

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 221/TT/2016

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Order : 13.10.2017

In the matter of:

Approval of transmission tariff for Asset-I: 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with associated bays and Asset-II: 2 No. 220 kV Line bays associated with Bagpat GIS under "Northern Region System Strengthening Scheme- XIX" in Northern Region from COD to 31.3.2019 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2,
Sector 29, Gurgaon-122 001
Haryana

....Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur-302 005
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan,
Kumar House Complex Building II,
Shimla-171 004



6. Punjab State Electricity Board,
The Mall, Patiala-147 001
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109
8. Power Development Department,
Government of Jammu & Kashmir,
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board),
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi
13. North Delhi Power Limited,
Power Trading and Load Dispatch Group,
Cennet Building, Adjacent to 66/11 kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110 034
14. Chandigarh Administration,
Sector -9, Chandigarh
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun
16. North Central Railway,
Allahabad
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002



18. U.P. Power Transmission Corporation Limited,
11th Floor, Shakti Bhawan, 14-Ashok Marg,
Lucknow-226 001

....Respondents

For Petitioner : Shri S.K. Venkatesan, PGCIL
Shri S. S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Jasbir Singh, PGCIL

For Respondents : Sh. R. B. Sharma, Advocate, BRPL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for Asset-I: 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with associated Bays and Asset-II: 2 No. 220 kV Line Bays associated with Bagpat GIS (hereinafter referred to as "transmission assets") under "Northern Region System Strengthening Scheme-XIX" in Northern Region (hereinafter referred to as "transmission system") for 2014-19 tariff period under Central Electricity Regulation Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The Investment Approval (IA) of the transmission system was accorded by the Board of Directors of the petitioner company vide the Memorandum No. C/CP/NRSS-XIX in NR for NRSS-XIX dated 16.2.2009 at an estimated cost of ₹41029 lakh including an IDC of ₹3155 lakh (based on 4th Quarter of 2008 price level). As per the IA, the instant transmission system was scheduled to be commissioned within 36 months from the date of IA, i.e. by 15.2.2012.



3. The Revised Cost Estimate (RCE) for the transmission system was accorded by the Board of Directors of the petitioner Company vide memorandum dated 11.3.2016 at revised cost estimate of ₹47741 lakh including IDC of ₹9056 lakh (based on August, 2015 price level).

4. The scope of work covered under the transmission system is broadly as follows:-

A. Transmission Lines:

- (i) LILO of Meerut – Kaithal 400 kV D/C (Quad HSIL) line at Bagpat – 72 km.

B. Sub-stations:

- (i) 2 x 500 MVA, 400/220 kV Bagpat (Powergrid) GIS Sub-station (New)

C. Reactive Compensation

Sl. No.	Component	Approx. Line Length	Line Reactor from Bus	Line Reactor to Bus
A	LILO of both Ckts of the Meerut – Kaithal 400 kV at Bagpat			
(i)	Meerut – Bagpat	80 km	Nil	Nil
(ii)	Bagpat – Kaithal	140 km	Nil	50 MVAR Switchable reactor may be retained
B	80 MVAR Bus Reactor at Kaithal			
C	125 MVAR Bus Reactor at Bagpat			

5. The details of the other assets covered in the instant transmission system and the petitions under which the assets were granted tariff, as submitted by the petitioner, are as follows:-

Srl No	Scope as approved in IA	SCOD as per IA	Actual COD	Petition No.
1	80 MVAR Bus Reactor at Kaithal Sub-station	15.2.2012	1.7.2011	69/TT/2011
2	LILO of both circuits of 400KV D/C (QUAD) Meerut -Kaithal 400 kV D/C TL and associated bays at Bagpat GIS Sub-station		253/TT/2015	8.5.2016
3	125 MVAR Bus Reactor at Bagpat GIS Sub-station			8.5.2016
4	500 MVA 400/220 kV ICT-I at Bagpat GIS Sub-station along with 1 no. 220 kV line bays			8.5.2016



5	Asset-I: 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with associated bays		3.7.2016	Covered under instant petition
6	Asset-II:-2 No. 220 kV Line bays associated with Bagpat GIS		11.9.2016	

6. The details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

Asset-I			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	157.26	250.03	262.07
Interest on Loan	187.54	283.71	276.51
Return on Equity	179.95	288.80	303.55
Interest on working capital	15.34	23.34	23.95
O & M Expenses	74.52	103.39	106.83
Total	614.61	949.27	972.91
Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	35.20	75.96	77.19
Interest on Loan	41.91	86.80	81.59
Return on Equity	39.98	87.31	88.82
Interest on working capital	5.17	10.32	10.43
O & M Expenses	50.07	93.10	96.20
Total	172.33	353.49	354.23

7. The details of the "Interest on Working Capital" claimed by the petitioner for the instant assets are as under:-

(₹ in lakh)

Asset-I			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	15.01	15.51	16.02
O & M Expenses	8.34	8.62	8.90
Receivables	137.57	158.21	162.15
Total	160.92	182.34	187.08
Rate of Interest	12.80%	12.80%	12.80%
Interest	15.34	23.34	23.95
Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	13.52	13.97	14.43
O & M Expenses	7.51	7.76	8.02
Receivables	51.70	58.91	59.04
Total	72.73	80.64	81.48
Rate of Interest	12.80%	12.80%	12.80%
Interest	5.17	10.32	10.43



8. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. BSES Rajdhani Power Limited (BRPL), Respondent No. 12 has filed reply vide affidavit dated 5.12.2016. BRPL has raised issue of time over-run, additional capital expenditure, effective tax rate, filing of mandatory certificates, wage revision, reimbursement of expenditure towards filing fee, license fee etc. The petitioner has filed rejoinder, vide affidavit dated 21.4.2017, to the reply of BRPL. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No.9, has filed its reply vide affidavit dated 14.12.2016. UPPCL has raised issues like Investment Approval, time over-run, cost over-run, sharing, etc. The petitioner has filed its rejoinder to the reply filed by UPPCL, vide affidavit dated 21.4.2017. BSES Yamuna Power Limited (BYPL), Respondent No.11, has filed its reply vide affidavit dated 22.12.2016. BYPL has raised issues like time over-run, cost variation, etc. The petitioner has filed its rejoinder to the reply filed by BYPL, vide affidavit dated 27.2.2017. Rajasthan Discoms, Respondent Nos. 2 to 4, have filed reply vide affidavit dated 15.12.2016. The Rajasthan Discoms have raised the issue of cost variation, time over-run, filing fee and publication expenses, interest rate, etc. Other objections raised by the respondents and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

9. BRPL has submitted that the petitioner has not furnished the Transmission Service Agreement (TSA) as required under Regulation 3(63) of the 2014 Tariff Regulations. BRPL has also submitted that the petitioner has not submitted Detailed Project Report, CPM Analysis, PERT Chart and Bar chart, to assess the time over-run. The petitioner has not filed the mandatory certificates required



under Appendix-VI of the 2014 Tariff Regulations. The BRPL has further submitted that one of the agencies may be asked to represent the interest of consumer in the instant petition as the representation and participation in the proceedings is integral part of hearing in terms of Section 94(3) of the Electricity Act, 2003.

