500.00**
		ROI	9.200%	9.200%	9.200%	9.200%
		Interest	**598.00**	**598.00**	**598.00**	**598.00**
31	Bond LIV	Net Opening - Loan	16,800.00	17,100.00	17,100.00	17,100.00
		Addition	300.00	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	**17,100.00**	**17,100.00**	**17,100.00**	**17,100.00**
		Average Loan	**16,950.00**	**17,100.00**	**17,100.00**	**17,100.00**
		ROI	8.520%	8.520%	8.520%	8.520%
		Interest	**1,444.14**	**1,456.92**	**1,456.92**	**1,456.92**
32	Andhra Bank-II (T1 - D5)	Net Opening - Loan	10,000.00	10,000.00	10,000.00	10,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	1,000.00
		Net Closing - Loan	10,000.00	10,000.00	10,000.00	9,000.00
		Average Loan	**10,000.00**	**10,000.00**	**10,000.00**	**9,500.00**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**1,000.00**	**1,000.00**	**1,000.00**	**950.00**
33	BOI (T1-D1)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	10.410%	10.410%	10.410%	10.410%
		Interest	-	-	-	-
34	BOI-II (T1-D10)	Net Opening - Loan	10,000.00	10,000.00	10,000.00	10,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	10,000.00	10,000.00	10,000.00	10,000.00
		Average Loan	**10,000.00**	**10,000.00**	**10,000.00**	**10,000.00**
		ROI	9.950%	9.950%	9.950%	9.950%

		Interest	**995.00**	**995.00**	**995.00**	**995.00**
35	HDFC-II (T1-D3)	Net Opening - Loan	2,750.00	2,500.00	2,000.00	1,500.00
		Addition	-	-	-	-
		Repayment	250.00	500.00	500.00	500.00
		Net Closing - Loan	2,500.00	2,000.00	1,500.00	1,000.00
		Average Loan	**2,625.00**	**2,250.00**	**1,750.00**	**1,250.00**
		ROI	10.140%	10.140%	10.140%	10.140%
		Interest	**266.18**	**228.15**	**177.45**	**126.75**
36	HDFC-III (T1-D3)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	11.150%	11.150%	11.150%	11.150%
		Interest	-	-	-	-
37	HUDCO-I (T1-D2)	Net Opening - Loan	863.64	818.18	727.27	636.36
		Addition	-	-	-	-
		Repayment	45.45	90.91	90.91	90.91
		Net Closing - Loan	818.18	727.27	636.36	545.45
		Average Loan	**840.91**	**772.73**	**681.82**	**590.91**
		ROI	10.050%	10.050%	10.050%	10.050%
		Interest	**84.51**	**77.66**	**68.52**	**59.39**
38	ICICI-II (T1-D4)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	7.100%	7.100%	7.100%	7.100%
		Interest	-	-	-	-
39	IDBI-I (T1-D5)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	7.563%	7.563%	7.563%	7.563%
		Interest	-	-	-	-
40	IDBI-II (T1-D1)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	7.250%	7.250%	7.250%	7.250%
		Interest	-	-	-	-
41	IDBI-III (T1-D1)	Net Opening - Loan	714.29	571.43	428.57	285.71
		Addition	-	-	-	-
		Repayment	142.86	142.86	142.86	142.86
		Net Closing - Loan	571.43	428.57	285.71	142.86
		Average Loan	**642.86**	**500.00**	**357.14**	**214.29**
		ROI	10.500%	10.500%	10.500%	10.500%
		Interest	**67.50**	**52.50**	**37.50**	**22.50**
42	Indian Bank-I (T1-D3)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	7.310%	7.310%	7.310%	7.310%
