

**ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
PLOT NO. 4, CHUNOKOLI, SHAILASHREE VIHAR,
CHANDRASEKHARPUR,
BHUBANESWAR-751021**

**Present: Shri U. N. Behera, Chairperson
 Shri A. K. Das, Member
 Shri S. K. Parhi, Member**

CASE NO. 63 OF 2016

Date of Hearing : 08.02.2017

Date of Order : 23.03.2017

IN THE MATTER OF: Application for approval of Aggregate Revenue Requirement (ARR) and Determination of Bulk Supply Price (BSP) of GRIDCO Ltd., under Section 86(1) (a) & (b) and other applicable provisions of the Electricity Act, 2003 read with OERC (Terms and Conditions for Determination of Tariff) Regulations, 2004 and OERC (Conduct of Business) Regulations, 2004, for the year 2017-18.

ORDER

Section 86(1) (b) of the Electricity Act, 2003 requires the Commission to determine the procurement price structure for distribution Utilities operating in the State of Odisha. Under the existing Bulk Supply Agreements with GRIDCO Ltd. (in short GRIDCO), the Distribution Utilities of Odisha are under obligation to purchase power solely from GRIDCO. In determining the procurement price, the Commission has to hear not only the buyers (Distribution Utilities) but also the seller (GRIDCO Ltd.). No meaningful hearing of GRIDCO is possible unless GRIDCO files its Aggregate Revenue Requirement and expected revenue. GRIDCO Ltd. has done so. The Commission has taken the filing of GRIDCO Ltd. into consideration even though GRIDCO Ltd. as a deemed trading licensee under the 5th Proviso to Section 14 of the Electricity Act, 2003 (hereinafter referred to as “the Act”) as it is outside the purview of Section 62 of the said Act. The prices at which GRIDCO Ltd. supplies power to the Distribution Utilities coincides with the procurement price fixed for the distribution Utilities under Section 86(1)(b) of the Act. For supply of surplus power to any other person anywhere after satisfying the requirements of the distribution Utilities of Odisha, the bulk supply prices fixed for the Utilities would not be applicable. So far as Distribution Utilities of Odisha are concerned the prices at which GRIDCO Ltd.

would supply power has to be determined by reference to the Aggregate Revenue Requirement (ARR) of GRIDCO Ltd. Hence GRIDCO Ltd. was called upon to file its Aggregate Revenue Requirement (ARR) for ensuing Financial Year i.e for FY 2017-18.

PROCEDURAL HISTORY (Para 2 to 7)

2. The Commission directed GRIDCO Ltd. to publish its Aggregate Revenue Requirement (ARR) and determination of Bulk Supply Price (BSP) application in the approved format in two leading and widely circulated daily newspapers one in odia and one in English and the matter was also posted on the Commission's website (www.orierc.org) in order to invite objections/suggestions from the intending objectors. The said public notice was published in the leading daily newspapers, Commission's website and GRIDCO Ltd.'s website. The Commission directed GRIDCO Ltd. to file its rejoinder to the objections filed by the various objectors before the Commission and to serve copy to them.

3. In response to the aforesaid public notice in respect to the Aggregate Revenue Requirement (ARR) and BSP application of the GRIDCO Ltd. for FY 2017-18, the Commission received 11 no. of objections/ suggestions from the following persons/ associations/ institutions/ licensees: -

1. Shri G.N. Agrawal, Convenor-cum-Gen. Secy, Sambalpur District Consumers Federation, Balaji Mandir Bhawan, Khetrajpur, Sambalpur-768003, 2. M/s.Ferro Alloys Corporation LTD. (FACOR), GD-2/10, Chandrasekharpur, Bhubaneswar-751023, 3. Shri Ananda Kumar Mohapatra, Power Analyst, S/o-Jachindranath Mohapatra, Plot No. L-II/68, SRIT Colony, Budharaja, Ps-Ainthapali, Dist-Sambalpur-768004, 4. M/s. Arati Steel Ltd., Plot No.-18/IB, Sector-10, CDA, Cuttack-753014, 5. Shri Devashis Mahanti, President, North Odisha Chamber of Commerce and Industry (NOCCI), Ganeswarapur Industrial Estate, Januganj, Balasore-756019, 6. M/s. Swain & Sons Power Tech Pvt. Ltd., Swati Villa, Surya Vihar, Link Road, Cuttack-753012, 7. M/s. Grasim Industries Ltd. (Chemical Division Ganjam), P.O: Jayshree-761025, Dist.-Ganjam, 8. Shri R.P. Mahapatra, Retd. Chief Engineer& Member (GEN), OSEB, Plot No.775(Pt), Lane-3, Jayadev Vihar, Bhubaneswar-13, 9. Shri Ramesh Ch. Satpathy, Secretary, National Institute of Indian Labour, Plot No.302(B), Beherasahi, Nayapalli, Bhubaneswar-751012, 10.M/s.

OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-23, 11. Shri Alekh Chandra Mallick, S/o. Shri Harekrushna Mallick, VR-13, Unit-6, Bhubaneswar, Khurda. The applicant submitted its reply to issues raised by the various objectors during hearing of the above case.

4. In exercise of the power conferred under S.94(3) of the Electricity Act, 2003, in order to protect the interest of the consumers of Odisha, the Commission appointed to World Institute of Sustainable Energy (WISE), Pune, as Consumer Counsel for objective analysis of the licensee's Aggregate Revenue Requirement (ARR) and Bulk Supply Price proposal for FY 2017-18. The Consumer Counsel-WISE, Pune presented its views on the matter during the hearing.
5. The date for hearing was fixed as 08.02.2017 at 11.30 AM and it was duly notified in the leading newspapers mentioning the list of the objectors, time and place of hearing. The Commission had also issued individual notice to the applicant and the objectors for hearing of the above matter on 8.02.2017. The Commission also issued notice to the Department of Energy, Government of Odisha informing them about the date, time and place of hearing and requesting to send its authorized representative to take part in the proceeding.
6. In its consultative process, the Commission conducted a public hearing at its premises on 08.02.2017 and heard the Applicant, Objectors, Consumer Counsel and the Representative of Dept. of Energy, Govt. of Odisha at length. The following persons were participated in the hearing process.

1. Sri G.N. Agrawal, Convenor-cum-Gen. Secy, Sambalpur District Consumers Federation, Balaji Mandir Bhawan, Khetraipur, Sambalpur-768003, 2. Shri M.V.Rao, Resident Manager & Power of Attorney Holder of M/s. Ferro Alloys Corporation LTD., (FACOR),GD-2/10,Chandrasekharpur, Bhubaneswar-751023, 3. Sri Ananda Kumar Mohapatra, Power Analyst, S/o.- Jachindranath Mohapatra, Plot No. L-II/68, SRIT Colony, Budharaja, Ps-Ainthapali, Dist-Sambalpur-768004, 4. Sri S.Satyakam, Advocate on behalf M/s. Arati Steel Ltd., Plot No.-18/IB, Sector-10, CDA, Cuttack-753014, 5. Shri Bibhu Charan Swain, the authorized representative of Shri Devashis Mahanti, President, North Odisha Chamber of Commerce and Industry (NOCCI), Ganeswarapur Industrial Estate, Januganj, Balasore-756019 and on behalf of 6.M/s. Swain & Sons Power Tech Pvt. Ltd., Swati Villa, Surya Vihar, Link Road, Cuttack-

753012, 7. Shri R. P. Mahapatra, the authorized representative of M/s.Grasim Industries Ltd.(Chemical Division Ganjam), P.O: Jayshree-761025, Dist.-Ganjam, 8. Shri R. P. Mahapatra, Retd. Chief Engineer& Member(GEN),OSEB, Plot No.775(Pt), Lane-3,Jayadev Vihar, Bhubaneswar-13, 9. Shri Ramesh Ch. Satpathy, Secretary, National Institute of Indian Labour, Plot No. 302(B), Beherasahi, Nayapalli, Bhubaneswar-751012, 10. Shri Rutwik Mishra, Dy.G.M. (Corporate Monitoring Group), M/s. OPGC Ltd., Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-23, 11. Sri Alekh Chandra Mallick, S/o. Sri Harekrushna Mallick, VR-13, Unit-6, Bhubaneswar, Khurda, Ms. Niharika Pattanayak, ALO, DoE, GoO along with C. V. Sastry, Consultant Eng. Dept. DoE, GoO. The written notes of submissions filed in the above case were taken in to consideration by the Commission.

7. The Commission convened the State Advisory Committee (SAC) meeting on 20.02.2017 at 3.30 PM in the Conference Hall of the OERC to discuss about the ARR application and Bulk Supply Price proposal of the licensee for the FY 2017-18. The Members of the SAC, Special Invitees, the Representative of Department of Energy, Govt. of Odisha actively participated in the discussion and offered their valuable suggestions and views on the matter for consideration of the Commission.

PROPOSAL OF GRIDCO ON ARR AND BULK SUPPLY PRICE (BSP) FOR THE FY 2017-18 (Para 8 to 22)

8. According to the applicant GRIDCO Limited (hereinafter called as GRIDCO) is a Deemed Trading Licensee under the 5th Proviso to Section 14 of the Electricity Act, 2003 and carries out the business of Bulk Supply of electricity to the four Electricity Supply Utility Companies (hereinafter called as ‘DISCOMs’) by utilizing the transmission network of OPTCL, the State Transmission Utility (STU) and others. Besides, being the successor organization to the erstwhile Odisha State Electricity Board (OSEB), GRIDCO continues the functions of bulk purchase and sale of power in the interest of the State under the “Single Buyer Model”, as a matter of historical legacy. Accordingly, GRIDCO continues to procure power from various generators located inside Odisha and the State share from central generators for supply the same to DISCOM Utilities under the existing Bulk Supply Agreement at a regulated price determined by the Commission. This Price incidentally happens to be the Bulk Supply Price at which GRIDCO supplies power to the DISCOM Utilities. Moreover, GRIDCO also supplies emergency power to the Captive Generating Plants (CGPs)

and trades the surplus power available, if any, from time to time. Thus, as a statutory requirement, GRIDCO is required to submit its Aggregate Revenue Requirement (ARR) before OERC for determination of the procurement price of the DISCOM Utilities. In this above backdrop, GRIDCO has filed an application for approval of its proposed Aggregate Revenue Requirement and revision of Bulk Supply Price for the FY 2017-18 to enable it to carry out its functions of bulk supply to DISCOM Utilities and emergency supply to CGPs.

Projection of Demand and Energy

9. The Simultaneous Maximum Demand (SMD) of DISCOM Utilities for the FY 2017-18 has been projected at 4732 MVA per month and energy requirement has been projected at 25882.05 MU for FY 2017-18, out of which 25877.05 MU for sale to DISCOM Utilities and 5 MU towards Emergency Power Supply to Captive Generating Plants (CGPs) like NALCO and IMFA for the same period.

Power Procurement Projected by GRIDCO

10. The proposed energy available to GRIDCO is 27544 MU. The estimated surplus energy of about 723 MU is proposed to be utilised for power trading.

**Table – 1
Demand and Energy Projection for FY 2017-18**

ITEMS	Projection for FY 2017-18
SMD for DISCOM Utilities (MVA per month)	4732
Energy Demand of DISCOM Utilities (MU)	25877
Emergency Power to CGPs (MU)	5
Transmission Loss @ 3.50% in OPTCL system (MU)	939
Total Energy Required to be Purchased (MU)	26821
Total Energy Availability (MU)	27544
Surplus energy (MU)	723

Power Purchase Cost Projected for 2017-18

11. The detailed cost of power purchase as furnished by GRIDCO for FY 2017-18 is reproduced hereunder in Table below.

**Table – 2
Summary of Proposed Power Procurement Cost during FY 2017-18**

Stations	Availability (After Transformation Loss and Auxiliary Consumption) (MU)	Rate (P/U)	Total Cost (Rs.Cr.)
HHEP	662.54	144.58	95.79

Stations	Availability (After Transformation Loss and Auxiliary Consumption) (MU)	Rate (P/U)	Total Cost (Rs.Cr.)
CHEP	302.94	87.27	26.44
Rengali	693.00	88.52	61.34
Upper Kolab	823.68	56.35	46.42
Balimela	1172.16	91.97	107.80
OHPC(Old)	3654.32	92.44	337.79
Indravati	1944.36	76.70	149.13
Sub-Total OHPC	5598.68	86.97	486.91
Machhkund	262.50	55.07	14.46
Total State Hydro	5861.18	85.54	501.37
OPGC	2796.22	236.91	662.44
TTPS	3162.93	327.39	1035.51
Small Hydro	320.00	368.94	118.06
Biomass Energy	80.00	578.00	46.24
Solar Energy	363.00	615.01	223.25
CGPs	0.00	275.00	0.00
Co-generation Plants	0.00	275.00	0.00
IPPs	6681.00	278.53	1860.83
Total State	19264.33	230.88	4447.71
TSTPS Stg.-I	2193.53	333.93	732.49
TSTPS Stg.-II	1365.25	316.01	431.44
FSTPS-I & II	1245.23	503.36	626.80
FSTPS-III	563.73	576.15	324.80
KhSTPS Stg.-I	707.59	447.99	316.99
KhSTPS Stg.-II	190.19	476.23	90.58
Barh-STPS-II	1105.83	636.90	704.30
Total Central Thermal	7371.37	437.83	3227.39
Chukha	256.00	286.59	73.37
TALA	140.00	258.98	36.26
Teesta	512.00	287.82	147.36
Total Central Hydro	908.00	283.03	256.99
Total EREB	8279.37	420.85	3484.38
GRAND TOTAL	27543.70	287.98	7932.09

Pass through of arrear dues paid / to be paid during FY 2017-18

12. GRIDCO proposes to consider pass through of expenses of Rs. 875.56 Crore, already incurred or to be incurred in the ARR for the FY 2017-18. This expenses of Rs.875.56 Crore consists of Rs.104.40 Crore towards arrear in respect of NTPC-TTPS as per CERC Order Dtd.31.08.2016 and Rs. 771.16 Crore towards arrear in respect of central thermal generating stations of NTPC (except Barh-II) as per actual billing by NTPC upto September, 2016 and arrear towards Barh-II STPS from Oct-15 to Sept-16.