10. In response, the petitioner in its rejoinder has submitted that as per clause 8 of Model TSA, signing of TSA is not mandatory and BRPL has already signed TSA on 19.8.2011 and the petitioner has submitted a copy of TSA with BRPL. As regards time over-run, the justification for time over-run has already been submitted in the petition. The petitioner has submitted that the CEA certificate has been filed vide affidavit dated 16.2.2017. As regards nominating an agency to represent the case of the beneficiaries, the petitioner has submitted that they are providing copy of the petitions to all the respondents and publishing the tariff notices in newspaper to invite attention of all the stakeholders and opportunity of hearing is also granted to all the stakeholders. As such, there is no need to appoint any agency.

11. UPPCL has submitted that Investment Approval and the RCE are issued by the Cabinet Committee of Economic Affairs (CCEA), Government of India. However, in this case Investment Approval and the RCE are issued by the Board of Directors of the petitioner company which prima facie appears to be inconsistent. As such, the petitioner may be directed to submit copy of the OMs of perpetual delegation of power by CCEA to Board of Directors of the petitioner. UPPTCL has further submitted that usually RCE is issued to revise the approved capital cost but schedule of completion is not revised. However, in the instant case, the schedule of completion is also revised without the approval of the



Commission. In response, the petitioner submitted that as per DPE's Office Memorandum No. DPE/11(2)/97-Fin dated 22.7.1997 a Navratna company has full power to incur expenditure on purchase of new items or for replacement, without any monetary ceiling. It was further submitted that relevant copy of OM has been submitted.

12. We have considered the submissions of the UPPTCL as regards delegation of power and the clarification given by the petitioner. This issue has already been considered by the Commission in its order dated 30.8.2017 in Petition No.41/TT/2016. The relevant portion of the said order is as under:-

“UPPCL has submitted that the petitioner should explain whether Government of India has delegated all the powers of Cabinet Committee for Economic Affairs regarding granting of approval of government projects to the Board of Directors of Public Sector Utilities for all times to come and the petitioner should submit the concerned orders of the Government of India. The petitioner has clarified that as per Clause 2 (i) of DPE's Office Memorandum No. DPE/11(2)/97-Fin dated 22.7.1997 Navratna Company has full power to incur expenditure on purchase of new items or for replacement, without any monetary ceiling. The petitioner has submitted a copy of OM No. 26(3)/2005-GM-GL-92 dated 1.5.2008 and OM No. DPE/11(2)/97-FIN dated 22.7.1997, a copy of which has also been provided to UPPCL. It is observed from the above said Office Memorandums, that the Navratna status of the petitioner and other PSUs is reviewed by the Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises on yearly basis and if they do not fulfil the conditions laid down the Navratna status is withdrawn. However, this is not a relevant consideration as the approval of the Board of Directors should be accorded when the company is enjoying the Navratna status. In the present case, PGCIL as a Navratna company has approved the investment approval and therefore, the same has been considered for the purpose of tariff.”

As regards the revision of scheduled date of completion, the timeline given in the investment approval dated 16.2.2009 is only considered and the revised schedule given in the RCE is not considered.

Date of commercial operation

13. Regulation 4(1) of the 2014 Tariff Regulations provides for the methodology for declaration of commercial operation date and Regulation 5 of the 2014 Tariff Regulations provides for the trial operation of the transmission system. This



provision is further superseded by the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016. As per these Regulations, the commercial operation of the transmission system shall fulfill the following requirements:-

- a) successful charging of the transmission system or an element thereof for 24 hours at continuous flow of power;
- b) transmission of communication signal from the sending end to the receiving end and with requisite metering system, telemetry and protection system in service;
- c) A certificate from the concerned Regional Load Despatch Centre regarding the above requirements;
- d) CMD/CEO/MD of the Company shall certify that the transmission line, sub-station and communication system conform to the relevant Grid Standard and Grid Code, and are capable of operation to their full capacity;
- e) An element shall be declared to have achieved COD only after all the elements which are pre-required to achieve COD as per the Transmission Services Agreement are commissioned.

14. The petitioner has submitted the certificate issued by Northern Regional Load Dispatch Centre (NRLDC) regarding completion of trial operation of 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with associated Bays and successful charging of 220 kV line bays at Bagpat Sub-station. However, the petitioner has not submitted the certificate of CMD/CEO/MD regarding compliance of the relevant Grid Standard and Grid Code for operating the line at their full capacity. As per the certificate issued by NRLDC, the date of



commercial operation of Asset I and Asset II is 00.00 hrs of 3.7.2016 and 11.9.2016 respectively in terms of Regulation 4 of the 2014 Tariff Regulations. However, it is not clear as to how NRLDC has issued the certificate regarding COD of the instant assets in the absence of certification of CMD/CEO/MD of the Company as required under Regulation 6.3A(4) of the Indian Electricity Grid Code. The tariff of the instant assets is allowed from the date of COD's indicated by the NRLDC but the petitioner is not allowed to charge tariff till such time a certificate from the CMD of the petitioner is submitted to NRLDC and the Commission as required under the above said provisions. Further, RLDC is directed to ensure strict compliance of provisions of COD as per IEGC in future. Further, the petitioner has submitted that downstream system of 2 Nos. 220 kV line bays is charged along with the bays on 9.9.2016. Accordingly, the commercial operation date of Asset I and II is approved as 3.7.2016 and 11.9.2016 respectively.

Capital cost

15. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

(2) The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;

(c) Increase in cost in contract packages as approved by the Commission;



- (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- (e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- (f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations; 39
- (g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- (h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

16. The details of revised approved apportioned cost, cost as on COD and additional capitalization projected to be incurred for the instant assets, as per Auditor's Certificate dated 31.8.2016 and 24.1.2017 for Assets I and II respectively, submitted vide affidavits dated 19.10.2016 and 16.2.2017 respectively, are summarized below:-

(₹ in lakh)

Asset	Revised apportioned approved cost	Capital cost as on COD	Estimated expenditure 2016-17	Estimated expenditure 2017-18	Total estimated completion cost
Asset I	5314.64	3662.70	998.06	499.03	5159.80
Asset II	1500.26	1008.46	452.19	49.05	1509.70

The capital expenditure has been verified from the Audited books of accounts of PGCIL by the Auditor up to 31.3.2016.