		Interest	-	-	-	-
43	Indian Bank-II (T1-D3)	Net Opening - Loan	2,285.71	2,000.00	1,428.57	857.14
		Addition	-	-	-	-
		Repayment	285.71	571.43	571.43	571.43
		Net Closing - Loan	2,000.00	1,428.57	857.14	285.71
		Average Loan	**2,142.86**	**1,714.29**	**1,142.86**	**571.43**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**213.21**	**170.57**	**113.71**	**56.86**
44	IOB-II (T1-D2)	Net Opening - Loan	357.14	-	-	-
		Addition	-	-	-	-
		Repayment	357.14	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	**178.57**	-	-	-
		ROI	7.000%	7.000%	7.000%	7.000%
		Interest	**12.50**	-	-	-
45	IOB-III (T1-D1,11)	Net Opening - Loan	8,500.00	7,437.50	6,375.00	5,312.50
		Addition	-	-	-	-
		Repayment	1,062.50	1,062.50	1,062.50	1,062.50
		Net Closing - Loan	7,437.50	6,375.00	5,312.50	4,250.00
		Average Loan	**7,968.75**	**6,906.25**	**5,843.75**	**4,781.25**
		ROI	10.050%	10.050%	10.050%	10.050%
		Interest	**800.86**	**694.08**	**587.30**	**480.52**
46	LIC-III (T1-D1)	Net Opening - Loan	6,933.33	6,500.00	5,633.33	4,766.67
		Addition	-	-	-	-
		Repayment	433.33	866.67	866.67	866.67
		Net Closing - Loan	6,500.00	5,633.33	4,766.67	3,900.00

		Average Loan	6,716.67	6,066.67	5,200.00	4,333.33
		ROI	6.571%	6.571%	6.571%	6.571%
		Interest	441.35	398.64	341.69	284.74
47	LIC-III (T2-D1)	Net Opening - Loan	1,700.00	1,275.00	425.00	-
		Addition	-	-	-	-
		Repayment	425.00	850.00	425.00	-
		Net Closing - Loan	**1,275.00**	**425.00**	**-**	**-**
		Average Loan	1,487.50	850.00	212.50	-
		ROI	7.619%	7.619%	7.619%	7.619%
		Interest	113.33	64.76	16.19	-
48	LIC-III (T2-D2)	Net Opening - Loan	1,600.00	1,200.00	400.00	-
		Addition	-	-	-	-
		Repayment	400.00	800.00	400.00	-
		Net Closing - Loan	**1,200.00**	**400.00**	**-**	**-**
		Average Loan	1,400.00	800.00	200.00	-
		ROI	7.732%	7.732%	7.732%	7.732%
		Interest	108.25	61.86	15.46	-
49	LIC-III (T2-D3)	Net Opening - Loan	300.00	225.00	75.00	-
		Addition	-	-	-	-
		Repayment	75.00	150.00	75.00	-
		Net Closing - Loan	**225.00**	**75.00**	**-**	**-**
		Average Loan	262.50	150.00	37.50	-
		ROI	8.523%	8.523%	8.523%	8.523%
		Interest	22.37	12.78	3.20	-
50	LIC-III (T2-D6)	Net Opening - Loan	600.00	450.00	150.00	-
		Addition	-	-	-	-
		Repayment	150.00	300.00	150.00	-
		Net Closing - Loan	**450.00**	**150.00**	**-**	**-**
		Average Loan	525.00	300.00	75.00	-
		ROI	8.728%	8.728%	8.728%	8.728%
		Interest	45.82	26.18	6.55	-
51	LIC-IV (T1-D1)	Net Opening - Loan	1,714.29	1,285.71	857.14	428.57
		Addition	-	-	-	-
		Repayment	428.57	428.57	428.57	428.57
		Net Closing - Loan	1,285.71	857.14	428.57	-
		Average Loan	1,500.00	1,071.43	642.86	214.29
		ROI	9.640%	9.640%	9.640%	9.640%
		Interest	144.60	103.29	61.97	20.66
52	OBC-I (T1-D1,4)	Net Opening - Loan	3,571.43	2,857.14	1,428.57	-
		Addition	-	-	-	-
		Repayment	714.29	1,428.57	1,428.57	-
		Net Closing - Loan	2,857.14	1,428.57	-	-
		Average Loan	3,214.29	2,142.86	714.29	-