Special Appropriation of repayment of principal for FY 2017-18

13. GRIDCO has proposed a sum of Rs. 1054.63 Crore out of Rs.2797.60 Crore on account of repayment of principal of bank loans to be included in the ARR of GRIDCO for the FY 2017-18 for recovery through tariff and proposed for deferment balance Rs. 1742.97 Crore of repayment of Govt. dues.

Interest, Financing & Other expenses

14. GRIDCO has proposed to recover Rs.522.73 Crore during the FY 2017-18 towards interest on loans and financial charges, employee cost, A&G cost, R&M cost and depreciation as detailed in Table below:

Table – 3
Interest, Financing & Other expenses for FY 2017-18

Particulars	Amount (Rs. Crore)
1. Interest & Financial Charges	502.62
2. Other Costs:	
a. Employee Cost	11.06
b. A&G Cost	8.00
c. Repair & Maintenance Cost	0.32
Sub-Total - Other Costs	19.38
3. Depreciation	0.73
Total (1+2+3)	522.73

Return on Equity

15. GRIDCO has proposed RoE of Rs.92.27 crore @ 16.00 % on its equity capital of Rs. 576.71 crore.

Other Income / Miscellaneous Receipts

16. GRIDCO expects to earn an amount of Rs. 3.43 Crore during FY 2017-18 (at existing approved tariff for FY 2016-17) from proposed sale of 5 MU emergency power supply to NALCO and IMFA.

Receivable from DISCOM Utilities and other parties

17. DISCOM Utilities have defaulted in payment of Rs.2085.33 Crore towards securitized dues as on 31.03.2016, Rs. 2180.47 Crore towards BSP bills from FY 2011-12 to FY 2016-17 (upto September 2016) and Rs.625.17 Crore towards Year-end-Adjustment (YEA) Bills from FY 2008-09 to FY 2010-11. Further, Rs.195.36 Crore towards NTPC Bonds is due from DISCOM Utilities as on 31.03.2016.

Aggregate Revenue Requirement

18. The proposal for Aggregate Revenue Requirement (ARR) of GRIDCO for FY 2017-18 is summarised in the Table below.

Table - 4
Aggregate Revenue Requirement of GRIDCO for FY 2017-18
(Rs. Crore)

	Item	OERC approval for FY 2016-17	GRIDCO's Proposal for FY 2017-18
a)	Power Purchase Cost	5849.16	7932.09
b)	Pass through expenses and Special Appropriation	468.85	1930.19
c)	Interest, Financing and other expenses	349.36	522.73
d)	Return on Equity	0	92.27
e)	Revenue Requirement (a+b+c+d)	6667.37	10477.28
f)	(-) Misc. Receipts	6.85	3.43
g)	(-) Revenue from trading of surplus power of 722.92 MU @250 P/U	0	180.73
h)	Net Revenue Requirement (e-f-g)	6660.52	10293.12

Proposed Revenue Earning at Existing BSP Rates

19. GRIDCO proposes to earn revenue of Rs 7078.73 Crore during FY 2017-18 from the anticipated sale of 25877 MU to DISCOM Utilities at the existing BSP rates of FY 2016-17, the details of which is given in Table below.

Table – 5
Expected Revenue for FY 2017-18 with anticipated sale to DISCOM Utilities at Existing BSP Rates

	Energy (MU)	Existing BSP Rate (P/U)	Amount (Rs. Cr.)
CESU	9094	270.00	2455.38
NESCO	6043	297.00	1794.77
WESCO	7200	296.00	2131.20
SOUTHCO	3540	197.00	697.38
TOTAL	25877		7078.73

Excess / Deficit in the ARR for FY 2017-18

20. GRIDCO has proposed that it would suffer revenue deficit of Rs.3214.39 Crores considering the proposed ARR and the revenue to be earned from sale of the proposed energy of 25877 MU to DISCOM Utilities during FY 2017-18 at the existing BSP of FY 2016-17, the details of which are shown in the Table below.

Table - 6
Excess / Deficit on Revenue Requirement for FY 2017-18
(Rs. Crore)

	Item	GRIDCO's Proposal for 2017-18
a)	Total Revenue Requirement	10477.28
b)	Less: Misc. Receipts	3.43
c)	Less: Revenue from trading of surplus power of 722.92 MU @250 P/U	180.73
d)	Net Revenue Requirement	10293.12
e)	Revenue Receipt from DISCOM Utilities (at existing BSP)	7078.73
f)	Excess(+) or Deficit(-)	-3214.39

Summary of Tariff Filing for FY 2017-18

21. GRIDCO has prayed the Commission to approve the following for FY 2017-18 and make the same effective from 1st April, 2017.
- i) The proposed uniform Bulk Supply Price (BSP) @ 397.77 P/U to recover net revenue requirement of Rs.10293.12 Crore from DISCOM Utilities.
 - ii) Demand charges @ Rs.250 /KVA/month, when actual SMD exceeds the permitted monthly SMD.
 - iii) Charges for over drawl of energy at a cost of highest OERC approved power purchase rate fixed for a station for FY 2017-18 to be recovered on monthly basis subject to final adjustment at the end of the year considering the highest Power Purchases rate/ cost including the rate/s of energy drawn through U.I. / Deviation Settlement of the month plus transmission charges and transmission loss.
 - iv) Any excess payment made by GRIDCO towards FPA for a particular / relevant month will be levied on DISCOM Utilities in the succeeding month in proportion to their actual drawl during the preceding month along with the BSP bills if the Fuel Surcharge Price of the particular month paid by GRIDCO exceeds by more than 5% of the approved Average BSP subject to maximum of 25% of the approved Average BSP.
 - v) Rebate for Timely Payment:
 - A rebate of 2%, in case the DISCOM Utilities make full payment of the current month's BSP dues within two working days (excluding holidays under NI Act) of serving of the BSP invoice by GRIDCO.

- A rebate of 1%, in case DISCOM Utilities make payment of the current month's BSP dues in full within a period of 30 days of serving of the BSP invoice by GRIDCO.
 - A rebate of 2% on the amount of current month's BSP dues partly paid by the DISCOM Utilities within two working days (excluding holidays under NI Act) and 1% on the balance current BSP dues, if paid within a period of 30 days of serving of the BSP invoice by GRIDCO.
 - No rebate, if the DISCOM Utilities have not paid any amount of the current month's BSP dues within a period of 30 days of serving of the BSP invoice by GRIDCO.
- vi) Delayed Payment Surcharge @1.50% per month for the period of delay beyond 30 days from date of submission of bills.
- vii) The Electricity Duty levied by the Government of Odisha and any other Statutory levy/ Duty/ Tax/ Cess / Toll etc. imposed under any law from time to time shall be charged over and above the Bulk Supply Price,.
- viii) To suitable frame and approve the Intra State UI / Deviation Settlement Mechanism & Rates in a manner by which GRIDCO will be in a position to recover its dues payable to the generators from the BSP Bills charged to the DISCOM Utilities.
22. During the hearing, the licensee-GRIDCO was allowed at the outset to give a power point presentation regarding its ARR and BSP application for the FY 2017-18. World Institute of Sustainable Energy (WISE), Pune appointed as consumer counsel put up certain queries and objections regarding ARR and BSP filing of GRIDCO. The objectors also made observations and suggestions regarding the submission of the licensee. Based on their nature and type, these objections/ observations have been categorized broadly as indicated here under.

VIEWS OF THE OBJECTORS AND CONSUMER COUNSEL ON THE BULK SUPPLY PRICE PROPOSAL FOR FY 2017-18 (Para 23 to 83)

Consumer Counsel

23. Design of BSP for DISCOM Utilities has direct impact on consumer tariff; therefore, WISE, the Consumer Counsel has made the following observations on the ARR of GRIDCO for consideration of the Commission. WISE has stated to review the energy

availability from all sources along with the arrears claimed by GRIDCO in respect of Central thermal stations according to the final orders issued by CERC; not to consider the high cost power purchase from central thermal stations as low cost power from IPPs/CGPs is available within the State; to review the energy procurement from renewable projects for meeting the RPO; to review the transmission loss and transmission charges in case of central sector projects; to suitably determine the power procurement rates for IPPs; to verify the proposed pass through expenses & special appropriation and repayment of loans; not to allow interest on proposed new loan and RoE; and to verify the actual employee cost, R&M cost, A&G cost and trading income of GRIDCO.

Views of Objectors

Legal Issues:

24. GRIDCO, as a trader, is entitled to get only a trading margin over the power procurement cost. Therefore, the Commission should determine only a trading margin for GRIDCO and determination of ARR and BSP for GRIDCO is not in accordance with the provisions of the Statute. One of the objectors has suggested for a trading margin of 4 P/U payable to GRIDCO over the power procurement cost.
25. There is no provision in the Statute for GRIDCO, a deemed trader, to service the creditors of the DISCOM Utilities.

Availability from State Stations

26. Power availability from OHPC needs to be considered on actual performance of previous years with additional capacities built up and not on design energy. GRIDCO is to prevail upon OHPC for more production and to have proper up-gradation of their storage capacity. In addition, expeditious commissioning of Unit III & IV of OPGC power station will be an advantage to the people of Odisha, so as to supply reasonable and reliable power to the consumers. GRIDCO should strive to maximize generation from OPGC, TTPC, NTPC-Kaniha and State IPPs, to avoid procurement of high cost energy from power stations fed from imported coal.
27. Projections of GRIDCO need to be properly scrutinized. GRIDCO may be advised to procure maximum power available from the captive power plants in the state and then avail the allocation of Central Power Stations in merit order to meet the power requirement of the State Consumers

28. GRIDCO has not planned any procurement from CGPs, who help them during shortfall of energy in the state. GRIDCO should procure a specified minimum quantum from CGPs considering that CGP power is cheaper in comparison to the tariff of some of the central generating stations. The Commission needs to allocate power procurement from the CGPs by GRIDCO.
29. GRIDCO should submit the details of CGPs generating power in Odisha and their action plan to monitor all the CGPs.
30. GRIDCO should furnish details regarding the action taken to promote renewable and small hydro power installations in the State of Odisha.
31. GRIDCO proposed to procure minimum power from 3 IPPs only and excludes 2 IPPs (Ind-Barath and NBVL) which indicates that GRIDCO has no intent to avail low cost power for state consumption and surplus power for trading purpose. GRIDCO has to clarify why other IPPs have not yet generated power for the use of state demand. Efforts should be made by GRIDCO to maximize the drawal from IPPs.
32. GRIDCO does not disclose the state's share from all IPPs as per the PPA with regard to State Thermal Policy along with the status of coal linkage of these IPPs and status of transmission facility to avail the entire state's share of energy from these IPPs
33. GRIDCO has not considered the shortfall in RPO for the previous years in the present ARR. GRIDCO is to submit the year wise RPO obligation and compliance status. GRIDCO is also requested to clarify whether it has submitted any quarterly report and annual report regarding its RPO compliance to the state designated agency OREDA. The Commission may direct GRIDCO to submit its RPO compliance report to OREDA at earliest in order to avoid complication in future.
34. GRIDCO should produce details for what steps it has taken to develop more solar and mini hydro power projects in state.
35. GRIDCO has to produce the list of IPPs/ hydro / mini-hydro power stations those are going to generate power during the FY 2017-18.

Sales Projection

36. GRIDCO has not factored distribution loss while projecting the power demand of the distribution companies. Therefore, the Commission may scrutinize the projections

given by GRIDCO regarding power availability from generating stations in the state and procurement proposed by GRIDCO from high cost central sector power stations.