17. BRPL has submitted that there is cost over-run in case of Asset II which is mainly due to increase in sub-station equipment and the reason mentioned for variation are very casual and hence it should not be allowed. In response, the petitioner has submitted that the cost variation is due to the nature of the policy of the petitioner, where the bid prices are invited for the complete scope of work of one or more element as a package on overall basis and comparison of bid prices for a particular package is done with cost estimate on overall basis and the price of individual items are not compared. It was further submitted that reasons for cost variation are explained in Form-5.



18. BYPL has submitted that the petitioner should clarify the difference of ₹105.33 lakh in capital cost on cash basis and as certified by Auditor, in case of Asset-I. As per Auditor's Certificate the expenditure is excluding outstanding liabilities and the petitioner should be directed to submit revised Auditors certificate/Form 4A. BYPL has submitted that the petitioner needs to clarify the reasons for significant variation in case of bus bars, structure for switchyard, miscellaneous equipment and power control cables and also clarify the projection of expenditure of power control cables when there was no need for it.

19. In response, the petitioner has submitted that the accrued IDC of ₹105.33 lakh has been deducted from its COD cost of ₹3662.70 lakh and the same was added in additional capitalization during 2016-17 and 2017-18 period. Accordingly, Form 4A has been submitted. As regards cost variation, the petitioner has submitted that the cost variation in estimated price and actual price is due to market dynamics and bidders pricing planning. There has been no compromise on the quality of material and further the petitioner got possession of land for Bagpat Sub-station on 3.11.2011. The LOA of the subject asset was placed on 28.7.2009 after Investment Approval was accorded on 16.2.2009 and accordingly, the petitioner started expenditure after the award of contract.

20. UPPCL has submitted that the petitioner should submit certificate of Statutory Auditor in respect of Asset II, the reasons for variation in the cost of power control cable, taxes and duties, IDC and civil works and item wise liability flow statement of both the assets. UPPCL has further submitted that the petitioner should explain the cost over-run of ₹415.97 lakh in case of Asset II. In response, the petitioner has submitted that the petitioner vide affidavit dated



16.2.2017 has already submitted the Auditor certificate in respect of Asset II and further the detailed justification of delay was also submitted with supporting documents. The petitioner has also submitted that as per policy of the petitioner, the bid prices are invited for the complete scope of work of one or more elements as a package on overall basis. The comparison of prices for a particular package is also done with its cost estimate on overall basis. The price of individual items will not be compared for the above purpose. The reasons for item wise cost variation between approved cost (FR) and anticipated completion cost are explained in detail in Form-5 and copy of approved RCE has also been filed.

21. Rajasthan Discoms have submitted that as per the revised cost estimates, the cost of land compensation and cost against sub-station has increased. Therefore, the actual expenditure against these heads needs re-examination and capital cost should be admitted after prudence check.

22. We have considered the submissions of the respondents and the clarifications given by the petitioner. The variation in cost of the elements is allowed. In case of Asset II, the estimated completion cost is more than the revised approved apportioned cost and hence the capital cost of Asset II is restricted to the revised approved apportioned cost. There is no cost over-run in case of Asset I.

Time Over-run

23. As per the investment approval, the commissioning schedule of the project was 36 months from the date of investment approval. The investment approval was accorded on 16.2.2009 and the schedule date of commercial operation was 15.2.2012 against which Assets I and II were put under commercial operation on



3.7.2016 and 11.9.2016, respectively. Hence, there is time over-run of 52 months and 18 days in case of Asset I and 54 months and 26 days in case of Asset II.

24. The petitioner has submitted that the Assets I and II could not be put into commercial operation without the commissioning of associated transmission lines. The petitioner has attributed the time over-run in case of the instant assets to delay in land acquisition for Bagpat Sub-station, ROW problems at various locations of “LILO of both circuits of 400 kV D/C (quad) Meerut-Kaithal 400 kV D/C transmission line and associated bays at Bagpat GIS Sub-station” and delay in commissioning of downstream system by UPPTCL. The reasons given by the petitioner for the time over-run are as follows:-

Delay in land acquisition:-

a) The time over-run in putting Assets I and II into commercial operation was due to delay in land acquisition for 400/220 kV Bagpat Sub-station. The petitioner approached authorities in UP Government for land acquisition prior to the Investment Approval dated 16.2.2009. On 30.4.2008, the petitioner submitted the proposal for identification of land for construction of 400/220 kV Bagpat Sub-station of approximately 15 acres near Bagpat on Bagpat-Meerut road to DM, Bagpat. In order to cater to the increased demand of power in future, the petitioner on 17.9.2008, further requested DM, Bagpat to increase the requirement of land to 18.5 acres. The petitioner has submitted that a joint inspection by a team of officials of the petitioner and land acquisition department was carried out and about 18.50 acres was identified in Tiyodi Village, Bagpat District. The proposal was then resubmitted on 24.11.2008 to DM, Bagpat. In the meanwhile, a land owner filed court case against acquisition of land stating that a portion



of land (about 0.4840 Ha) triangular in shape which was not acquired from his total land proposed for acquisition is of no use and the same may be also acquired. The land owner also demanded the necessary compensation against this portion of land. The petitioner submitted that the ADM (L.A), Meerut advised the petitioner to finalize the compensation with land owners as per Land Acquisition Act such that none of the land owner remains unsatisfied. In order to settle the Writ Petition, the petitioner further forwarded the request letter to initiate the process for acquisition of 0.4840 Ha of remaining land to ADM (L.A), Meerut on 27.4.2010. Thereafter, new ADM (L.A) carried out joint inspection of the site on 29.9.2011 and after ensuring that necessary compensation is disbursed to the land owners, forwarded the proposal to DM, Bagpat. Finally, the possession letter in favour of the petitioner was issued on 3.11.2011 by ADM (L.A), Meerut. The petitioner has submitted that as per the L2 Network the petitioner should have got the possession of the land by November, 2009. The petitioner has claimed that though process of land acquisition was initiated much before the Investment Approval, the petitioner could get the possession of land on 3.11.2011 after 24 months of scheduled time.