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	321.43	214.29	71.43	-
53	OBC-II (T1,D1)	Net Opening - Loan	714.29	571.43	428.57	285.71
		Addition	-	-	-	-
		Repayment	142.86	142.86	142.86	142.86
		Net Closing - Loan	571.43	428.57	285.71	142.86
		Average Loan	642.86	500.00	357.14	214.29
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	64.29	50.00	35.71	21.43
54	PFC-V (T1-D1)	Net Opening - Loan	2,437.50	2,312.50	2,062.50	1,812.50
		Addition	-	-	-	-
		Repayment	125.00	250.00	250.00	250.00
		Net Closing - Loan	**2,312.50**	**2,062.50**	**1,812.50**	**1,562.50**
		Average Loan	2,375.00	2,187.50	1,937.50	1,687.50
		ROI	9.940%	9.940%	9.940%	9.940%
		Interest	236.08	217.44	192.59	167.74
55	PFC-V (T1-D2)	Net Opening - Loan	4,062.50	3,854.17	3,437.50	3,020.83
		Addition	-	-	-	-
		Repayment	208.33	416.67	416.67	416.67
		Net Closing - Loan	**3,854.17**	**3,437.50**	**3,020.83**	**2,604.17**
		Average Loan	3,958.33	3,645.83	3,229.17	2,812.50
		ROI	9.970%	9.970%	9.970%	9.970%
		Interest	394.65	363.49	321.95	280.41
56	PFC-V (T1-D3)	Net Opening - Loan	5,687.50	5,395.83	4,812.50	4,229.17
		Addition	-	-	-	-
		Repayment	291.67	583.33	583.33	583.33
		Net Closing - Loan	**5,395.83**	**4,812.50**	**4,229.17**	**3,645.83**
		Average Loan	5,541.67	5,104.17	4,520.83	3,937.50
		ROI	9.700%	9.700%	9.700%	9.700%
		Interest	537.54	495.10	438.52	381.94
57	PFC-V (T1-D9)	Net Opening - Loan	4,062.50	3,854.17	3,437.50	3,020.83
		Addition	-	-	-	-
		Repayment	208.33	416.67	416.67	416.67
		Net Closing - Loan	**3,854.17**	**3,437.50**	**3,020.83**	**2,604.17**
		Average Loan	3,958.33	3,645.83	3,229.17	2,812.50
		ROI	9.390%	9.390%	9.390%	9.390%
		Interest	371.69	342.34	303.22	264.09
58	PFC-V (T1-D11)	Net Opening - Loan	2,031.25	1,927.08	1,718.75	1,510.42
		Addition	-	-	-	-

		Repayment	104.17	208.33	208.33	208.33
		Net Closing - Loan	**1,927.08**	**1,718.75**	**1,510.42**	**1,302.08**
		Average Loan	**1,979.17**	**1,822.92**	**1,614.58**	**1,406.25**
		ROI	9.320%	9.320%	9.320%	9.320%
		Interest	**184.46**	**169.90**	**150.48**	**131.06**
59	PFC-V (T1-D12)	Net Opening - Loan	1,625.00	1,541.67	1,375.00	1,208.33
		Addition	-	-	-	-
		Repayment	83.33	166.67	166.67	166.67
		Net Closing - Loan	**1,541.67**	**1,375.00**	**1,208.33**	**1,041.67**
		Average Loan	**1,583.33**	**1,458.33**	**1,291.67**	**1,125.00**
		ROI	9.310%	9.310%	9.310%	9.310%
		Interest	**147.41**	**135.77**	**120.25**	**104.74**
60	PFC-V (T1-D19)	Net Opening - Loan	8,125.00	7,708.33	6,875.00	6,041.67
		Addition	-	-	-	-
		Repayment	416.67	833.33	833.33	833.33
		Net Closing - Loan	**7,708.33**	**6,875.00**	**6,041.67**	**5,208.33**
		Average Loan	**7,916.67**	**7,291.67**	**6,458.33**	**5,625.00**
		ROI	8.770%	8.770%	8.770%	8.770%
		Interest	**694.29**	**639.48**	**566.40**	**493.31**
61	PFC-V (T1-D21)	Net Opening - Loan	1,625.00	1,541.67	1,375.00	1,208.33