37. It is necessary to find out exact energy requirement of the state both quantitatively and qualitatively for the year under consideration both in short term and long term.

Power Procurement Cost

38. The Commission may scrutinize the power procurement cost projected by the state generating stations both hydro and thermal and allow the procurement from central power stations on merit order to meet the power requirement of the state. The Commission may direct GRIDCO to purchase power from IPPs and Captive Generating Plants in the state and from power exchanges under open access instead of procuring costlier power from central sector.
39. The Commission may direct the GRIDCO to chalk out five-year plan, looking at power availability from IPPs and future load demand and explore the possibility to surrender the allocation of costly central sector power, in order to avoid payment of fixed charges in the event of non drawl. GRIDCO has appointed consultants to carry out a feasibility study for projected power demand; the report of the same may be intimated to all the stakeholders.
40. GRIDCO should be directed to go for efficient and effective calculation to achieve the power procurement cost as low as possible so that the final cost of power to consumers should be affordable.
41. OHPC in its ARR application has expressed their inability to generate more power, but projected higher cost of power than the proposal of GRIDCO. Hence, GRIDCO should negotiate with OHPC to reduce their price and alternative sources of power may be examined in order to reduce burden on the consumer.
42. GRIDCO is purchasing NTPC power at substantially higher cost, ranging from 448 to 637 P/U. whereas GRIDCO can offer better rate to IPPs and surplus power of CGPs enabling them to operate at maximum PLF economically.
43. GRIDCO should buy power from IEX at low rates to avoid financial burden on the general consumer.

44. GRIDCO has proposed to source power from Barh-STPS II, which is costlier and not permitted earlier. GRIDCO has to produce the details of power purchased from Barh STPS since Apr'2015 to till date along with per unit cost and total amount.
45. GRIDCO should procure a specified minimum quantum from CGPs as CGP power is cheaper in comparison to the tariff of central generating stations. CGP power is not associated with any transmission loss, POC / STU transmission charges, POC losses and other associated cost. Specified quantum of power may be fixed by the Commission to be purchased from CGPs and the tariff for the same may be determined looking onto the present cost of generation. GRIDCO may also procure CGP power through tendering process.
46. Instead of planning to buy power from Inter-State Stations at more than Rs.6.36 per unit for State consumption during power shortage, GRIDCO should purchase cheap power available with CGPs/other sources through Open Access or through power exchange.
47. GRIDCO should give detail reasons behind variations in escalation of different components of cost of power from Station to Station. In case of state owned stations, it has applied 20% escalation whereas for IPPs it applied 10% escalation.
48. In the backdrop of grant of interim stay order over the application of CERC Tariff Regulations by Orisha High Court, GRIDCO cannot propose cost on basing on that Regulations of CERC. Commission may recalculate the power purchase cost per unit from TTPS-NTPC power station like previous years.
49. The inefficiencies of OPGC power station need attention and necessary actions. OPGC tariff ought to be examined with break up. GRIDCO is urged upon to consider higher PLF for the proposed procurement plan for FY 2017-18.
50. The Commission is urged upon to recalculate the power procurement cost of GMR-IPP which is found abnormally high.
51. In last BSP order, the Commission had directed GRIDCO to explore all possibilities to purchase renewable power to meet RPO fixed, and to encourage renewable power producers in order to reduce the burden on consumers of the state on account of purchase of RECs. But GRIDCO has failed to carry out above orders. The Commission is urged to take appropriate action.

52. PGCIL has added to interstate networks much more than the requirement adding burden to transmission charges. Action taken by GRIDCO regarding containing these cost may be placed.
53. OPGC, as an objector, has requested to consider the Normative Auxiliary Consumption @9.50% instead of 8.50% and net generation of 2765.63 MU instead of 2796.22 MU as proposed by GRIDCO. The generation tariff as proposed OPGC in its Tariff Petition FY 2017-18 to be considered in the ARR of GRIDCO. OPGC further requested to approve the reimbursement of cost towards schemes of environmental protection equipment installation (Rs. 66.41 Cr) and schemes of essential for continuous operation of station (Rs. 30.10 Cr) in the ARR of GRIDCO as proposed in the OPGC Tariff Petition.

Interest on Long Term Liabilities

54. Due to non-realization of dues from DISCOM Utilities leading to its inability in meeting power procurement cost, GRIDCO resorted to borrowings from financial institutions time to time and loading the loan repayment and interest burden on the consumers of the state. Some objectors submitted that charges towards servicing of such loans by GRIDCO should not be considered in the BSP.

Employee Cost

55. GRIDCO has to justify whether accounts are being audited as per statutory provision of the Companies Act. The Commission should direct the management of GRIDCO to recruit adequate number of manpower as the existing few staff are not be able to handle the workload properly. Otherwise GRIDCO may be allowed to outsource its activities to third party. Employee cost may be approved at Rs 8 crore after prudence check.

A&G Expenses

56. GRIDCO has always crossed the approved A&G expenses without obtaining necessary consent from the Commission. GRIDCO should justify whether truing up exercise is being carried out each year and accounts are being audited as per statutory provision. Hence, The Commission may approve Rs 4.15 crore as A&G expenses.
57. One of the Objectors stated that since GRIDCO is merely a trader, it need not maintain a huge establishment as is done currently and hence, establishment costs may not be approved and allowed to be passed through in the ARR.

Depreciation and R&M Expenses

58. The Commission may allow only Rs 0.5 crore as depreciation and Rs 0.25 crore as R&M expenses in the ARR since no audited report is available.

Return on Equity

59. RoE as proposed by GRIDCO may not be allowed as per the order of the APTEL.

Past Losses and Pass through Expenses

60. Many objectors opposed the proposal of GRIDCO to consider past losses, securitization of arrear while approving the ARR of GRIDCO.
61. The objector opposes the proposal of GRIDCO to consider past losses except pass through expenses of amount Rs. 104.41 Cr in account of TTPS, securitization of arrear while approving the ARR of GRIDCO.
62. One of the objectors submit that, the inefficiencies and non performance of GRIDCO has lead to huge deficits, which GRIDCO proposed to manage through loans and submits to considered as a pass through, and may not be allowed.
63. The Government of Odisha is the owner of GRIDCO and therefore any loss incurred by GRIDCO has to be borne by the state Government and no burden should be borne by the consumers of the state towards the loan availed by GRIDCO to meet its losses.

Trading income

64. GRIDCO should produce year wise status report of power trading to outside of the state since 2008-09 till date Dec 2016 (monthwise).
65. GRIDCO has failed to trade surplus power of Odisha as directed by OERC to bridge the revenue gaps. Shortfall was partly attributable to delay in decision making and absence of required policy framework leading to inefficiency
66. Inter-state trading license is a pre-requisite for trading of power outside the State but negative net worth of GRIDCO rendered its ineligibility for obtaining such license, which needs attention.
67. One of the objectors submitted for placing the transaction and scheduling of HVDC lines and actions taken on restriction on scheduling on Kanhia-Kolhar and Jaynagar-Gajuwaka link line. He also claimed that, by managing and trading hyro power potential about fifty paisa to one rupee per unit substantial profit can be made by GRIDCO.

68. Actions taken by GRIDCO in appropriate forum for injection of power in W3 network for maximizing trading /avail state entitlements along with decisions should be placed.
69. Delay in evacuation power from STPS phase II of NTPC Kanhia is hampering the trading activities and GRIDCO is losing hundreds of crores. Details and status for the same should be placed.

Revenue Gap and BSP

70. Any increase in BSP will have direct bearing on Retail Tariff. In the past the burden of BST increase was loaded on HT and EHT consumers availing load factor incentive tariffs. GRIDCO has proposed high increase in BSP. Hence, ARR projection needs to be properly scrutinized.
71. GRIDCO has proposed increase of 124.63 P/U in BSP. This will lead to increase of 60-70 P/U in tariff to all category consumers taking into consideration the transmission charges of OPTCL and the distribution losses of the DISCOM Utilities. It is necessary to rationalize the bulk supply price to prevent tariff hike. The projection of GRIDCO in BSP needs to be properly scrutinized.

Other Issues

72. GRIDCO is not able to realize the BSP dues from DISCOM Utilities. Arrear dues on the DISCOM Utilities are increasing from year to year. There is no penalty on the DISCOM Utilities for their non-performance. On the other hand the debt is being serviced GRIDCO on account of failure of the DISCOM Utilities. There is no provision in the Statute for GRIDCO to service the creditors of the DISCOM Utilities. Hence, the total amount pending on DISCOM Utilities since 2008-09 till date should be produced and the Commission should pass an order directing the DISCOM Utilities to clear the liabilities.
73. GRIDCO has not taken any action to regulate power supply to the defaulting DISCOM Utilities as per the direction of the Commission and burden the consumers of the state by condoning the non-performance of the DISCOM Utilities.
74. Despite escrow agreement, GRIDCO did not collect its dues regularly resulted in outstanding. GRIDCO has allowed rebate to DISCOMs without recovering/ collecting the delayed payment surcharge from them.

75. The Commission should further direct GRIDCO to resort power regulation to the DISCOM Utilities to the extent of non-payment of monthly BSP dues.
76. GRIDCO may also be directed to release all payments due to various captive generators supplied to it from time to time.
77. GRIDCO is a trading licensee and is not properly acting for coordination of its functionaries and allied stake holders in proper utilization of sources and resources for generation and distribution, transmission and load regulations in general and SLDC.
78. The Commission is urged to restrict GRIDCO to move ahead on Cashless Power Banking as proposed by GRIDCO, because it lacks accountancy without any money value.
79. While computing Simultaneous Maximum Demand, GRIDCO should consider data from OPTCL as DISCOMs are procuring power for sale to people using the infrastructure of OPTCL.
80. Weighted average central sector transmission loss @ 2.16% projected by GRIDCO is very high in comparison to previous years. The Commission may take pragmatic view in passing the transmission loss of central sector power.
81. GRIDCO need to follow up with Govt of Odisha and Govt of India for inclusion in UDAY scheme, which shall be beneficial to GRIDCO to restructure its Balance Sheet.
82. M/s ASL as an objector prayed commission to direct GRIDCO to pay its dues as per the tariff determined vide order dated 09.06.2015 and as per order dated 29.12.2015.
83. Reason for deferment of date of commercial operation of Sterlite Energy to be stated along with supporting documents from SLDC, the payment made towards fixed and energy charges.

GRIDCO's RESPONSE TO THE OBJECTORS (Para 84 to 149)

84. In response to the views of the objectors on its application, GRIDCO had filed rejoinders as follows;

Legal Issues

85. GRIDCO's legal existence and the nature of its business have been upheld by OERC in multiple occasions, particularly in the ARR & BSP Order for FY 2012-13 and

subsequently thereafter. Therefore, the issue of trading margin raise by the objectors may not be considered.

86. Moreover, regarding the Trading Margin of 4 Paise per Unit as raised by one of the objectors, GRIDCO has stated that it is relevant to Inter State Power Traders, hence not applicable to GRIDCO as the power trading by GRIDCO is Intra-State in nature. In fact, such status of GRIDCO has been upheld by the Hon'ble Supreme Court of India in Appeal No. 5722 of 2006 (Gajendra Haldea vrs. GRIDCO & Others).

Energy Availability and Procurement

87. GRIDCO is obliged to procure the contracted power from the generators as per the Power Purchase Agreements, Memorandum of Understanding (MOUs) and as per the allotment made from the Central Generating Stations from time to time based on Least Cost Combination of power purchase for supply to the DISCOM Utilities. Considering the above, GRIDCO has projected its quantum of power procurement from different sources for 2017-18 to meet the anticipated demand of the Long Term Customers like the DISCOM Utilities, M/s. IMFA and M/s. NALCO etc. under the following conditions;

- Anticipated generation from OHPC, OPGC and TTPS etc. has been taken as per the generation plan submitted by these generators and also in line the OERC (Generation Tariff) Regulations, 2014.
- Energy availability from the IPP has been considered based on their actual generation and supply of power to GRIDCO during the current year. If at all the IPPs shall commence generation of power, then GRIDCO shall procure power from these IPPs as per the State entitlement and accordingly, the impact of procurement of such power requested to be considered in the Truing-up exercise.

88. OHPC and OPGC have filed their ARR & Generation Tariff Application for FY 2017-18 for approval by the Commission. Whatever Energy and Tariff are approved by the Commission will be accepted by GRIDCO

89. GRIDCO has been procuring the State share of power (i.e.25% of ESO at full Cost and 5% at Variable Cost determined by the Commission) from M/s. Vedanta Ltd. During FY 2016-17 (April'16 to Nov'16), GRIDCO has procured only 2035.41 MU

from M/s. Vedanta Ltd. against OERC approval of 5039.45 MU for the entire year of 2016-17.