Delay due to ROW problems

b) During the construction of both circuits of 400 kV D/C (Quad) Meerut-Kaithal Line and associated bays, it faced ROW problems starting from 18.10.2010 at various locations in Idrispur Village, Bagpat District. The work was started in the presence of local police officials but was later interrupted. Various meetings were held between DM, Bagpat, MLA and local villagers. As the villagers stuck to their demands, no decision could be arrived. The



matter became serious and the agitation by the villagers turned into movement and spread in Bagpat, Muzzafarnagar and Saharanpur. The petitioner submitted that it continuously followed up the matter with administration, Kisan Sangh and local villagers for approximately 8 months. The local administration (DM, Bagpat), again held a meeting with MLA. The meeting again ended with no result. With the daily publishing of articles against the petitioner in newspapers, the agitation increased. This was the main reason for delay in commissioning of transmission line. The foundation work at one location was started with police protection however the work was again stopped by Kisan Sangh and villagers. Further, the work at various locations where stringing work was going on was also hampered. The Kisan Sangh along with some more villagers became aggressive and manhandled the petitioner's officials and the workers executing the construction of transmission line. The petitioner has submitted that it somehow managed to execute the work in stretches which were free from agitation in Tikri Village, in August, 2014. Again the work was stopped by the villagers alongwith the help of Kisan Sangh leading to further deterioration of situation. The work resumed under police protection and with the help of the DM, Bagpat, the issues were settled on 23.4.2015.

c) The petitioner has indicated that, subsequent to the resolution of ROW issue on 23.4.2015, stringing work of 1.1 km was affected due to court case 128/2015, staying work at Gurana village with effect from 22.7.2015. Meanwhile considerable amount of conductor was stolen on 14.8.2015 from the completed section in Badoli and Johadi Villages in Badaut. After investigation, the police arrested the gang, who confessed that they had



stolen the conductor and because of this theft, some of the towers were bent which required dismantling and rectification of some sections. The fabrication of damaged tower sections along with conductor and its execution further delayed the completion by about 3 months.

d) ROW problems at various locations of the associated transmission line, agitation by local villagers, continuous obstruction by the land owners and local villagers led to time over-run. Despite all these hurdles, best efforts were made to complete the project. The chronology of events, paper cuttings and correspondences with various authorities have been submitted.

Delay on account of downstream system:-

e. The time over-run was further impacted due to matching schedule of downstream system of 220 kV lines which were in the scope of UPPTCL. The petitioner intimated about the commissioning of assets under its scope and made numerous communications with UPPTCL to commission the downstream network under UPPTCL's scope. UPPCL confirmed in the 38th SCM meeting held on 30.5.2016, that their downstream network pertaining to Bagpat will be ready in July, 2016. Accordingly, Asset-I was put into commercial operation on 3.7.2016 matching with the timeline of July, 2016 provided by UPPCL and it was done so essentially to fulfill the criteria of N-1 contingency. The power flow started through Asset I, i.e 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station from the first date of charging as the 220 kV line Bagpat (PG)-Bagpat (UPPCL) was already commissioned on 8.5.2016. As regards Asset-II, matching with the timeline provided by UPPCL, the petitioner charged 4 nos. 220 kV line bays at Bagpat GIS on 1.7.2016 and obtained RLDC certificate on "no-load" condition. However,



UPPCL failed to commission its 220 kV downstream transmission line in July, 2016. Further, two lines of the downstream system i.e. 220 kV Bagpat-Muradnagar and Bagpat-Shamli transmission line were charged on 9.9.2016 along with 220 kV and declared its commercial operation on 11.9.2016.

f. The time over-run in case of LILO of 400 kV D/C (Quad) Meerut-Kaithal at Bagpat GIS Sub-station, 125 MVAR Bus Reactor at Bagpat and 500 MVA 400/220 kV ICT-I at Bagpat GIS Sub-station along with one 220 kV line bay, covered in Petition No.253/TT/2015, was due to the same reasons mentioned above and these reasons were already considered by the Commission and condoned in order dated 30.6.2016 in Petition No. 253/TT/2015. As the reasons for time over-run in case of the instant assets are similar to the assets covered in Petition No. 253/TT/2015, the time over-run in case of the instant assets may also be condoned.

25. UPPCL, BRPL, Rajasthan Discoms and BYPL have submitted the time over-run may not be condoned and the IDC and IEDC for the period of time over-run may not be allowed.

26. We have considered the submissions of petitioner and the respondents. The time over-run in case of the instant assets is due to delay in land acquisition for the Bagpat Sub-station, RoW issues in case of associated transmission lines and delay in commissioning of the downstream assets by UPPTCL. The land acquisition process for Bagpat Sub-station was initiated on 30.4.2008 and the petitioner got the possession of land on 3.11.2011. The petitioner faced intermittent RoW problems in case of the associated transmission lines from

18.10.2010 to 22.7.2015. Also, as mentioned in one of the earlier paragraphs, a portion of conductor was stolen on 14.8.2015 from the completed section in Badaut which resulted in some of the towers getting bent which required dismantling and rectification of some sections. The fabrication of damaged tower sections along with conductor and its execution further delayed the completion by about 3 months. Further, the petitioner was not able to declare the commercial operation of the instant assets because of the delay in commissioning of the downstream system by UPPTCL, which were charged on 9.9.2016. The petitioner has sought condonation of time over-run in commissioning of instant assets as the time over-run in case of the associated transmission lines has already been condoned in Petition No. 253/TT/2015. We would like to state that certain new facts have emerged since the award of tariff in Petition No. 253/TT/2015 and we have dealt with the matter in the succeeding paragraphs accordingly.

27. In order dated 8.6.2011 in Petition No. 248/2010, the Commission had disallowed the time over-run of four months attributed to the theft of equipment. Against this order, the petitioner filed an Appeal No. 134 of 2011 before the Hon'ble Appellate Tribunal for Electricity (Appellate Tribunal). Appellate Tribunal in its judgment dated 27.4.2012 upheld the Commission's findings. The relevant part of the judgment dated 27.4.2012 is extracted hereunder:-

“8. As indicated above, the Central Commission has, in the impugned order, in respect of 4 months delay has held that the theft of the equipment cannot be considered to be valid reason to condone the delay as the safety of material was the responsibility of the Appellate and delay due to theft could not be treated as force majeure event. This finding for rejecting the explanation with regard to delay of 4 months due to the theft can be said to be perverse. As correctly pointed out by the Central Commission, the Appellant who was well aware of the route of transmission line, should have made adequate measures to ensure the safety of the location during construction. As this was not done, we cannot hold the explanation for 4 months delay by citing the theft incident as satisfactory.”



On the basis of the principle laid down by the Appellate Tribunal, the Commission in its order dated 8.4.2016 in Petition No. 87/TT/2015 too, had disallowed the time over-run due to theft of material and equipment.

28. We have perused the chronology of events, documents, correspondence made by the petitioner with various authorities and newspaper cuttings submitted by the petitioner to substantiate the reasons for time over-run. The petitioner, vide affidavit dated 19.10.2016, has submitted the chronology of the events or activities which resulted in the time delay. However, there are some gaps in the details submitted for the time over-run in case of the instant assets.