		Addition	-	-	-	-
		Repayment	83.33	166.67	166.67	166.67
		Net Closing - Loan	**1,541.67**	**1,375.00**	**1,208.33**	**1,041.67**
		Average Loan	**1,583.33**	**1,458.33**	**1,291.67**	**1,125.00**
		ROI	9.920%	9.920%	9.920%	9.920%
		Interest	**157.07**	**144.67**	**128.13**	**111.60**
62	PFC-V (T1-D22)	Net Opening - Loan	812.50	770.83	687.50	604.17
		Addition	-	-	-	-
		Repayment	41.67	83.33	83.33	83.33
		Net Closing - Loan	**770.83**	**687.50**	**604.17**	**520.83**
		Average Loan	**791.67**	**729.17**	**645.83**	**562.50**
		ROI	9.970%	9.970%	9.970%	9.970%
		Interest	**78.93**	**72.70**	**64.39**	**56.08**
63	PFC-V (T1-D23)	Net Opening - Loan	812.50	770.83	687.50	604.17
		Addition	-	-	-	-
		Repayment	41.67	83.33	83.33	83.33
		Net Closing - Loan	**770.83**	**687.50**	**604.17**	**520.83**
		Average Loan	**791.67**	**729.17**	**645.83**	**562.50**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**79.17**	**72.92**	**64.58**	**56.25**
64	PFC-V (T1-D25)	Net Opening - Loan	2,031.25	1,927.08	1,718.75	1,510.42
		Addition	-	-	-	-
		Repayment	104.17	208.33	208.33	208.33
		Net Closing - Loan	**1,927.08**	**1,718.75**	**1,510.42**	**1,302.08**
		Average Loan	**1,979.17**	**1,822.92**	**1,614.58**	**1,406.25**
		ROI	10.170%	10.170%	10.170%	10.170%
		Interest	**201.28**	**185.39**	**164.20**	**143.02**
65	PFC-V (T1-D27)	Net Opening - Loan	3,656.25	3,468.75	3,093.75	2,718.75
		Addition	-	-	-	-
		Repayment	187.50	375.00	375.00	375.00
		Net Closing - Loan	**3,468.75**	**3,093.75**	**2,718.75**	**2,343.75**
		Average Loan	**3,562.50**	**3,281.25**	**2,906.25**	**2,531.25**
		ROI	10.070%	10.070%	10.070%	10.070%
		Interest	**358.74**	**330.42**	**292.66**	**254.90**
66	PFC-V (T1-D31)	Net Opening - Loan	4,712.50	4,470.83	3,987.50	3,504.17
		Addition	-	-	-	-
		Repayment	241.67	483.33	483.33	483.33
		Net Closing - Loan	**4,470.83**	**3,987.50**	**3,504.17**	**3,020.83**
		Average Loan	**4,591.67**	**4,229.17**	**3,745.83**	**3,262.50**
		ROI	9.680%	9.680%	9.680%	9.680%
		Interest	**444.47**	**409.38**	**362.60**	**315.81**
67	PFC-V (T1-D32)	Net Opening - Loan	7,881.25	7,477.08	6,668.75	5,860.42
		Addition	-	-	-	-
		Repayment	404.17	808.33	808.33	808.33
		Net Closing - Loan	**7,477.08**	**6,668.75**	**5,860.42**	**5,052.08**
		Average Loan	**7,679.17**	**7,072.92**	**6,264.58**	**5,456.25**
		ROI	8.940%	8.940%	8.940%	8.940%
		Interest	**686.52**	**632.32**	**560.05**	**487.79**
68	PFC-V (T1-D34)	Net Opening - Loan	2,681.25	2,543.75	2,268.75	1,993.75
		Addition	-	-	-	-
		Repayment	137.50	275.00	275.00	275.00
		Net Closing - Loan	**2,543.75**	**2,268.75**	**1,993.75**	**1,718.75**
		Average Loan	**2,612.50**	**2,406.25**	**2,131.25**	**1,856.25**
		ROI	8.760%	8.760%	8.760%	8.760%
		Interest	**228.86**	**210.79**	**186.70**	**162.61**
69	Punjab & Sindh Bank-I (T1-D3)	Net Opening - Loan	3,535.71	2,750.00	1,964.29	1,178.57