90. Odisha has share in each NTPC-ER Power Stations for which Long Term PPAs having “Cost Plus Tariff” have been entered into by GRIDCO on behalf of the State. GRIDCO is legally obliged to buy power from NTPC-ER Stations in terms of such PPAs. “No-procurement” / “under-procurement” from these Stations, would invite levy of penalties in terms of payment of fixed cost irrespective of any energy drawal. Such penalties are very likely to outweigh the so called cheap power availability from CGP Sources.
91. In order to get away with the costly NTPC power, GRIDCO and the State Govt. have been jointly taking up with the Govt. of India for surrender of Odisha share of power from Barh STPS since 2012 and also from other up-coming costly NTPC-ER Stations (except the affordable North-Karanpura Power Station of NTPC), but it has not yet been materialized.
92. GRIDCO has considered purchasing power from NTPC Barh under the scenario of forced scheduling under technical minimum generation as it is bound by the terms of existing PPA. Even though the Commission has not considered the energy drawal from NTPC-Barh Station in the ARR for FY 2016-17, GRIDCO has not been left out by the said Station to levy its charges on GRIDCO because NTPC-Barh being a Central Station is not regulated by the State Commission. In fact, GRIDCO had to pay for all the dues including the energy charges and fixed charges as a beneficiary as per the PPA and the relevant Rules in force.
93. GRIDCO has been purchasing the available renewable energy in the State. GRIDCO has also proposed to procure 763 MU (Solar: 363 MU, Small Hydro: 320 MU & Biomass: 80 MU) of renewable energy during FY 2017-18. This apart, it is expected that GRIDCO is willing to buy Renewable Energy from various Solar & Non-Solar sources of about 368.50 MW by the end of 2018.
94. GRIDCO has been in the practice of procuring power through IEX on “as and when required” basis if this works out to be commercially more lucrative than the costly power allocation from Central Sector Power Stations.

95. GRIDCO has been following the merit order power procurement as a matter of policy and will resort to sourcing power from CGPs if the cost of economics works out in GRIDCO's favour and also depending on the exigencies to do so.
96. CGPs are infirm sources of power which only sell surplus power after meeting their self-consumption, hence can't be always relied upon to meet the eventual power demand of the State. GRIDCO is obliged to meet the power Demand of the State through the DISCOM Utilities in greater public interest irrespective of any conditions. Dependence on such infirm sources may cause disruptions / distortions in GRIDCO's obligatory function as the State Designated Entity to supply quality power to the people / industries of the State. However, GRIDCO with all prudence, has not altogether ruled out any procurement of power from CGPs, but stated that power procurement from the infirm source of CGPs, may be resorted to only under force majeure / emergency conditions after optimizing drawal from the firm sources located within and outside the State including the entitlement of Central Sector Stations.
97. Drawal of firm power from the Generators with whom PPAs have been signed, has to be sourced first, failing which the liability of payment of Fixed Cost remains with GRIDCO irrespective of any energy drawal. The summation of the estimated power procurement during FY 2017-18 from the 'FIRM' stations exceeds the projected demand of about 27544 MU for the consumption within the State and therefore, there is no room left for any procurement of energy from infirm CGP sources during the ensuing year. GRIDCO resorts to buying CGP power based on the need. The power procurement from such sources is almost non-existent during the current year and whatever little power is procured, has been only through inadvertent injections by the CGPs without any scheduling.
98. GRIDCO does not have any power trading activity in W3 Region. Balimela-Upper Sileru Transmission line is ready and is in charged condition up to gantry bus of Upper Sileru Sub-station in Andhra Pradesh. There is constraint in evacuation of power beyond Upper Sileru Sub-station. Hence, there is no power transmission / evacuation through this line at present.
99. The work of back-up Transmission Net-work for evacuation of power from TSTPS-II, Kaniha to Gajuwaka was being executed by M/s. TTCL (Talcher-II Transmission Company Ltd.). However, the execution of the Project got delayed due to delay in

getting necessary statutory clearances. The Company therefore moved to various relevant Forums (CERC and APTEL etc.) and prayed for relaxation with regard to time-over run of the Project. The matter is presently sub-judice before the Hon'ble Supreme Court of India.

Sales Projection

100. GRIDCO generally considers the demand projection of the DISCOMs as submitted by them and adds the transmission loss to arrive at the energy requirement of the State. The projected Transmission Loss @3.50% for the Intra State Transmission System of OPTCL has been considered by GRIDCO in its current ARR & BSP Application for FY 2017-18.
101. The projections by DISCOM Utilities to purchase energy from GRIDCO are based on their sales projection to consumers plus the distribution loss of their system. GRIDCO does not consider distribution loss while projecting the DISCOMs' energy demand. GRIDCO agrees with the views of the objectors and is also equally concerned as the DISCOM Utilities are not adhering to the OERC approved benchmark distribution losses.
102. GRIDCO nowhere does the projection of power procurement in isolation but does so after duly taking the DISCOM Utilities into confidence. GRIDCO's power procurement for FY 2017-18 has been estimated only after getting the relevant projected power requirement figures from the four DISCOM Utilities.
103. SMD of 4732 MVA per month projected by DISCOM Utilities for FY 2017-18 in keeping with their enhanced energy projection has been accepted by GRIDCO for consideration of the Commission.

Power Procurement Cost

104. GRIDCO has estimated the availability, quantum of power procurement and the rates for the FY 2017-18 based on the approval of the Regulators, viz., OERC and CERC etc., and in doing so, GRIDCO has followed the merit order principle whereby the costs are kept at minimum.
105. GRIDCO shares concerns of the public while balancing high cost procurement from the central sector stations with falling prices in the Power Exchanges & in the short-term Power Market. It anticipates positive outcome from its efforts to surrender costly

power and avail more from short term power market. GRIDCO along with the Government of Odisha, has been following up with the Centre Govt. since 2012, for de-allocation of high cost NTPC-Barh-Power, but till such time effort is not materialized. However, de-allocation of Odisha share of 155 MW of costly thermal power from New Nabinagar Thermal Power Station of NTPC has been done. GRIDCO is already in the process of surrendering the allocations of all the Costly Up-coming Stations of NTPC located outside the State and necessary steps in this regard are already underway.

106. Reduction in hydro reservoir level particularly during FY 2015-16 left a cascading effect on the availability of cheaper hydro power during the later years including the current year. Due to this, the power-mix in the procurement basket weighed in favor of costly thermal power. This is evident from the fact that during last 8 months of current FY 2016-17 (April'16 to Nov.'16), GRIDCO has purchased 3094.57 MU (Approx.) of hydro power from all OHPC Stations (excluding 213.84 MU from Machhkund Joint Sector HPS). Prorating the same for the whole year, it is worked out to be about 4641.86 MU, which is much below the Design Energy of 5676 MU. Thus, in order to keep the power supply intact, GRIDCO has to resort for purchase of costly thermal power to meet the shortfall incurring additional power purchase costs.
107. The projected tariff of OPGC for FY2017-18 was not in the knowledge of GRIDCO at the time of filing the ARR application of GRIDCO and thus GRIDCO had submitted a tentative tariff estimation and generation quantum of power to be procured during FY 2017-18 based on the available information. However, OHPC and OPGC have submitted their ARR & Tariff Application for FY 2017-18 before the Commission for approval which is subjected to the regulatory scrutiny and approval through a due process of Public Hearing. GRIDCO will only pay to the OHPC and OPGC at the corresponding OERC approved tariff for FY 2017-18 and not as per their projected tariff.
108. In approved PPA with OPGC, there is provision for reimbursement of Statutory Taxes, Levies, Duties, Cess or any other imposition whatsoever is/are imposed/charged by any Government (Central/State) and/or any other local Bodies/Authorities. Therefore, the claim of expenditure towards environmental protection equipment installation and schemes for continuous operation of station,

and its recovery in the form of reimbursement may not be prudent under the PPA relied upon by OPGC.

109. The projections of Fixed Charges and Energy Charges in respect of TTPS, has been proposed based on the Final Tariff Order of CERC dated 26.09.2016 in Petition No.334 of 2014, which is in consonance with the CERC Tariff Regulations, 2014-19. However, the appeals made by both NTPC & GRIDCO before different Forums on different issues in respect of TTPS are still sub-judice.
110. Projected escalation rate of 20% for purchase of power from different State-owned Stations and that of 10% in case of Central Stations and IPPs submitted by GRIDCO in the ARR & BSP Application for FY 2017-18, are based on historical data, past experience, current trend and conservative approach. Based on the weighted average of ECR of first six months of the FY 2016-17, GRIDCO has considered an escalation of 10% or 20% in respect of IPPs and State Thermal Power Stations for FY 2017-18 respectively.
111. The State entitlement /share of power from the IPPs and the corresponding rates of procurement are indicated below:

Table-7
State Entitlements from the existing IPPs

IPP Name	Entitlement (in %)	Rate	Remark
M/s. Vedanta Ltd	25%+5%	25% at Full Tariff and 5% at ECR	Tariff determined by OERC
M/s.GMR Kamalanga Energy Ltd	25%+ all power above 80% PLF	25% at Full Tariff and power above 80% at ECR	Tariff determined by CERC
M/s. JITPL	12% of ESO	At ECR	Tariff determined by OERC

112. The projected figure of higher cost of power from M/s. GMR Kamalanga Energy Ltd, is as per the submission made by the IPP in their respective Tariff application before the CERC which is presently sub-judice. However, from the Truing-up application for FY 2013-14, GRIDCO observed that the projected tariff for FY 2017-18 may get reduced.

Interest on long term Liabilities

113. Past losses of GRIDCO have arisen for the main reason that the DISCOM Utilities have not been able to pay the current as well as the outstanding power purchase dues of GRIDCO. All the claims of GRIDCO have not been passed through in the BSP although most of them have been recognized by the Commission in the Truing-up Exercise. The revenue gap which has arisen due to the above reasons has been financed through loans from Banks / FIs as there is no avenue for GRIDCO to replenish such gaps from any other sources. Unless such costs are allowed in the BSP, GRIDCO is very likely to fall into the “Debt Trap” and its operations may come to a halt and will not be able to maintain supply of power to DISCOM Utilities.
114. GRIDCO’s borrowings as on 30.11.2016 is likely to touch to about Rs.6739 Crore including the annual interest of around Rs.734 Crore, which is mostly on account of payment to the generators towards power purchase.
115. In its function as the “Sole Bulk Supplier” of power to the DISCOM Utilities in the State under the Single Buyer Model, GRIDCO has borrowed heavily and has been paying interests thereon in order to keep supplying power even though the DISCOM Utilities have not fully cleared the power purchase dues. Unless, GRIDCO settles the power purchase bills of the generators, the State will be subjected to Power Regulation which otherwise will affect the economic activities in the State and jeopardize the public interest. Interest on loans is always an expenditure which ought to be allowed to GRIDCO. Besides, GRIDCO does not have any other avenues of income except tariff (BSP) which can compensate the payment of interest on loans availed by it. Therefore, the suggestion of not to include the interest on loans in ARR is without any sound logic and hence not justified.
116. Restricting power supply to the DISCOMs’ would certainly result in “Power Regulation” to the State which GRIDCO as a Responsible Entity, has been avoiding over the years by managing the payment through its own finances and borrowings. Loan to the Power Utilities in India by Commercial Banks was withheld for some time in the recent past as there was general instruction by the Reserve Bank of India not to lend to the Power Sector because of the perceived risk by the Apex Bank regarding lending to the Power Sector.

Other Expenses

117. GRIDCO is manned by a handful of employees where the entire expenses of Rs.19.70 Crore (i.e. Rs.11.06 Crore towards Emp. Cost + Rs. 8.32 Crore towards A&G and R&M Expenses + Rs. 0.32 Crore towards Depreciation excluding Power Purchase cost, loan & Interest expenses etc.) is only 0.20% of its proposed Aggregate Revenue Requirement of Rs.10307.48 Crore for the FY 2017-18.
118. The A&G expenses of about Rs. 8.00 Crore claimed by GRIDCO includes terminal benefits etc. and are minimum by any standards. Similarly, projections of Depreciation and R&M expenses are based on realistic assessments and hence, may be approved by the Commission.
119. GRIDCO should get Return on Equity @16% on its paid-up equity as per the relevant Regulations in place like any other Utility. Allowance of RoE will enable GRIDCO to service the huge loan liabilities in absence of any depreciation, which otherwise would have helped it to service the loan liabilities. Such benefits are enjoyed by any other Utility / Licensee in the State Power Sector. In addition, GRIDCO deserves to get “RoE” because it has been working as the “Shock Absorber” of the Odisha Power Sector despite its distressed financial condition.