29. On 22.7.2015, a case (128/2015) was filed, which stayed work at Gurana Village affecting the stringing work of 1.1 km of transmission line. The petitioner has not submitted the outcome of this court case. Thus, in absence of the required information regarding the outcome of the court case we are not able to quantify the period of time over-run attributable to the petitioner and time over-run beyond the petitioner's control. Further, in view of the Appellate Tribunal's judgment dated 27.4.2012, we are not inclined to condone the time over-run attributed to the theft of material. Hence, we consider it prudent to capitalise the IDC and IEDC in case of instant assets only up to 22.7.2015, i.e. the date of filing of the case. The time over-run from 22.7.2015 to the actual COD of the instant assets would be reviewed after the submission of complete and clear chronology of events of time over-run by the petitioner at the time of truing-up.

Treatment of IDC

30. The petitioner has submitted the information related to IDC vide affidavits dated 19.10.2016 and 16.2.2017 for Assets I and II respectively. The IDC



discharged up to COD and 'IDC to be discharged' after COD i.e. in 2016-17 and 2017-18 have also been submitted for both the assets, as mentioned below:-

(₹ in lakh)

Interest During Construction (IDC)							
Asset	Claimed as on COD as per the Auditor's Certificates 31.08.2016 and 24.01.2017	Discharged up to COD (as claimed)	Allowed/ Worked out on Cash Basis up to 22.07.2015	Balance Accrued IDC as on COD to be discharged during FY 2016-17(as claimed)	Balance Accrued IDC being discharged during FY 2016-17(as allowed)	Balance Accrued IDC as on COD to be discharged during FY 2017-18(as claimed)	Balance Accrued IDC being discharged during FY 2017-18(as allowed)
Asset I	927.27	821.94	714.52	102.94	0.00	2.39	0.00
Asset II	263.72	243.22	195.48	18.51	0.00	1.99	0.00

31. The IDC on cash basis has been worked out up to 22.7.2015, for both the assets, as mentioned in the above Table, based on the available information i.e. loan details in Form-9C, submitted vide affidavits mentioned above and has been capitalized as on COD. While working out the IDC, we have also considered respective loan's repayment schedule for both the assets.

32. In the absence of complete information regarding the time over-run, the IDC and IEDC have been disallowed from 23.7.2015 to 2.7.2016 and have not been capitalised in case of Asset-I. Similarly, IDC and IEDC have been disallowed from 23.7.2015 to 30.6.2016 in case of Asset-II. The petitioner had charged the 2 x 220 kV line bays at 'No Load' condition on 1.7.2016 and therefore, the IDC and IEDC from 1.7.2016 to 10.9.2016, would be borne by UPPTCL, in case of Asset-II, as it failed to commission the downstream transmission lines by that date.

33. This IDC allowed/disallowed shall be reviewed at the time of truing up, subject to submission of clear and complete chronology of the time over-run, as



also the submission of information regarding the actual discharge of IDC after the respective CODs.

34. There is a difference in the Gross Loan claimed as on COD (as per Form-9C) and the gross loan considered for the IDC in respect of both the assets. In our draft calculations, gross loan (as per Form-9C) is considered for the IDC calculation purpose as it mentions the actual loan deployed for the respective asset. Therefore, the petitioner is directed to reconcile the gross loan for the calculation of weighted average rate of interest and for the calculation of IDC, which would be reviewed at the time of truing-up.

Treatment of IEDC

35. The IEDC claimed and allowed are as follows:-

(₹ in lakh)

Asset	IEDC Claimed on COD	IEDC Allowed as on COD
Asset-I	142.73	120.12
Asset-II	69.43	33.56

36. The petitioner has submitted that the entire claimed IEDC, in both the assets, has been discharged as on COD. As the IEDC claimed as on COD is lower than 10.75% of the hard cost as indicated in the 'Abstract Cost Estimate', therefore the claimed IEDC amounts corresponding to individual assets are being recognized in the present case. However, as mentioned at Para 4 above, the IEDC is being allowed up to 22.7.2015 in case of both the assets and therefore, IEDC from 23.7.2015 to respective CODs is being deducted on Pro-rata basis as per the respective delay (in months).

Treatment of Initial Spares

37. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

(i) Transmission line - 1.00%

(ii) Transmission Sub-station (Green Field) - 4.00%

(iii) Transmission Sub-station (Brown Field) - 6.00%

(iv) Series Compensation devices and HVDC Station - 4.00%

(i) Gas Insulated Sub-station (GIS)-5.00%

(vi) Communication system-3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:

(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break up of head wise IDC & IEDC in its tariff application.”

38. The ceiling limit of the sub-station has been considered as per Regulation 13 of the 2014 Tariff Regulations. The allowable limit for Bagpat GIS has been considered as 5.00% as per the said regulation. Initial spares is allowed considering the hard costs up to available cut-off date i.e. expenditure up to 2018-19 for both the assets.



39. The cost of initial spares claimed by the petitioner for the instant assets are within their ceiling limits and therefore the same are capitalized. The initial spares allowed would be reviewed at the time of truing-up on the submission of the year wise breakup of the initial spares claimed.

40. The allowable capital cost as on COD after taking into cognizance the IDC and IEDC on cash basis and allowable initial spares is as follows:-

(₹ in lakh)						
Asset	Capital cost as per CA Cft as on COD	Less: IDC & IEDC claimed	Add: IDC on cash basis allowed	Add: IEDC allowed	Less: Excess Initial spares as on COD	Capital Cost as on COD considered for Tariff
Asset I	3662.70	1070.00	714.52	120.12	0.00	3427.33
Asset II	1008.46	333.15	195.48	33.56	0.00	904.35

Additional capital expenditure

41. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(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 recognised 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; 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.”

42. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation”.

43. UPPCL has submitted that the petitioner may be directed to submit item wise liability flow statement in case of Assets I and II. In response, the petitioner has submitted that item wise liability for both the assets are given in Form 5 submitted along with the petition.

44. We have considered the submissions of the respondent and the petitioner. The additional capitalization incurred and projected to be incurred for instant assets is on account of Balance & Retention Payments and with-in cut-off date and is covered under Regulation 14(1) (i) of the 2014 Tariff Regulations. The actual discharge on account of IDC, and liabilities for initial spares, after COD but up to cut-off date has been considered as additional capitalization.

45. The total estimated completion cost as on 31.3.2018 is as under:-

(₹ in lakh)				
Asset	Capital Cost allowed as on COD	Projected Additional Capitalisation for FY 2016-17	Projected Additional Capitalisation for FY 2017-18	Total estimated completion cost up to 31.3.2018
Asset I	3427.33	998.06	499.03	4924.42
Asset II	904.35	452.19	39.61	1396.15

46. In case of Asset II, the estimated completion cost exceeds the revised approved apportioned cost by ₹9.44 lakh. Therefore, the claimed projected additional capitalization during 2017-18 i.e. ₹49.05 lakh, has been reduced to ₹39.61 lakh (₹49.05 lakh - ₹9.44 lakh).