		Addition	-	-	-	-
		Repayment	785.71	785.71	785.71	785.71
		Net Closing - Loan	2,750.00	1,964.29	1,178.57	392.86
		Average Loan	**3,142.86**	**2,357.14**	**1,571.43**	**785.71**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**314.29**	**235.71**	**157.14**	**78.57**

70	Punjab & Sindh Bank-II (T1-D3)	Net Opening - Loan	5,000.00	5,000.00	5,000.00	5,000.00
		Addition	-	-	-	-
		Repayment	-	-	-	500.00
		Net Closing - Loan	5,000.00	5,000.00	5,000.00	4,500.00
		Average Loan	**5,000.00**	**5,000.00**	**5,000.00**	**4,750.00**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**500.00**	**500.00**	**500.00**	**475.00**
71	PNB-II (T2-D1)	Net Opening - Loan	1,071.43	357.14	-	-
		Addition	-	-	-	-
		Repayment	714.29	357.14	-	-
		Net Closing - Loan	357.14	-	-	-
		Average Loan	**714.29**	**178.57**	**-**	**-**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**71.43**	**17.86**	**-**	**-**
72	SBH-I (T1-D2,3)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	**-**	**-**	**-**	**-**
		ROI	7.305%	7.305%	7.305%	7.305%
		Interest	**-**	**-**	**-**	**-**
73	SBI-IV (T1-D1)	Net Opening - Loan	1,228.57	-	-	-
		Addition	-	-	-	-
		Repayment	1,228.57	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	**614.29**	**-**	**-**	**-**
		ROI	9.500%	9.500%	9.500%	9.500%
		Interest	**58.36**	**-**	**-**	**-**
74	SBI-V (T1-D2,6)	Net Opening - Loan	2,785.71	1,857.14	928.57	-
		Addition	-	-	-	-
		Repayment	928.57	928.57	928.57	-
		Net Closing - Loan	1,857.14	928.57	-	-
		Average Loan	**2,321.43**	**1,392.86**	**464.29**	**-**
		ROI	10.700%	10.700%	10.700%	10.700%
		Interest	**248.39**	**149.04**	**49.68**	**-**
75	SBI-VI (T1-D2)	Net Opening - Loan	1,142.86	857.14	571.43	285.71
		Addition	-	-	-	-
		Repayment	285.71	285.71	285.71	285.71
		Net Closing - Loan	857.14	571.43	285.71	-
		Average Loan	**1,000.00**	**714.29**	**428.57**	**142.86**
		ROI	10.700%	10.700%	10.700%	10.700%
		Interest	**107.00**	**76.43**	**45.86**	**15.29**
76	SBI-VI (T1-D5,7)	Net Opening - Loan	2,571.43	1,928.57	1,285.71	642.86
		Addition	-	-	-	-
		Repayment	642.86	642.86	642.86	642.86
		Net Closing - Loan	1,928.57	1,285.71	642.86	-
		Average Loan	**2,250.00**	**1,607.14**	**964.29**	**321.43**
		ROI	10.700%	10.700%	10.700%	10.700%
		Interest	**240.75**	**171.96**	**103.18**	**34.39**
77	SBI-VII (T1-D3)	Net Opening - Loan	7,100.00	6,212.50	5,325.00	4,437.50
		Addition	-	-	-	-
		Repayment	887.50	887.50	887.50	887.50
		Net Closing - Loan	6,212.50	5,325.00	4,437.50	3,550.00
		Average Loan	**6,656.25**	**5,768.75**	**4,881.25**	**3,993.75**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**662.30**	**573.99**	**485.68**	**397.38**
78	SBI-VII (T1-D6)	Net Opening - Loan	4,500.00	3,937.50	3,375.00	2,812.50
		Addition	-	-	-	-
		Repayment	562.50	562.50	562.50	562.50
		Net Closing - Loan	3,937.50	3,375.00	2,812.50	2,250.00