Past Losses and Special Appropriation

120. GRIDCO submitted that the un-controllable proposed Power Purchase Cost and allied costs including Pass Through expenses and Interest pay-out is more than 90% of the proposed Net ARR for FY 2017-18 which in all fairness, should be allowed to GRIDCO. GRIDCO may be allowed to recover its legitimate dues including past loans and dues as the same have been incurred by GRIDCO for sourcing power for State consumption.
121. GRIDCO is taking all possible steps to collect its dues from the DISCOM Utilities through the existing mechanism like, Escrow and Orders of the Commission etc. Despite the best efforts of GRIDCO coupled with the Orders of the Commission, the DISCOM Utilities are not able to fulfill their obligation to clear the dues of GRIDCO. Therefore GRIDCO is constrained to borrow heavily to fill the Revenue Gap arising out of under- payment / non- payment BSP and other dues by the DISCOM Utilities. GRIDCO is thus acting as the Shock Absorber of the Odisha Power sector and therefore, needs to be sympathized / commended instead of being reprimanded.

122. DISCOM Utilities are defaulting in their payment to GRIDCO and because of their act of default; GRIDCO has been suffering from cash crunch as well as is forced to borrow for payment to the generators in time. GRIDCO levies Delayed Payment Surcharge (DPS) on DISCOM Utilities whenever required, as approved by OERC. However, by far, non-settlement of full power dues by the DISCOM Utilities remains the greatest problem in our State like other States.

Miscellaneous Receipt

123. GRIDCO, while undertaking the Power Trading Activities, utilizes the suggestions / recommendations made in the “Electricity Demand Forecasting and Development of Power Trading Strategy” report wherever feasible and also exercises instant prudence / judgement by itself in order to avoid / minimize the physical and financial risks associated with Power Trading Activity, which is very dynamic in nature. Present Power Market is extremely subdued where both low volumes and low prices are the order of the day. GRIDCO therefore has been very cautious and conservative in undertaking Power Trading as the risk of incurring losses is very high.

124. GRIDCO furnishes the details of the Power Trading and its Audited Annual Accounts to the Commission each year to undertake the Truing-up exercise. Power Trading undertaken by GRIDCO from FY 2008-09 to FY 2016-17 (Up to Novemembr’16) is furnished in the Table below:

**Table-8
Power Trading by GRIDCO from FY 2008-09 to Nov’2016 (Provisional)**

Year ⇒	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (Apr’16-Nov.’16)
Energy (MU)	34.88	0.90	64.20	40.33	810.68	1565.42	974.71	384.74	187.59
Revenue (Rs. Crore)	24.43	0.79	32.05	15.82	414.59	664.60	448.10 7	155.11	44.57

125. Regarding availability of surplus energy of 723 MU and disposal of the same @ 250 P/U through trading, when the projected power procurement rate from Central Sector Stations is the range of 438 P/U, GRIDCO submitted that procurement of power from Central Stations is independent of power trading since such procurement is guided as per the terms of PPAs.

Revenue Gap and BSP

126. The approval ARR and fixation of average Bulk Supply Price (BSP) of GRIDCO and the manner for recovery of ARR are decided by the Commission based on the relevant principles and prudence exercised. What GRIDCO proposes in its ARR & BSP Application reflects recovery of its genuine costs through the proposed BSP. GRIDCO has submitted that the average Bulk Supply Price (BSP) of 273.14 P/U for FY 2016-17 was approved by the Commission after scrutinizing all the relevant costs of GRIDCO which, in fact, got reduced from the average BSP of 284.29 P/U for FY 2015-16. From the Table given below, it may be observed that during last twelve years only except three years i.e. FY 2010-11, 2011-12 & 2012-13, there has been negligible/moderate rise in average BSP during FY 2008-09, FY 2009-10 & FY 2015-16 and there has been reduction in BSP during FY 2005-06, 2006-07, 2007-08, FY 2013-14, FY 2014-15 & FY 2016-17.

Table - 9

Trend of OERC Approved BSP in respect of GRIDCO over the years

Particulars (As per OERC Approval)	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	2010- 11	2011- 12	2012- 13	2013- 14	2014- 15	2015- 16	2016- 17
Average BSP (P/U)	125.84	120.85	119.92	122.15	122.2	170.25	231.65	270.74	265.27	263.21	284.29	273.14
% Change	-3.85%	-3.96%	-0.77%	1.85%	0.04%	39.32%	36.07%	16.87%	-2.02%	-0.78%	8.01%	-3.92%

127. Referring to the Para-285, Table No.56 of the OERC ARR & BSP Order for FY 2016-17 dated 21.03.2016, it could be understood that BSP approved by the Commission has never been high, rather always been inadequate to take care of the Aggregate Revenue Requirement of GRIDCO. In fact, the Commission has been leaving uncovered revenue gaps / Revenue Deficits while approving the ARR & BSP of GRIDCO over the years. GRIDCO is not being allowed a rightful BSP and the approved BSP also falls short of the requirement for which GRIDCO has been experiencing revenue deficits and therefore, borrowing year after year in order to recoup the shortfall in revenue. Deficit figures shown in the Table below clearly establishes that GRIDCO's BSP certainly requires upward revision so as to fill the deficit gap as the borrowings of GRIDCO have touched almost to about Rs.6739 Crore as of 30.11.2016 including the annual interest of around Rs.734 Crore.

Table – 10
Financial Status of GRIDCO

FY	Actual Power Pur. Cost	Appd. Power Pur. Cost	Appro-ved BSP	Appro-ved Gap	Profit/ (Loss) in P&L Accounts	Loan Repaym-ent	BSP dues defaulted by DISCOMs	Total Cash Deficit	Loan availed to meet deficit
	(P/U)	(P/U)	(P/U)	(Rs. Crore)	(Rs. Crore)	(Rs. Crore)	(Rs. Crore)	(Rs. Crore)	(Rs. Crore)
2008-09	151	127	122	410.05	98.14	374.26	163.94	440.06	300.00
2009-10	197	148	122	882.85	(1560.84)	205.06	164.22	1930.12	1213.00
2010-11	198	175	170	806.15	(587.86)	328.15	297.01	1213.02	1640.71
2011-12	228	210	232	746.05	(936.81)	382.40	269.74	1588.95	864.16
2012-13	237	236	271	700.58	31.79	777.69	590.01	745.90	943.83
2013-14	214	229	265	707.60	(1464.34)	1006.57	167.30	2638.21	483.50
2014-15	214	227	263	884.18	(120.35)	868.31	86.91	1075.57	1609.49
2015-16 (Upto Sept'15)	223	230	284	882.06	115.56	413.19	140.78	438.41	800.00
Total				6019.52	(4424.71)	4355.63	1879.91	10070.24	7854.69

128. The Commission has recognized Regulatory Asset of Rs.971.07 Crore for FY 2013-14 and that of FY 2014-15, but the amount has not been passed through in the ARR & BSP of GRIDCO. If allowed, this would have meant additional 40 P/U to be added to the approved Average BSP of 273.14 P/U. OERC has directed to recover the Regulatory Asset of Rs.971.07 Crore through Trading UI etc. Besides, after undertaking the truing-up the expenses of GRIDCO, commission has concluded and recognized a sum of Rs.3,588.02 Crore towards Regulatory Assets of GRIDCO. This otherwise means that the expenses being incurred by GRIDCO are genuine and if allowed in ARR, the corresponding BSP far exceeds. This justifies for higher BSP to GRIDCO.

129. The proposed Net ARR of GRIDCO has further gone up slightly by Rs.10.91 Crore from Rs.10,293.12 Crore as filed before OERC on 30.11.2016 to Rs.10,304.03 Crore due to additional impact of Rs.2 Crore towards upward revision in the Rate of Tala Hydro Power by the Government of India and Rs.8.91 Crore towards pass through of payment of Reactive Energy Charges for FY 2015-16 & FY 2016-17 (till December 25, 2016). Consequently, the proposed BSP of 397.77 P/U for FY 2017-18 is now revised upwards to 398.19 P/U. Again with inclusion of SOC & MOC Charges of Rs.3.45 Crore, the Net ARR comes to as Rs.10,307.48 Crore & the corresponding BSP 398.32 P/U for FY 2017-18.

Miscellaneous Issues

130. Accounts of GRIDCO including the expenses towards Employees Cost are being audited as per the statutory provisions of the Companies Act.
131. GRIDCO fulfills its responsibilities as the “State Designated Entity” under the “Single Buyer Model” to keep supplying power round the year to the four DISCOM Utilities for onward retail sale to the State Consumers without inflicting the danger of Power Regulation on the State.
132. GRIDCO, as a Responsible Stake-holder, has been performing its duty diligently so as to maximize economic energy drawal for the State in due co-ordination and consultation with all other stakeholders connected with the Odisha Power Sector.
133. GRIDCO levies Delayed Payment Surcharge (DPS) as approved by the Commission in the ARR & BSP Orders of respective years. With regard to the escalating BSP Dues payable by DISCOM Utilities to GRIDCO, GRIDCO is constantly following up and is hopeful that the same would be settled with improvement of DISCOMs’ finances. However, non-settlement of full dues by the DISCOM Utilities remains the greatest problem.
134. GRIDCO has been showing receivables from DISCOMs in its Books of Accounts and bills the DISCOMs by levying DPS on the unpaid amount as per the relevant Orders of the Commission from time to time.
135. GRIDCO has been submitting the required information (regarding performance review) to the OERC from time to time as per the direction of the Commission.
136. GRIDCO submitted that procurement of power through banking arrangement has not been proposed in the present ARR & BSP Application for FY 2017-18. In so far as power banking by GRIDCO is concerned, GRIDCO is only following the prevalent industry practice. The additional premium percentage (%) with regard to power banking is a market driven parameter which is decided through Competitive Bidding (through Open Tender as well as Limited Tender, as may be feasible). Power Banking so far by GRIDCO has been resorted to keeping in view power supply and demand configuration of the State in order to derive maximum mileage without hampering the cash flow position of the organization.

137. GRIDCO being a bulk purchaser of power from various generators within and outside the State and at the same time being an intermediary bulk supplier of power to the four DISCOM Utilities in the State, there does not remain enough scope with GRIDCO to take steps for energy conservation. Energy Conservation as an effective tool can be best practiced in the retail segment by the DISCOM Utilities and also within the domain of the Generators. However, GRIDCO does not rule out its role as an Energy Conservator by being a facilitator or a promoter of such programs like the one it carried out by being the “Nodal Agency of CAPEX Program in the DISCOM Utilities” whereby energy conservation programs could be possible indirectly because of renovation and modernization of distribution network leading to saving of electricity.
138. The Distribution Utilities are independent entities as they were before and their Books of Accounts and the operations continue to be separate and independent of GRIDCO. Their establishment expenses are not clubbed with GRIDCO. Only the management and control of the erstwhile RIL Managed DISCOMs have been vested with the the Chairman-cum-Managing Director of GRIDCO in his capacity as the “Administrator” of the said DISCOM Utilities as per the OERC Order dated 04.03.2015 in Case No. 55 of 2013 under the overall supervision of the Principal Secretary (Energy), Government of Odisha.
139. For developments Solar Projects / availability of Solar Power in the State, GRIDCO has agreed to avail another 200 MW Solar capacity under VGF Scheme. Letter of Intent has been issued to M/s. NLC India Ltd. for procuring 250 MW of Solar capacity in the first phase to be implemented in the State;
140. GRIDCO has agreed to procure the total Solar capacity of 350 MW for 25 years which is planned to be implemented by the Dept. of Defence Production, Ministry of Defence, Govt. of India at their Ordnance Factory Board, Badmal, Saintala under MNRE VGF Scheme;
141. GRIDCO is agreed to avail minimum 200 MW Solar power and maximum up to 500 MW Solar power from the proposed 1000 MW Solar Park to be implemented by GEDCOL in a clustered manner under the Ultra Mega Solar Power Park (UMSPP) Scheme of Govt. of India. In respect of the 1000 MW Solar Park, DPR has been submitted to MNRE for approval. M/s. IDCO has been requested to acquire around

5867 Acres of land for the purpose. The Solar Park Project is expected to be commissioned by the end of FY 2018 -19.

142. GRIDCO is likely to avail the total solar capacity from the 4 MW Solar Rooftop Project on the 199 Nos. of non-residential Govt. Buildings in the twin cities of Cuttack & Bhubaneswar
143. Based on the requisition of GRIDCO, necessary tender has been floated by M/s. GEDCOL for implementation of 20 MW grid connected Solar PV Project. The Rate of negotiation with the Developers is on the progress and the necessary PPAs are expected to be executed, at the earliest.
144. Discussions with M/s. GEDCOL is also under process to develop Solar PV Projects on the un-utilized land available inside 6 (Six) Nos. of OPTCL Grid Sub-stations at New Duburi, Old Duburi, Baripada, Bolangir, Koraput & Rairangpur and at OHPC Power House at Mukhiguda for which DPRs have been prepared by GERMI for total of 16.4 MW installed capacity.
145. GRIDCO has also requested NTPC to establish around 200 MW of Solar capacities in the State around their Ash Pond area in the existing Power Stations under any of the suitable schemes of MNRE.
146. Regarding development of Small / Mini Hydro Power Projects in the State, GRIDCO submitted that in addition to procurement from the existing Meenaskhi and Samal SHEPs (Total Installed Capacity: 57 MW), GRIDCO is hopeful to procure renewable energy from small hydro sources of 71 MW capacity which is expected to be commissioned in our State during the FY 2017-18 & 2018-19.
147. Central Scheme of UDAY has been placed before the Government of India on which necessary approval is awaited.
148. Regarding dues of M/s ASL GRIDCO submitted that the bill raised does not contain; (1) Duly Certified Monthly and Annual Plant Availability Factor i.e. PAFM% and PAFY% required to determine the Monthly and Annual Fixed Charges payable; (2) the actual monthly landed price and GCV of linkage coal for the period from March,2010 to June,2011. Thus, it is not possible to verify the claims made by M/s. ASL as per the said OERC Order dated 09.06.2015.