Debt-Equity Ratio

47. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

48. The petitioner has claimed debt:equity ratio of 70:30 as on the date of commercial operation. The debt:equity ratio of 70:30 is considered as provided in Regulation 19 of the 2014 Tariff Regulations. The details of debt:equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are as under:-

(₹ in lakh)

Asset-I				
Particulars	Capital cost as on tariff COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	2399.13	70.00	3447.10	70.00
Equity	1028.20	30.00	1477.33	30.00
Total	3427.33	100.00	4924.42	100.00



(₹ in lakh)

Asset-II				
Particulars	Capital cost as on tariff COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	633.05	70.00	977.31	70.00
Equity	271.31	30.00	418.85	30.00
Total	904.35	100.00	1396.15	100.00

Return on Equity (RoE)

49. Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify 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.



“25. 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.”

50. The petitioner has submitted that RoE has been calculated at the rate of 19.61% after grossing up the RoE with MAT rate of 20.96%, as per the above Regulations. The petitioner has further submitted that as per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/ adjustable after completion of income tax assessment of the financial year.

51. BRPL has submitted that the petitioner has not mentioned the effective tax rate for each year of tariff period for all the four assets. The petitioner may be directed to furnish details in the working of effective tax rate along with tax audit report for financial year 2014-15 and the reasons for opting MAT. The petitioner may also be directed to supply information the date from which the petitioner intends to avail benefits of Section 80 IA of the Income Tax Act, 1961 since the petitioner is entitled for Tax Holiday for new transmission project. In response, the petitioner has submitted that as per Income Tax Act, 1961, MAT rate is the minimum tax rate to be paid by the company. The petitioner has submitted that it is availing tax benefits under provisions of Section 80IA of Income Tax Act, 1961 for computing normal income tax. However, under Section 115JB of Income Tax Act, 1961 company is liable for payment of Minimum Alternate Tax (MAT) @ 18.5% plus surcharge and Cess as applicable. As per Regulation 25(3), any over/under recovery of grossed up rate on RoE shall be adjusted at the time of truing up on the basis of actual tax paid including interest and additional demand by the IT authorities. The tax audit report will be submitted after the assessment and will be taken care at the time of truing-up. Further, as per Clause 40 of the 2014 Tariff Regulations, the deferred tax liability before 1.4.2009 shall be recovered from the beneficiaries or the long term transmission customers/DICs as the case may be, as and when the same gets materialized. As the present asset has been put under commercial operation during 2014-19, the same is not applicable.

52. We have considered the submissions of the petitioner and BRPL. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on



equity. It further provides that in case the transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25(3) of the 2014 Tariff Regulations. Accordingly, the RoE allowed is given below:-

(₹ in lakh)

Asset-I			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	1028.20	1327.62	1477.33
Addition due to Additional Capitalisation	299.42	149.71	0.00
Closing Equity	1327.62	1477.33	1477.33
Average Equity	1177.91	1402.47	1477.33
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
Return on Equity (Pre-tax)	172.13	275.02	289.70

(₹ in lakh)

Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	271.31	406.96	418.85
Addition due to Additional Capitalisation	135.66	11.88	0.00
Closing Equity	406.96	418.85	418.85
Average Equity	339.13	412.90	418.85
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
Return on Equity (Pre-tax)	36.81	80.97	82.14

Interest on Loan (IoL)

53. Regulation 26 of the 2014 Tariff Regulations are provides as under:-

“(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 decapitalization 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 upto the date of decapitalisation 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.”

54. In these calculations, interest on loan has been worked out as hereinafter:-

(i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(ii) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period; and

(iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.



55. The IOL is worked out for the instant assets considering all the loans submitted in Form-9C. The petitioner is directed to reconcile the total Gross Loan for the calculation of weighted average rate of interest and for the calculation of IDC, which would be reviewed at the time of truing-up. Detailed calculation of the weighted average rate of interest has been given in **Annexure-I and II** to this order.

56. Based on above, details of IOL calculated are as follows:-

(₹ in lakh)

Asset-I			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	2399.13	3097.77	3447.10
Cumulative Repayment upto Previous Year	0.00	150.37	388.26
Net Loan-Opening	2399.13	2947.40	3058.83
Addition due to Additional Capitalisation	698.64	349.32	0.00
Repayment during the year	150.37	237.89	249.87
Net Loan-Closing	2947.40	3058.83	2808.97
Average Loan	2673.27	3003.12	2933.90
Weighted Average Rate of Interest on Loan	9.0048%	8.9949%	8.9964%
Interest	179.39	270.13	263.94

(₹ in lakh)

Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	633.05	949.58	977.31
Cumulative Repayment upto Previous Year	0.00	32.36	102.66
Net Loan-Opening	633.05	917.22	874.64
Addition due to Additional Capitalisation	316.53	27.73	0.00
Repayment during the year	32.36	70.30	71.25
Net Loan-Closing	917.22	874.64	803.39
Average Loan	775.13	895.93	839.02
Weighted Average Rate of Interest on Loan	8.9950%	8.9882%	8.9952%
Interest	38.59	80.53	75.47



Depreciation

57. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as below:-

"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 on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

58. The instant assets were put under commercial operation on 3.7.2016 and 11.9.2016. Accordingly, they will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

59. Details of the depreciation allowed are as under:-

(₹ in lakh)

Particulars	Asset-I		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	3427.33	4425.39	4924.42
Additional Capital expenditure	998.06	499.03	0.00
Closing Gross Block	4425.39	4924.42	4924.42
Average Gross Block	3926.36	4674.91	4924.42
Rate of Depreciation	5.1393%	5.0886%	5.0741%
Depreciable Value	3533.73	4207.42	4431.98
Remaining Depreciable Value	3533.73	4057.04	4043.72
Depreciation	150.37	237.89	249.87

(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	904.35	1356.54	1396.15
Additional Capital expenditure	452.19	39.61	0.00
Closing Gross Block	1356.54	1396.15	1396.15
Average Gross Block	1130.45	1376.35	1396.15
Rate of Depreciation	5.1727%	5.1079%	5.1036%
Depreciable Value	1017.40	1238.71	1256.54
Remaining Depreciable Value	1017.40	1206.35	1153.87
Depreciation	32.36	70.30	71.25

Operation & Maintenance Expenses (O & M Expenses)