		Average Loan	**4,218.75**	**3,656.25**	**3,093.75**	**2,531.25**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**419.77**	**363.80**	**307.83**	**251.86**
79	SBI-VII (T1-D7)	Net Opening - Loan	3,500.00	3,062.50	2,625.00	2,187.50
		Addition	-	-	-	-
		Repayment	437.50	437.50	437.50	437.50
		Net Closing - Loan	3,062.50	2,625.00	2,187.50	1,750.00
		Average Loan	**3,281.25**	**2,843.75**	**2,406.25**	**1,968.75**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**326.48**	**282.95**	**239.42**	**195.89**
80	SBI-VII (T1-D8)	Net Opening - Loan	3,500.00	3,062.50	2,625.00	2,187.50
		Addition	-	-	-	-
		Repayment	437.50	437.50	437.50	437.50
		Net Closing - Loan	3,062.50	2,625.00	2,187.50	1,750.00
		Average Loan	**3,281.25**	**2,843.75**	**2,406.25**	**1,968.75**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**326.48**	**282.95**	**239.42**	**195.89**
81	SBI-VII (T1-D10)	Net Opening - Loan	5,000.00	4,375.00	3,750.00	3,125.00
		Addition	-	-	-	-
		Repayment	625.00	625.00	625.00	625.00
		Net Closing - Loan	4,375.00	3,750.00	3,125.00	2,500.00
		Average Loan	**4,687.50**	**4,062.50**	**3,437.50**	**2,812.50**

		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**466.41**	**404.22**	**342.03**	**279.84**
82	SBI-VII (T1-D13)	Net Opening - Loan	10,000.00	8,750.00	7,500.00	6,250.00
		Addition	-	-	-	-
		Repayment	1,250.00	1,250.00	1,250.00	1,250.00
		Net Closing - Loan	8,750.00	7,500.00	6,250.00	5,000.00
		Average Loan	**9,375.00**	**8,125.00**	**6,875.00**	**5,625.00**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**932.81**	**808.44**	**684.06**	**559.69**
83	SBI-VII (T1-D15)	Net Opening - Loan	4,000.00	3,500.00	3,000.00	2,500.00
		Addition	-	-	-	-
		Repayment	500.00	500.00	500.00	500.00
		Net Closing - Loan	3,500.00	3,000.00	2,500.00	2,000.00
		Average Loan	**3,750.00**	**3,250.00**	**2,750.00**	**2,250.00**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**373.13**	**323.38**	**273.63**	**223.88**
84	SBI-VII (T1-D17)	Net Opening - Loan	10,000.00	8,750.00	7,500.00	6,250.00
		Addition	-	-	-	-
		Repayment	1,250.00	1,250.00	1,250.00	1,250.00
		Net Closing - Loan	8,750.00	7,500.00	6,250.00	5,000.00
		Average Loan	**9,375.00**	**8,125.00**	**6,875.00**	**5,625.00**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**932.81**	**808.44**	**684.06**	**559.69**
85	SBI-VII (T1-D20)	Net Opening - Loan	10,000.00	8,750.00	7,500.00	6,250.00
		Addition	-	-	-	-
		Repayment	1,250.00	1,250.00	1,250.00	1,250.00
		Net Closing - Loan	8,750.00	7,500.00	6,250.00	5,000.00
		Average Loan	**9,375.00**	**8,125.00**	**6,875.00**	**5,625.00**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**932.81**	**808.44**	**684.06**	**559.69**
86	State Bank of Maysore (T1-D2)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	7.305%	7.305%	7.305%	7.305%
		Interest	-	-	-	-
87	SBP Syndicate (T1-D1)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	9.250%	9.250%	9.250%	9.250%