149. The need for induction of manpower / outsourcing the work is welcome. However, GRIDCO being a Government Organization, the final decision to this effect depends on the State Government.

VIEWS OF GOVERNMENT OF ODISHA (Para- 150)

150. Govt. of Odisha vide their letter no. 1929 dated 08.03.2017 have communicated their views/suggestions on various issues involving tariff setting for FY 2017-18. The issues those affect the Bulk Supply Price of GRIDCO are indicated below:
- a. Considering the present situation of the power sector of Odisha, the Govt. agrees to extend the status-quo of keeping in abeyance the up-valuation of assets pertaining to the State Generators, OPTCL and other Licensees till the FY 2017-18.
 - b. At the same time, the Govt. of Odisha have also indicated to include both payment of interest and repayment of principal in the ARR of OHPC towards State Govt. loan in respect of Upper Indravati Hydro Electric Project (UIHEP). However, the Government have agreed to keep the interest amount w.e.f. FY 2006-07 to 2017-18, as Regulatory Assets of OHPC which is to be paid in future tariff.

OBSERVATIONS OF THE STATE ADVISORY COMMITTEE (Para 151)

151. The State Advisory Committee (SAC) was convened on 20.02.2017 to discuss about the proposed ARR and Tariff Applications of different utilities in the state for FY 2016-17. The members of the SAC deliberated on the various issues and the observations /suggestions of the SAC Members pertaining to ARR & Tariff of GRIDCO are mentioned hereunder.
- a. Tariff setting should not be seen only in terms of pricing, focus should also be given on purchase of more renewable energy, incentive for Demand Side Management and strong strategic measures for loss reduction. Since the cost of power purchase is more than 85% of the revenue requirement, emphasis should be given on reduction of quantum of power purchase and cost thereon. This can be achieved by reduction of loss by DISCOM Utilities and/or reduction of power purchase cost by GRIDCO. For this purpose review of existing PPAs is required as the prevailing market price of power is at the

lower side. A dynamic power purchase policy should be adopted by GRIDCO keeping in view the daily fluctuating power rates.

- b. The BSP is roughly 75% of retail tariff as GRIDCO is buying power from Central Generating Station at an exorbitant cost. GRIDCO should instead buy power from the trading market where the cost per unit is around 250 paise. In the meanwhile GRIDCO has also signed PPAs with central stations where the cost of power is quite high. Before allowing such high cost power purchase, the Commission must scrutinise the requirement and power available from various alternative sources, IPPs and surplus power from CGPs. Alternatively, existing PPAs with generating companies may be assigned to distribution companies.
- c. While renewable energy requirement of GRIDCO under Renewable Purchase Obligation is 7.5%, we are producing 2.5% only. The Odisha Renewable Energy Policy, 2016 has been published by the State Govt. recently to maximize solar generation so that coal based thermal generation will come down leading to a good environment. The Commission has adopted net metering policy which is not sufficient to encourage individual households to opt for solar generation. The reason being the entire cost of investment could not be recovered through such net metering arrangement. In other hand GRIDCO will purchase less of costly power to the extent of such solar generation without transmission and distribution loss. Hence, some allowance should be given to the investors to encourage solar generation.
- d. There is always a wide gap between the proposal of the Licensees and approval of the Commission, hence previous year's tariff approval should be the benchmark for the utilities while filing the proposal for the current year.
- e. The up-valuation of assets of OHPC has an impact to increase its tariff by 30 paise per unit approximately. The Kanungo Committee had recommended that the up-valuation of assets may be kept in abeyance till the sector turns around. Since, the power sector in Odisha is yet to turn around even after 20 years of reform; the question of entertaining up-valuation of assets of OHPC at this stage should not be accepted. Similarly the claim of OPGC for a higher tariff is not tenable because there has not been any substantial increase in the price of coal or oil. As the generator is giving dividend to the State Govt. to the tune of

Rs.150 crores per annum, any additional expenditure may be offset against the same instead of loading it in the tariff.

COMMISSION'S OBSERVATIONS & ANALYSIS OF GRIDCO'S PROPOSAL (Para 152 to 343)

Legal Status of GRIDCO

152. The legal status of GRIDCO has been clarified by the Commission in its ARR and BSP order for FY 2011-12 and 2012-13 vide orders dtd.18.03.2011 and 23.03.2012 respectively. That GRIDCO is a valid legal entity has also been upheld by the Hon'ble Supreme Court of India in Civil Appeal No. 5722 of 2006 (Gajendra Haldia Vrs. GRIDCO and Others). GRIDCO, by acting as a Single Buyer State designated entity, has been ensuring supply of cheap and quality power to the DISCOM Utilities which ultimately protects the interest of the consumers. It acts as a shock absorber and protects DISCOM Utilities from possible Power Regulation by the Generator(s) due to any immediate cash-flow problem. Therefore, the Commission has appropriately recognized GRIDCO as a "Deemed Trading Licensee". Under such circumstances we view that trading margin is not applicable to GRIDCO which sells power to the DISCOM Utilities inside the State of Odisha by procuring power on payment of the power purchase cost to all the suppliers.
153. On detailed scrutiny and examination of the Aggregate Revenue Requirement and Bulk Supply Price Application of GRIDCO for FY 2017-18 and subsequent rejoinders filed by them, the written and oral submissions of the objectors, the Commission now decides as follows.

Principle followed for approval of ARR for FY 2017-18

154. The Commission, for determination and approval of the ARR of GRIDCO for FY 2017-18, continues to follow the same principles as in the previous year along with the principles laid down in its terms and conditions for determination of tariff and continues to be guided by the provisions of the Tariff Policy as well as other statutory notifications and directives, while giving due considerations to the complexities of the Odisha Power Sector.
155. Tariff determination involves adoption of various assumptions and principles to arrive at the individual ARR components for the next financial year and hence, is in the nature of reasonable and prudent estimation. The actual turn of events may be

different and this will be considered in the truing-up exercise. The Commission, as in the previous years, has continued to determine the ARR for the FY 2017-18 using the following principles.

156. The cost of power purchase for GRIDCO, which constitutes about 90% of the total cost structure, has been considered on a merit-order basis, with state hydro generation as per design energy and state thermal generation being computed based on the generation plan submitted by OPGC and the cost being considered as per norms of OERC Regulations. Availability from the Eastern Region CGSs has been considered as per the allocation of shares in these stations and the applicable CERC tariff. The drawal from IPPs, CGPs, Cogeneration Plants and energy from renewable sources have been considered based on the proposal of GRIDCO, the requirement of the state and legal obligations.
157. All the liabilities of the DISCOM Utilities payable to GRIDCO are in a back-to-back arrangement with various lenders, financial institutions and GRIDCO continues to service these liabilities, even though the DISCOM Utilities have not been able to meet their payment obligations to GRIDCO in full and in time during the previous years. The servicing cost (corresponding interest charges on these liabilities) appropriately pruned in circumstances forms a part of the BSP and is being paid by GRIDCO.
158. Following the separation of the transmission business and given to OPTCL along with related assets, liabilities and personnel w.e.f. 01.04.2005, GRIDCO does not possess any asset on its books. It continues, however, to carry the burden of past liabilities, accumulated over a period of time to service operational losses and non-payment of arrears by the DISCOM Utilities in time in the past. The Commission has, over the last few years, recognized these liabilities to be serviced from the sector. GRIDCO also does not have the benefit of depreciation provisions to meet these debt obligations. Keeping in line with our earlier orders, to avoid a huge additional burden being passed on to the retail consumers, the Commission has provided for the servicing a substantial part of debt liabilities from the non-core activities of GRIDCO, namely earnings from export of power and un-scheduled interchange charges, after meeting the full requirement of DISCOM Utilities.
159. The Commission has scrutinised in detail the energy requirement proposed by the DISCOM Utilities for FY 2017-18. Based on the energy availability, the Commission

is of the view that after drawal of power from all state-owned generating stations both Thermal and Hydro, the state's share from central generating stations, and drawal from IPPs, Renewable and captive co-generation sources, some surplus energy will be available after meeting the State demand for FY 2017-18, which has been calculated on normative loss basis. The quantum of surplus energy may be increased /reduced based on hydrology and/or projected drawal from IPPs and central sector, if not materialized as estimated on normative basis.

Quantum of Power Purchase

160. GRIDCO as a deemed trading licensee procures power from the generating stations inside and outside the State to meet the requirements of the consumers of the State. The power purchased by GRIDCO is transmitted through the OPTCL system and supplied to the DISCOM Utilities. There are four Distribution Companies operating within the State. They purchase power in bulk from GRIDCO for supply to the consumers of the state.
161. GRIDCO Ltd. as well as DISCOM Utilities have submitted their ARR for FY 2017-18 to the Commission for approval. The figures filed by GRIDCO and DISCOM Utilities in their ARR application for 2017-18 on quantum of energy drawl by DISCOM Utilities from GRIDCO are examined and estimated based on the quantum of present drawl of power and expected additional load growth during FY 2017-18.
162. The Distribution Companies have furnished projections for drawal of power from GRIDCO during FY 2017-18 and GRIDCO has projected the total power purchase to be made from the Generators after taking into account the requirement of distribution companies and emergency requirement of CGPs owning industries and the energy loss in transmission system of OPTCL.
163. The quantum of power to be purchased during the FY 2017-18 in respect of the four Distribution Utilities has been assessed and approved by the Commission while determining their Revenue Requirement and tariff in Case Nos. 69/2016 (CESU), 66/2016 (NESCO), 67/2016 (WESCO) and 68/2016 (SOUTHCO) by following the guidelines in the Regulations. The Commission has approved the quantum of power to be purchased for the FY 2017-18 relating to CESU, NESCO, WESCO and SOUTHCO as 8850 MU, 5680 MU, 7090 MU and 3520 MU respectively adding up to 25140 MU.

164. The Commission has also approved 3.50% towards transmission loss in the OPTCL system for the FY 2017-18 as per its filing. The details of transmission loss have been furnished in the tariff order for OPTCL for the FY 2017-18 in Case no 64 of 2016.
165. After having determined the quantum of power purchase for the DISCOM Utilities, the Commission has estimated the quantum of energy lost on account of transmission at EHT within the State for delivery to the DISCOM Utilities. The Commission has taken into account the sale of emergency power to CGPs and approves the same at 5 MU for 2017-18 after considering the submission of GRIDCO and actual drawal of CGPs during the first six months of the current FY 2016-17. The details on the estimated requirement of power purchase for use within the State is indicated in the table below:

Table –11
Purchase of Power by GRIDCO for State Use for FY 2017-18
(In MU)

Name of the DISCOMs	Commission's Approval for FY 2016-17	GRIDCO's Proposal in ARR for FY 2017-18	Commission's Approval for FY 2017-18
CESU	8570.00	9094.00	8850.00
NESCO	5450.00	6043.00	5680.00
WESCO	7050.00	7200.00	7090.00
SOUTHCO	3470.00	3540.00	3520.00
TOTAL DISCOMs	24540.00	25877.00	25140.00
CGP	10.00	5.00	5.00
TOTAL SALE	24550.00	25882.00	25145.00
Transmission loss at EHT in MU (DISCOMs Purchase only)	942.87 (@ 3.70% Transmission loss)	939.00 (@ 3.50% Transmission loss)	906.63 (@ 3.50% Transmission loss)
Total Purchase	25492.87	26821.00	26051.63

166. The Commission has approved the energy drawal by the DISCOM Utilities for FY 2017-18 considering their present drawal pattern and the projections made by them for additional load growth. Hence there should not be any variations from the approved drawal. The DISCOM Utilities need to plan their drawal in consultation with GRIDCO keeping in view the deviation settlement mechanism and actual reduction in losses.