60. As per Regulation 29(4) of the 2014 Tariff Regulations, the O&M Expenses norms specified for the assets covered in the instant petition are as under:-

Element	2016-17	2017-18	2018-19
400 kV GIS bay (₹ lakh/bay)	55.020	56.840	58.730
220 kV bay (₹ lakh/bay)	45.060	46.550	48.100

61. The O&M Expenses allowed as per Regulation 29(4) of the 2014 Tariff Regulations for the assets covered in the instant petition are as follows:-

Element	(₹ in lakh)		
	2016-17	2017-18	2018-19
Asset-I: 1 no 400 kV GIS bay	41.001	56.840	58.730
1 no 220 kV GIS bay	33.579	46.550	48.100
Asset-II: 2 no 220 kV GIS bay	49.87	93.10	96.20

62. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

63. The BRPL has submitted that any increase in the employee cost due to wage revision must be taken care by increasing the productivity levels of the petitioner company and the beneficiaries should not be burdened over and above the provisions in the 2014 Tariff Regulations. In response, the petitioner submitted that the wage revision of the employees is due from 1.1.2017 and actual impact of

wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19.

64. We have considered the submissions of the petitioner and BRPL. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on Working Capital (IWC)

65. Clause 1(c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

“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 expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

66. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-



(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

As per Regulation 28(3) of the 2014 Tariff Regulations, SBI Base rate of 9.30% as on 1.4.2016 plus 350 Bps i.e. 12.80% has been considered for working out the rate of interest on working capital for the instant assets.

67. The IWC allowed for the instant assets is shown in the table given below:-

Particulars	Asset-I		
	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	15.01	15.51	16.02
O & M expenses	8.34	8.62	8.90
Receivables	132.25	151.48	155.58
Total	155.60	175.61	180.50
Interest	14.84	22.48	23.10

(₹ in lakh)



(₹ in lakh)

Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	13.52	13.97	14.43
O & M expenses	7.51	7.76	8.02
Receivables	48.96	55.80	55.85
Total	69.99	77.53	78.29
Interest	4.96	9.92	10.02

Transmission charges

68. The transmission charges being allowed for the instant assets are summarized hereunder:-

(₹ in lakh)

Asset-I			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	150.37	237.89	249.87
Interest on Loan	179.39	270.13	263.94
Return on equity	172.13	275.02	289.70
Interest on Working Capital	14.84	22.48	23.10
O & M Expenses	74.58	103.39	106.83
Total	591.32	908.91	933.45

(₹ in lakh)

Asset-II			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	32.36	70.30	71.25
Interest on Loan	38.59	80.53	75.47
Return on equity	36.81	80.97	82.14
Interest on Working Capital	4.96	9.92	10.02
O & M Expenses	49.87	93.10	96.20
Total	162.58	334.82	335.08

Filing Fee and Publication Expenses

69. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. Rajasthan Discoms has submitted that filing fee and other expenses may not be allowed. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition,



directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

70. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.

Sharing of Transmission Charges

71. UPPCL has submitted that as per 23rd meeting at Standing Committee held on 16.2.2008, instant assets are meant for Rajasthan and Punjab exclusively, therefore the transmission charges in respect of these have to be shared between Rajasthan and Punjab and the burden of the same should not be passed on to the other beneficiaries of the Northern Region. In response, the petitioner submitted that under the regional System Strengthening Scheme, the instant assets are required to meet the increasing demand and increasing quantum of power supply required to be delivered from regional grid to State grids and sharing of transmission tariff should be allowed as prayed in the petition.

72. We have considered the submissions of the petitioner and UPPCL. The Tariff for transmission of electricity (annual fixed cost) shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in

Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and losses) Regulations, 2010 as amended from time to time.

73. This order disposes of Petition No. 221/TT/2016.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2016-17	2017-18	2018-19
1	Bond LIII			
	Gross loan opening	110.18	110.18	110.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	110.18	110.18	110.18
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	110.18	110.18	110.18
	Average Loan	110.18	110.18	110.18
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	8.96	8.96	8.96
	Rep Schedule	12 annual installments from 20.04.2020		
2	Bond XXXVII			
	Gross loan opening	60.00	60.00	60.00
	Cumulative Repayment upto DOCO/previous year	5.00	10.00	15.00
	Net Loan-Opening	55.00	50.00	45.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	5.00	5.00	5.00
	Net Loan-Closing	50.00	45.00	40.00
	Average Loan	52.50	47.50	42.50
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	4.86	4.39	3.93
	Rep Schedule	12 annual installments from 26.12.2015		
3	Bond XL			
	Gross loan opening	83.93	83.93	83.93
	Cumulative Repayment upto DOCO/previous year	6.99	6.99	13.99
	Net Loan-Opening	76.94	76.94	69.94
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	6.99	6.99
	Net Loan-Closing	76.94	69.94	62.95
	Average Loan	76.94	73.44	66.44
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	7.16	6.83	6.18
	Rep Schedule	12 annual installments from 28.6.2016		
4	Bond LIII (Addcap)			
	Gross loan opening	0.00	72.05	73.72
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	72.05	73.72
	Additions during the year	72.05	1.67	0.00
	Repayment during the year	0.00	0.00	0.00



	Net Loan-Closing	72.05	73.72	73.72
	Average Loan	36.03	72.89	73.72
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	2.93	5.93	5.99
	Rep Schedule	12 annual installments from 20.04.2020		
6	Bond XXX			
	Gross loan opening	533.00	533.00	533.00
	Cumulative Repayment upto DOCO/previous year	133.25	177.67	222.08
	Net Loan-Opening	399.75	355.33	310.92
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	44.42	44.42	44.42
	Net Loan-Closing	355.33	310.92	266.50
	Average Loan	377.54	333.13	288.71
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	33.22	29.32	25.41
	Rep Schedule	12 annual installments from 29.9.2013		
7	Bond XXXIII			
	Gross loan opening	200.00	200.00	200.00
	Cumulative Repayment upto DOCO/previous year	33.33	50.00	66.67
	Net Loan-Opening	166.67	150.00	133.33
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	16.67	16.67	16.67
	Net Loan-Closing	150.00	133.33	116.67
	Average Loan	158.33	141.67	125.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	13.68	12.24	10.80
	Rep Schedule	12 annual installments from 8.7.2014		
8	SBI 10000 (1.5.2014)			
	Gross loan opening	307.56	307.56	307.56
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	307.56	307.56	307.56
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	307.56	307.56	307.56
	Average Loan	307.56	307.56	307.56
	Rate of Interest	9.55%	9.55%	9.55%
	Interest	29.37	29.37	29.37
	Rep Schedule	20 half yearly equal installments from 15.6.2019		
9	Bond XXXVIII			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00