		Interest	-	-	-	-
88	Federal Bank (T1-D1)	Net Opening - Loan	-	-	-	-
		Addition	-	-	-	-
		Repayment	-	-	-	-
		Net Closing - Loan	-	-	-	-
		Average Loan	-	-	-	-
		ROI	9.430%	9.430%	9.430%	9.430%
		Interest	-	-	-	-
89	Karur Vyasya Bank-III (T1-D1)	Net Opening - Loan	714.29	571.43	428.57	285.71
		Addition	-	-	-	-
		Repayment	142.86	142.86	142.86	142.86
		Net Closing - Loan	571.43	428.57	285.71	142.86
		Average Loan	**642.86**	**500.00**	**357.14**	**214.29**
		ROI	10.750%	10.750%	10.750%	10.750%
		Interest	**69.11**	**53.75**	**38.39**	**23.04**
90	Karur Vyasya Bank-III (T2-D2)	Net Opening - Loan	6,428.57	5,142.86	3,857.14	2,571.43
		Addition	-	-	-	-
		Repayment	1,285.71	1,285.71	1,285.71	1,285.71
		Net Closing - Loan	5,142.86	3,857.14	2,571.43	1,285.71
		Average Loan	**5,785.71**	**4,500.00**	**3,214.29**	**1,928.57**
		ROI	10.750%	10.750%	10.750%	10.750%
		Interest	**621.96**	**483.75**	**345.54**	**207.32**
91	Uco Bank-II (T1-D2)	Net Opening - Loan	2,500.00	2,500.00	2,187.50	1,875.00
		Addition	-	-	-	-
		Repayment	-	312.50	312.50	312.50
		Net Closing - Loan	2,500.00	2,187.50	1,875.00	1,562.50
		Average Loan	**2,500.00**	**2,343.75**	**2,031.25**	**1,718.75**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**248.75**	**233.20**	**202.11**	**171.02**
92	Uco Bank-II (T1-D3)	Net Opening - Loan	5,000.00	5,000.00	4,375.00	3,750.00
		Addition	-	-	-	-
		Repayment	-	625.00	625.00	625.00
		Net Closing - Loan	5,000.00	4,375.00	3,750.00	3,125.00
		Average Loan	**5,000.00**	**4,687.50**	**4,062.50**	**3,437.50**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**497.50**	**466.41**	**404.22**	**342.03**
93	Uco Bank-II (T1-D4)	Net Opening - Loan	5,000.00	5,000.00	4,375.00	3,750.00
		Addition	-	-	-	-
		Repayment	-	625.00	625.00	625.00

		Net Closing - Loan	5,000.00	4,375.00	3,750.00	3,125.00
		Average Loan	**5,000.00**	**4,687.50**	**4,062.50**	**3,437.50**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**497.50**	**466.41**	**404.22**	**342.03**
94	Uco Bank-II (T1-D10)	Net Opening - Loan	6,500.00	6,500.00	5,687.50	4,875.00
		Addition	-	-	-	-
		Repayment	-	812.50	812.50	812.50
		Net Closing - Loan	6,500.00	5,687.50	4,875.00	4,062.50
		Average Loan	**6,500.00**	**6,093.75**	**5,281.25**	**4,468.75**
		ROI	9.950%	9.950%	9.950%	9.950%
		Interest	**646.75**	**606.33**	**525.48**	**444.64**
95	Union Bank of India-II (T1-D6)	Net Opening - Loan	10,000.00	10,000.00	9,500.00	8,500.00
		Addition	-	-	-	-
		Repayment	-	500.00	1,000.00	1,000.00
		Net Closing - Loan	10,000.00	9,500.00	8,500.00	7,500.00
		Average Loan	**10,000.00**	**9,750.00**	**9,000.00**	**8,000.00**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**1,000.00**	**975.00**	**900.00**	**800.00**
96	United Bank of India-II (T1-D1)	Net Opening - Loan	4,285.71	2,857.14	1,428.57	-
		Addition	-	-	-	-
		Repayment	1,428.57	1,428.57	1,428.57	-