Simultaneous Maximum Demand (SMD) in MVA

167. GRIDCO in its filing has submitted that the actual average SMD and the highest SMD as recorded by the DISCOM Utilities during the first half of FY 2016-17 are 4167 MVA/Month and 4377 MVA/Month respectively. However, based on its request, the DISCOM Utilities have furnished their estimation of SMD for FY 2017-18 as 4732 MVA/month and the same has been considered by GRIDCO in its ARR application for FY 2017-18. GRIDCO has indicated the OERC approval of SMD for FY 2016-17 along with the actual average and highest SMDs recorded during the 1st six months of FY 2016-17, the projection of SMDs furnished by the DISCOM Utilities and GRIDCO for FY 2017-18 as under:

**Table – 12
DISCOM-WISE Projection of SMD for FY 2017-18
(MVA/Month)**

DISCOM Utility	OERC approval for 2016-17	SMD of each DISCOMs during 1st 6 Months of FY 2016-17	Highest SMD (MVA per month) recorded during FY 2016-17 (Apr.'16 to Sept'16)	DISCOMs Projection of SMD for FY 2017-18	GRIDCO's Projection of SMD of DISCOMs for FY 2017-18
CESU	1450	1459	1539	1752	1752
NESCO	890	848	884	980	980
WESCO	1290	1311	1397	1350	1350
SOUTHCO	570	549	557	650	650
TOTAL	4200	4167	4377	4732	4732

168. However, GRIDCO has further submitted that the Commission may suitably determine and approve the SMDs for each of the DISCOM Utilities for FY 2017-18 keeping in view their actual SMDs during FY 2016-17 and the likely load growth in the near future.

169. Bulk Supply Price (BSP) contains a component of demand charge which is calculated on the basis of average system demand of the distribution companies. In its ARR application, GRIDCO has considered the simultaneous maximum demand as furnished by DISCOM Utilities to GRIDCO. The Commission, from the RST application of DISCOM Utilities, observed their monthly demand for the period from April' 16 to Dec' 16 as given in the table below:

**Table - 13
Demand in MVA during 2016-17 (Upto Dec' 16)**

	CESU	NESCO	WESCO	SOUTHCO	ALL ODISHA
Apr-16	1500.74	757.97	1253.40	544.92	4057.02
May-16	1465.70	861.12	1322.97	540.12	4189.91

	CESU	NESCO	WESCO	SOUTHCO	ALL ODISHA
Jun-16	1563.10	883.80	1429.32	556.77	4432.99
Jul-16	1458.96	870.22	1359.12	549.56	4237.85
Aug-16	1468.65	883.25	1329.60	554.57	4236.08
Sep-16	1432.45	830.48	1443.04	548.13	4254.10
Oct-16	1463.62	868.97	1161.95	541.02	4035.56
Nov-16	1472.76	827.10	1245.47	546.42	4091.72
Dec-16	1310.63	766.95	1298.97	535.52	3912.07
AVERAGE (4/16 to 12/16)	1459.62	838.87	1315.98	546.34	4160.81

170. It is observed from the above table that the summation of demand has fluctuated from month to month and has reached a peak of 4432.99 MVA in the month of June, 2016. However, the sum of the maximum demand for each DISCOM Utilities comes to 4446.71 (CESU-1563.10 + NESCO-883.80 + WESCO-1443.04 + SOUTHCO-556.77) during the period from April to December, 2016.
171. The Commission analyzed the demand pattern of DISCOM Utilities during the current FY 2016-17 (upto December, 2016) and observed that the Average SMD of the DISCOM Utilities has reduced marginally in case of NESCO and SOUTHCO Utilities and it has substantially increased in case of CESU and WESCO Utilities, from one approved by the Commission for the FY 2016-17. After recasting the estimated requirement of power, it is observed that due to rural electrification and load growth, there is likely increase of additional requirement of about 1239.33 MU by the DISCOM Utilities during FY 2017-18. Thus, the matching MVA requirement is worked out to be 157.20 MVA. So, the Commission has estimated the Demand of the DISCOM Utilities for FY 2017-18 taking the maximum demand during April, 2016 to December, 2016 plus the estimated demand on account of additional load growth during FY 2017-18. Accordingly, the total estimated demand worked out to 4604 MVA for all the four DISCOM Utilities. However, WESCO Utility in its RST application has indicated that the SMD billed by GRIDCO during the first half of the current year is at higher side because GRIDCO has considered the deemed drawal of M/s. Vedanta Limited in the account of WESCO Utility. Hence, the actual SMD of WESCO Utility should be less as shown in the filing. Therefore, the WESCO Utility has projected the SMD of 1350 MVA for the ensuing year 2017-18 considering the past record and additional load growth under RGGVY and BGJY. Therefore, the Commission while determining the SMD for DISCOM Utilities has limited the SMD

of WESCO Utility at 1350 MVA. The details of estimation of SMD for the DISCOM Utilities are given in the table below:

**Table - 14
Demand in MVA 2017-18**

DISCOMs	OERC Approval for 2016-17	Proposal by DISCOMs for 2017-18	Proposal by GRIDCO for 2017-18	Average SMD during 4/16 to 12/16	Maximum SMD during 4/16 to 12/16	Additional Load growth as estimate -ed for 2017-18 (MU)	Additional load growth converted to MVA at 0.9 power factor	Maximum SMD during 4/16 to 12/16 + Additional load growth	OERC Approval for 2017-18
CESU	1450.00	1752.00	1752.00	1459.62	1563.10	469.85	59.60	1622.69	1620.00
NESCO	890.00	1000.00	980.00	838.87	883.80	266.36	33.78	917.59	920.00
WESCO	1290.00	1350.00	1350.00	1315.98	1443.04	258.13	32.74	1475.78	1350.00
SOUTHCO	570.00	650.00	650.00	546.34	556.77	244.98	31.07	587.84	590.00
All Odisha	4200.00	4752.00	4732.00	4160.81	4446.71	1239.33	157.20	4603.91	4480.00

Note : For estimation purpose Diversity Factor is taken as unity.

172. Taking into account the SMD in different months of 2016-17 and the additional load projected by the DISCOM Utilities, the SMD for 2017-18 has been fixed at 4480 MVA, within which the DISCOM Utilities are likely to operate subject to an overdrawal of maximum 10% in a month.

Purchase of Power from Different Generating Stations

State Hydro

173. The details of energy available to GRIDCO from various power stations of OHPC have been dealt in Case No.61/2016 while determining the tariff and revenue requirement of OHPC, where the Commission has considered the existing design energy of OHPC power stations for the purpose. GRIDCO's proposal and Commission's approval on drawal of energy from OHPC stations for the FY 2017-18 are given in the table below.

**Table -15
Drawal from State Hydro Stations (in MU)**

Source of Generation	FY 2016-17	FY 2017-18	
	Commission's Approval	GRIDCO's Proposal	Commission's Approval
OHPC (Old Stations)	3676.86	3654.32	3676.86
Upper Indravati	1942.38	1944.36	1942.38
Machhkund	262.50	262.50	262.50
Total Hydro	5881.74	5861.18	5881.74

174. The design energy of Machhkund Power Station is 525 MU. Considering Odisha share of 50% towards energy drawal from this station, the Commission approves an availability of 262.50 MU from Machhkund. The Commission desires that the State should draw at least 50% of Machhkund generation every day in a planned and economical manner. GRIDCO/OPTCL and SOUTHCO should co-ordinate to maximise the drawal from Machhkund in consultation with Government of Odisha whenever necessary.

IB Thermal Power Station of OPGC

175. Orissa Power Generation Corporation (OPGC) owns IB Thermal Power Station at Banharpalli in Dist. Jharsuguda with an installed capacity of 2x210 MW at present. In its ARR application for FY 2017-18, GRIDCO has projected to draw the net energy of 2796.22 MU from OPGC based on the normative auxiliary energy consumption of 8.5% and PLF of 83.52%. However, OPGC has filed an application before the Commission for determination of generation tariff of its 2x210 MW Ib Thermal Power Station at Banharpalli, Jharsuguda for FY 2017-18 which has been registered in Case No.62 of 2016. The Commission, in its order passed in Case No.62 of 2016, has considered net energy of 2861.50 MU for drawal by GRIDCO during the FY 2017-18 considering auxiliary consumption of 8.5% and PLF of 85% as per the OERC Generation Tariff Regulations, 2014. The same has been considered for determination of ARR and BSP of GRIDCO for FY 2017-18.

Talcher Thermal Power Station (TTPS)

176. Talcher Thermal Power Station having installed capacity of 460 MW is owned and operated by NTPC, but its generation is fully dedicated to the State. The net energy availability from TTPS has been projected at 3162.93 MU by GRIDCO considering PLF of 87.70% and Auxiliary Consumption of 10.50%. Based on the submission of GRIDCO, the Commission approves the net drawal of 3162.93 MU from TTPS for the FY 2017-18, taking into account the projected PLF of 87.70% and Auxiliary Consumption of 10.50%.

Captive Generating Plants (CGPs) and Captive Co-generation Plants

177. In its filing GRIDCO has not proposed to procure power from the CGPs and Co-generation Plants during the FY 2017-18 in view of adequate availability of power due to State share in various existing and up-coming Power Plants in the State. On the

contrary many of the objectors suggested to procure power from CGPs in an economical rate decided by the Commission since later are willing and having adequate capacity. However, GRIDCO has indicated that procurement of power from CGPs may be resorted to depending upon exigencies / force majeure conditions. From the ARR & BSP application of GRIDCO it was observed that GRIDCO has proposed to procure high cost power from central generating stations with variable charges (ECR) more than the existing CGP pricing. In its reply to the Commission's query, GRIDCO has submitted that the availability of power from CGPs / Co-Gen. Plants being infirm in nature coupled with surplus availability of power in the State, GRIDCO has not proposed any definite quantum of power for procurement from CGPs / Co-Gen. Plants during FY 2017-18. In respect of procurement of costly power from NTPC Thermal Plants GRIDCO has stated that, it is forced to propose procurement of power from FSTPS-I&II, FSTPS-III, KHSTPS-I, KHSTPS-II, Barh-II (which are costly) as GRIDCO is bound by the respective PPAs and the relevant Codes of IEGC and other related Regulations under the compulsion of technical minimum generation as scheduled by the ERLDC. GRIDCO, because of lack of requirement, is not in frequent touch with these plants and hence, is not in a position to provide any information pertaining to power generation / surplus availability from these Power Plants.

178. GRIDCO, in previous year's filing, had also proposed not to purchase any power from the CGPs and Cogeneration plants. In the ARR and BSP order of GRIDCO for FY 2016-17, considering the objections/suggestions of many objectors, the Commission had observed that a good quantum of surplus power could be available from CGPs and Co-generation Plants within the state during the FY 2016-17 and advised GRIDCO to purchase available surplus power from the CGPs and Co-generation plants for state consumption in case of excess state demand or shortfall in drawal from other sources as approved by us in that order. Further, the Commission had also directed GRIDCO to purchase the available surplus power from CGPs and Co-generation plants for trading purposes after meeting the state demand subject to commercial viability. From the technical format furnished by GRIDCO with the ARR & BSP application for the FY 2017-18, it is estimated that GRIDCO can avail upto 619.04 MU of surplus power from 30 numbers of CGPs and Cogeneration plants during the current FY 2016-17. However, as submitted by GRIDCO it is not possible

to exactly quantify the energy which is likely to be available from CGP sources to them in the ensuing financial year. We feel that CGPs might help the State to provide power are better cost compared Central Stations sometimes. Therefore, GRIDCO is advised to make a prudent comparison and avail power from CGPs at cheaper rate with adequate quantity and with prior scheduling and also to maximise their drawal from CGP sources at the time of deficit from long term sources and also for the trading purposes whenever it is commercially viable. Co-generation plants are to be given preference.

Renewable Energy

Small Hydro Sources:

179. GRIDCO has proposed to procure 320 MU of renewable energy from small hydro sources that would be available to GRIDCO during FY 2017-18 as given in the table below.

Table – 16
Proposed Drawal from Small Hydro Sources for FY 2017-18

Sl. No.	Name of the SHEPs	Installed Capacity (MW)	Energy drawal during the 1st six months of 2016-17 (MU)	Proposed Energy procurement for FY 2017-18 (MU)
1.	Meenaskhi Small Hydro	37	118.04	220.00
2.	SAMAL Small Hydro	20	43.51	100.00
	Total		161.55	320.00

180. The Commission approves the above proposal of GRIDCO and allows GRIDCO to purchase 320 MU of renewable energy from these two SHEPs for consumption in the state during FY 2017-18.