	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	9.25	9.25	9.25
	Rep Schedule	9.3.2027 Bullet Payment		
10	Bond XLI			
	Gross loan opening	44.00	44.00	44.00
	Cumulative Repayment upto DOCO/previous year	0.00	3.67	7.33
	Net Loan-Opening	44.00	40.33	36.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	3.67	3.67	3.67
	Net Loan-Closing	40.33	36.67	33.00
	Average Loan	42.17	38.50	34.83
	Rate of Interest	8.85%	8.85%	8.85%
	Interest	3.73	3.41	3.08
	Rep Schedule	12 annual installments from 19.10.2016		
11	Bond XLII			
	Gross loan opening	95.00	95.00	95.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	95.00	95.00	95.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	95.00	95.00	95.00
	Average Loan	95.00	95.00	95.00
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	8.36	8.36	8.36
	Rep Schedule	13.3.2023 Bullet Payment		
12	Bond XLV			
	Gross loan opening	212.00	212.00	212.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	17.67
	Net Loan-Opening	212.00	212.00	194.33
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	17.67	17.67
	Net Loan-Closing	212.00	194.33	176.67
	Average Loan	212.00	203.17	185.50
	Rate of Interest	9.65%	9.65%	9.65%
	Interest	20.46	19.61	17.90
	Rep Schedule	12 annual installments from 28.2.2018		
13	Bond XLVI			
	Gross loan opening	192.34	192.34	192.34
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	192.34	192.34	192.34
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	192.34	192.34	192.34



	Average Loan	192.34	192.34	192.34
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	17.89	17.89	17.89
	Rep Schedule	Redeemable at par in 3 equal installments on 4.9.2019, 4.9.2024 and 4.9.2029		
14	Bond XLIX			
	Gross loan opening	74.17	74.17	74.17
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	74.17	74.17	74.17
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	74.17	74.17	74.17
	Average Loan	74.17	74.17	74.17
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	6.04	6.04	6.04
	Rep Schedule	Redeemable at par in 3 equal installments on 9.3.2020, 9.3.2025 and 9.3.2030		
15	Bond XXXI			
	Gross loan opening	432.00	432.00	432.00
	Cumulative Repayment upto DOCO/previous year	108.00	144.00	180.00
	Net Loan-Opening	324.00	288.00	252.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	36.00	36.00	36.00
	Net Loan-Closing	288.00	252.00	216.00
	Average Loan	306.00	270.00	234.00
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	27.23	24.03	20.83
	Rep Schedule	12 annual installments from 25.2.2014		
16	Bond XLVIII			
	Gross loan opening	46.00	46.00	46.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	46.00	46.00	46.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	46.00	46.00	46.00
	Average Loan	46.00	46.00	46.00
	Rate of Interest	8.20%	8.20%	8.20%
	Interest	3.77	3.77	3.77
	Rep Schedule	Redeemable at par in 4 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030		
	Total Loan			
	Gross loan opening	2490.18	2562.23	2563.90
	Cumulative Repayment upto DOCO/previous year	286.58	392.33	522.74



	Net Loan-Opening	2203.60	2169.90	2041.16
	Additions during the year	72.05	1.67	0.00
	Repayment during the year	105.75	130.41	130.41
	Net Loan-Closing	2169.90	2041.16	1910.75
	Average Loan	2186.75	2105.53	1975.96
	Rate of Interest	9.0048%	8.9949%	8.9964%
	Interest	196.91	189.39	177.76



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2016-17	2017-18	2018-19
1	Bond LIV			
	Gross loan opening	26.58	26.58	26.58
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	26.58	26.58	26.58
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	26.58	26.58	26.58
	Average Loan	26.58	26.58	26.58
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	2.12	2.12	2.12
	Rep Schedule	Redeemable at par in 3 equal installments on 15.7.2021, 15.7.2026 and 15.7.2031		
2	Bond LIV (Addcap)			
	Gross loan opening	0.00	12.96	14.35
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	12.96	14.35
	Additions during the year	12.96	1.39	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	12.96	14.35	14.35
	Average Loan	6.48	13.66	14.35
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	0.52	1.09	1.14
	Rep Schedule	Redeemable at par in 3 equal installments on 15.7.2021, 15.7.2026 and 15.7.2031		
3	Bond XXXIII			
	Gross loan opening	99.00	99.00	99.00
	Cumulative Repayment upto DOCO/previous year	24.75	24.75	33.00
	Net Loan-Opening	74.25	74.25	66.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	8.25	8.25
	Net Loan-Closing	74.25	66.00	57.75
	Average Loan	74.25	70.13	61.88
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	6.42	6.06	5.35
	Rep Schedule	12 annual installments from 8.7.2014		
4	SBI 10000 (01.05.2014)			
	Gross loan opening	89.29	89.29	89.29
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	89.29	89.29	89.29



	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	89.29	89.29	89.29
	Average Loan	89.29	89.29	89.29
	Rate of Interest	9.55%	9.55%	9.55%
	Interest	8.53	8.53	8.53
	Rep Schedule	20 half yearly equal installments from 15.6.2019		
5	Bond XXXVIII			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	9.25	9.25	9.25
	Rep Schedule	9.3.2027 Bullet Payment		
6	Bond XLVI			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	9.30	9.30	9.30
	Rep Schedule	Redeemable at par in 3 equal installments on 4.9.2019, 4.9.2024 and 4.9.2029		
7	Bond XXXI			
	Gross loan opening	240.00	240.00	240.00
	Cumulative Repayment upto DOCO/previous year	60.00	80.00	100.00
	Net Loan-Opening	180.00	160.00	140.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	20.00	20.00	20.00
	Net Loan-Closing	160.00	140.00	120.00
	Average Loan	170.00	150.00	130.00
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	15.13	13.35	11.57
	Rep Schedule	12 annual installments from 25.2.2014		
8	Bond XLVIII			
	Gross loan opening	36.70	36.70	36.70
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00



Net Loan-Opening	36.70	36.70	36.70
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	36.70	36.70	36.70
Average Loan	36.70	36.70	36.70
Rate of Interest	8.20%	8.20%	8.20%
Interest	3.01	3.01	3.01
Rep Schedule	Redeemable at par in 4 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030		
Total Loan			
Gross loan opening	691.57	704.53	705.92
Cumulative Repayment upto DOCO/previous year	84.75	104.75	133.00
Net Loan-Opening	606.82	599.78	572.92
Additions during the year	12.96	1.39	0.00
Repayment during the year	20.00	28.25	28.25
Net Loan-Closing	599.78	572.92	544.67
Average Loan	603.30	586.35	558.80
Rate of Interest	8.9950%	8.9882%	8.9952%
Interest	54.27	52.70	50.26