		Net Closing - Loan	2,857.14	1,428.57	-	-
		Average Loan	**3,571.43**	**2,142.86**	**714.29**	**-**
		ROI	9.900%	9.900%	9.900%	9.900%
		Interest	**353.57**	**212.14**	**70.71**	**-**
97	Vijaya Bank-III (T1-D3)	Net Opening - Loan	1,071.43	714.29	357.14	-
		Addition	-	-	-	-
		Repayment	357.14	357.14	357.14	-
		Net Closing - Loan	714.29	357.14	-	-
		Average Loan	**892.86**	**535.71**	**178.57**	**-**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**89.29**	**53.57**	**17.86**	**-**
98	Union Bank of India-II (T1-D13)	Net Opening - Loan	10,000.00	10,000.00	9,500.00	8,500.00
		Addition	-	-	-	-
		Repayment	-	500.00	1,000.00	1,000.00
		Net Closing - Loan	10,000.00	9,500.00	8,500.00	7,500.00
		Average Loan	**10,000.00**	**9,750.00**	**9,000.00**	**8,000.00**
		ROI	10.000%	10.000%	10.000%	10.000%
		Interest	**1,000.00**	**975.00**	**900.00**	**800.00**
99	5.625% Eurobond (Due 2021)	Net Opening - Loan	6,590.63	6,590.63	6,590.63	6,590.63
		Addition				
		Repayment				
		Net Closing - Loan	**6,590.63**	**6,590.63**	**6,590.63**	**6,590.63**
		Average Loan	**6,590.63**	**6,590.63**	**6,590.63**	**6,590.63**
		ROI	7.177%	7.177%	7.177%	7.177%
		Interest	**473.04**	**473.04**	**473.04**	**473.04**
100	5.50% Eurobond (Due 2011)	Net Opening - Loan	-	-	-	-
		Addition				
		Repayment				
		Net Closing - Loan	**-**	**-**	**-**	**-**
		Average Loan	**-**	**-**	**-**	**-**
		ROI	7.018%	7.018%	7.018%	7.018%
		Interest	**-**	**-**	**-**	**-**
101	5.875% Eurobond (Due 2016)	Net Opening - Loan	8,650.80	-	-	-
		Addition				
		Repayment	8,650.80			
		Net Closing - Loan	**-**	**-**	**-**	**-**
		Average Loan	**4,325.40**	**-**	**-**	**-**
		ROI	7.496%	7.496%	7.496%	7.496%
		Interest	**324.25**	**-**	**-**	**-**
102	4.75% Eurobond (Due 2022)	Net Opening - Loan	20,593.07	20,593.07	20,593.07	20,593.07
		Addition				
		Repayment				
		Net Closing - Loan	**20,593.07**	**20,593.07**	**20,593.07**	**20,593.07**
		Average Loan	**20,593.07**	**20,593.07**	**20,593.07**	**20,593.07**
		ROI	5.022%	5.022%	5.022%	5.022%
		Interest	**1,034.09**	**1,034.09**	**1,034.09**	**1,034.09**
103	4.375% Eurobond (Due 2024)	Net Opening - Loan	11,089.04	11,089.04	11,089.04	11,089.04
		Addition				
		Repayment				
		Net Closing - Loan	**11,089.04**	**11,089.04**	**11,089.04**	**11,089.04**
		Average Loan	**11,089.04**	**11,089.04**	**11,089.04**	**11,089.04**
		ROI	4.625%	4.625%	4.625%	4.625%
		Interest	**512.88**	**512.88**	**512.88**	**512.88**
104	**G. Total**	Net Opening - Loan	462,397.12	428,577.77	394,672.45	360,767.62
		Addition	300.00	-	-	-
		Repayment	34,119.35	33,905.31	33,904.84	75,701.98
		Net Closing - Loan	**428,577.77**	**394,672.45**	**360,767.62**	**285,065.64**
		Average Loan	**445,487.44**	**411,625.11**	**377,720.04**	**322,916.63**
		ROI	**8.9935%**	**8.9650%**	**8.9080%**	**8.8063%**
		Interest	**40,064.83**	**36,902.40**	**33,647.39**	**28,437.16**