Bio-mass Energy:

181. GRIDCO in its ARR application had proposed to purchase only 80 MU of renewable energy from biomass sources during the FY 2017-18 i.e. from the 20 MW plant of M/s. Shalivahan Green Energy Ltd. Last year GRIDCO has submitted to procure 100 MU from M/s. Shalivahan Green Energy Ltd and 60 MU from the 10 MW Bio-mass plant of M/s. Swarnajyoti Agrotech & Power Limited which was likely to be commissioned by December, 2016. Accordingly the Commission had approved a total of 115 MU i.e. 100 MU from M/s. Shalivahan Green Energy Ltd and 15 MU from M/s. Swarnajyoti Agrotech & Power Limited as it was scheduled to be commissioned during December, 2016. In a reply to the Commission's query, GRIDCO submitted

that GRIDCO has proposed to procure only 80 MU from M/s. Shalivahan Green Energy Ltd since it is actually operating at a much lower PLF and after its re-synchronization it has exported only 51.67 MU with an average PLF of 36.13% during the period from April to November, 2016. With regard to the present status of the 10 MW plant of M/s. Swarnajyoti Agrotech and Power Ltd., GRIDCO has replied that the project has been stalled due to non-release of funds by M/s. REC to the tune of Rs. 10.40 Crore. However as understood by GRIDCO, M/s. Infraco Asia has expressed its interest to fund the project and it is likely to be commissioned by August, 2018.

182. In view of the above the Commission approves the proposal of GRIDCO and allows GRIDCO to procure 80 MU from biomass sources i.e. from the 20 MW plant of M/s. Shalivahan Green Energy Ltd. during the FY 2017-18.

Solar Energy:

183. In its submission, GRIDCO has proposed to procure 363 MU of Solar Energy from the following sources during the FY 2017-18.
- (i) 13 MU from 8 Nos. of Solar PV Projects of 1 MW capacity each commissioned in the State under 'Rooftop PV and Small Solar Power Generation Programme' (RPSSGP) guidelines of MNRE, GoI.
 - (ii) 34 MU from 20 MW Solar capacity as per the Power Sale Agreement (PSA) executed with NTPC Vidyut Vyapar Nigam Limited (NVVNL) on 12th January 2011 under 'New Projects Scheme' under Phase-1 of Jawaharlal Nehru National Solar Mission (JNNSM) where Solar capacity bundled with equal quantum of thermal capacity from the unallocated quota of the NTPC Coal Based Stations available to GRIDCO.
 - (iii) 17 MU from 10 MW Solar capacity as per the PPA executed with NTPC on 26.04.2011 to procure Solar power from both 5 MW Dadri Solar PV project in U.P. and 5 MW Faridabad Solar PV Project in Haryana.
 - (iv) 8 MU from the 5 MW Solar PV Project developed by M/s. Alex Green Energy Ltd. under OREDA State Scheme at Patnagarh in Bolangir district.

- (v) 42 MU from 25 MW Solar PV Project to be developed by M/s ACME Odisha Solar Power Pvt. Ltd. in Bolangir district under OREDA State Scheme Phase-II.
- (vi) 117 MU from 70 MW Solar Capacity allocated to GRIDCO through SECI under Viability Gap Funding (VGF) Scheme under JNNSM Phase-II, Batch-1, which is expected to be available to GRIDCO during FY 2017-18.
- (vii) 132 MU from 270 MW capacity Solar PV Projects through SECI under Viability Gap Funding (VGF) support from MNRE Scheme under JNNSM Phase-II, Batch-IV, which is expected to be available to GRIDCO from December, 2017 of the ensuing year 2017-18.

184. The above proposal of GRIDCO is summarised in the Table below:

Table - 17
Proposed Drawal of Solar Power during FY 2017-18

Sl. No.	Solar RE Sources	Energy Proposed for procurement during FY 2017-18 (MU)
1.	8 Nos. of Solar PV projects of 1 MW each under RPSSGP	13.00
2.	20 MW Bundled Power from NVVN through 'New Projects scheme' under JNNSM, Phase-I	34.00
3.	10 MW through NTPC from Solar PV projects at Dadri & Faridabad of 5 MW each	17.00
4.	5 MW from M/s Alex Green Energy Ltd. under OREDA State Scheme , Batch-I	8.00
5.	25 MW from M/s ACME Odisha Solar Power Pvt. Ltd. under OREDA State Scheme Batch-II	42.00
6.	70 MW through Solar Energy Corporation of India (SECI) under VGF Scheme under JNNSM, Phase –II, Batch-I	117.00
7	270 MW through SECI w.e.f. December,2017 under VGF Scheme under JNNSM, Phase –II, Batch-IV	132.00
Total		363.00

185. The Commission approves the above proposal of GRIDCO to procure 363.00 MU from Solar RE Sources. Thus, the total procurement of Renewable Energy during FY 2017-18 from Solar, Bio-mass and Small Hydro Sources comes to 763.00 MU, which is approved by the Commission for State use. The source-wise power procurement from Renewable Energy sources are indicated in the Table below:

Table - 18
Drawal from Renewable Energy Sources during FY 2017-18

Sl. No	RE Sources	Energy approved for Procurement during FY 2017-18 (MU)	Percentage w.r.t. the total estimated drawl of DISCOMs (%)	RPO fixed in the Regulation for FY 2017-18 (%)
A.	Non-Solar			
(i)	Small Hydro Electric Project (SHEP)	320.00	1.27	
(ii)	Energy from Bio-mass	80.00	0.32	
	Sub-Total (Non-Solar)	400.00	1.59	4.50
B.	Solar	363.00	1.44	3.00
C.	Total (Solar & Non-Solar)	763.00	3.03	7.50

(*) *Sale of power to DISCOMs including emergency power supply to CGPs has been estimated at 25145 MU.*

186. However, the Commission observed that the estimated sale of power to DISCOMs including emergency power supply to CGPs is 25145 MU for state consumption and the estimated quantum of energy available to GRIDCO from Renewable Sources in total is very less to meet the Renewable Purchase Obligation (RPO) fixed by the Commission for the FY 2017-18. In a reply to the Commission's query GRIDCO has submitted that it is requiring around 450 MW solar capacity and 200 MW of non-solar capacity to fulfil its obligation towards purchase of renewable energy fixed by the Commission. The GRIDCO is trying its best to explore the possibility to procure more solar power for the state in order to increase the share of renewable energy in the overall energy basket. GRIDCO has executed PPA with a number of renewable project developers. Non-solar projects of around 98.50 MW capacity are in the pipeline in Odisha. Besides, GRIDCO has agreed to avail 200 MW solar capacity under VGF Scheme for 25 years under JNNSM Solar Mission Phase-II, Batch-IV to be implemented by FY 2018-19. Further a Letter of Intent has already been issued to M/s. NLC India Limited for procuring 250 MW solar capacity in the 1st Phase to be implemented in the state for which PPA is expected to be executed soon. Apart from this, GRIDCO agreed to procure a solar capacity of 350 MW for 25 years which is planned to be implemented by Department of Defence Production, Ministry of Defence, Govt. of India at their Ordnance Factory, Badmal, Saintala under MNRE VGF Scheme, which is expected to be available by FY 2018-19. GRIDCO will also avail minimum 200 MW and maximum upto 500 MW solar power from the proposed 1000 MW solar park to be implemented by GEDCOL in a clustered manner under the

Ultra Mega Solar Power Park (UMSPP) Scheme of Govt. of India for which DPR has been submitted to MNRE for approval. This solar power project is expected to be commissioned by the end of FY 2018-19. Further, GRIDCO is likely to avail the total solar capacity from the 4 MW Solar Rooftop Project on the 199 numbers of non-residential government buildings in the twin city of Cuttack and Bhubaneswar. This project is being implemented through PPP mode based on prevailing net metering arrangement as per the Regulations, which is expected to be available by September, 2017. Further, based on the requisition of GRIDCO tender has been floated by M/s. GEDCOL for implementation of 20 MW Grid connected Solar PV Project. GRIDCO has also discussed with M/s. GEDCOL to develop solar PV Projects on the un-utilized lands available inside the 6 numbers of OPTCL Grid Sub-stations at different places and OHPC Power House at Mukhiguda for which DPR has been prepared for total of 16.4 MW installed capacity. GRIDCO will avail total power output from these projects. Apart from this, GRIDCO has also requested NTPC to establish around 200 MW solar capacity in the state in their ash pond area of the existing power stations under any of the suitable schemes of MNRE. GRIDCO has stated that it is hopeful to fulfil its RPO as specified by the Commission in near future.

187. The Commission observed that in past GRIDCO has also submitted to purchase renewable energy from different new sources to fulfil the RPO, which could not materialize. Therefore, the Commission directs GRIDCO to be proactive so that the proposed renewable energy projects are commissioned in scheduled time. Further, the above quantum of renewable energy approved for procurement by GRIDCO for State use is not limited. GRIDCO should explore all possibilities to purchase renewable power from some other sources to meet the RPO fixed by the Commission for FY 2017-18. GRIDCO should also make efforts to encourage renewable power producers and facilitate them for setting up of renewable power plants, sources of which are available in our State, in order to reduce the burden on the consumers of the State on account of purchase of RECs as per RPO Regulations.

Independent Power Producers (IPPs)

M/s. Vedanta Ltd.

188. In its submission, GRIDCO has stated that as per the Commission's order dated 27.01.2016 passed in Case No-21/2015, the unit-II (600 MW) of the 4x600 MW power plant of M/s. Vedanta Ltd. will continue to remain as IPP and must remain

connected to STU as state dedicated unit and the other three Units – I, III & IV of the power plant are converted to Captive Generating Plant w.e.f. 01.04.2015. The quantum of power supply to GRIDCO towards state entitlement should be 25% (at full cost) and 7%/5% (at variable cost) depending upon the allotment of coal block within the state, of the total energy sent out of the power station as per the PPA in force. The power supply to GRIDCO must be 25% plus 7%/5% of the total energy sent out from the power station or total ex-bus generation from Unit-II whichever is higher. Such quantum of power supply should not be disturbed at any point of time. Based on the assurance of M/s Vedanta Ltd. that in case of low or no generation in Unit-II, M/s. Vedanta Limited shall meet its commitment in the PPA from the converted CGP units and its pricing shall be as per the relevant IPP Regulations of the Commission. Therefore, GRIDCO has proposed to procure 4792.42 MU from M/s. Vedanta Limited towards State share, out of which 3952.51 MU ($600 \times 0.94 \times 0.8 \times 8.76$) from the dedicated Unit-II (600 MW) computed at 80% PLF and 6% auxiliary consumption and balance 839.91 MU ($2400 \times 0.94 \times 0.85 \times 8.76 \times 0.05$) being 5% (since there is no allotment of coal block at present) of the total normative energy sent out from the power station computed at PLF of 85% and 6% auxiliary consumption.

189. The Commission scrutinised the above proposal of GRIDCO and it is observed that as per the OERC (Terms and Conditions of Determination of Generation Tariff) Regulations, 2014, the normative PLF is 85% instead of 80% as computed by GRIDCO. Considering PLF of 85% and auxiliary consumption of 6%, the energy availability from the State dedicated Unit-II of the thermal power plant of M/s. Vedanta Limited is comes to 4199.54 MU which will be purchased by GRIDCO at the tariff determined by the Commission and energy availability towards 5% State entitlement is 839.91 MU to be purchased at variable cost. Accordingly, the state share of energy from this power plant is computed to be 5039.45 MU. The Commission approves same quantum of energy for procurement by GRIDCO from the thermal power plant of M/s. Vedanta Ltd. during the FY 2017-18 for State consumption.

M/s GMR Kamalanga Energy Ltd.

190. GRIDCO has submitted that based on the terms and conditions of the PPA dated 04.01.2011 executed with M/s GMR Kamalanga Energy Ltd. (M/s GKEL), GRIDCO is entitled for 25% of the energy sent out from its 4x350 MW Thermal Power Plant

(IPP) at the tariff to be determined by the OERC. Further, the power generated in excess of 80% PLF shall be made available to the State at variable cost. Three nos. of generating units of this power plant have been commissioned till date. As per the tentative generation plan submitted by M/s. GKEL to GRIDCO, it proposes to supply 1808MU (at 85% PLF and 7.5% Auxiliary Energy Consumption) towards State entitlement of 25% at full tariff as per the provisions of PPA. However, keeping in view the Merit Order Principle, the Tariff of GKEL being on higher side, GRIDCO has proposed to procure 1517.10 MU (1050X0.25X0.9425X0.7X8.76) during FY2017-18 considering 70% PLF and 5.75% Auxiliary Consumption.

191. The Commission observed that as per the PPA with M/s. GKEL the State share is 25% of the energy sent out and the power generated in excess of 80% PLF shall be made available to the State at variable cost. But the PPA between GRIDCO and M/s. GKEL has not yet been vetted by the Commission. Since the IPP of M/s. GKEL is supplying power to more than one state, its tariff is to be determined by CERC. As per CERC norms normative plant availability factor is 85%, hence net generation at 85% availability of this IPP comes to 7368.75 MU. Considering 25% state share, energy available to GRIDCO from the IPP comes to 1842.19 MU. However, GRIDCO has projected to procure 1517.10 MU from this IPP keeping in view the price at higher side. Hence, the Commission accepts the proposal of GRIDCO and approves 1517.10 MU to be procured from this IPP during the FY 2017-18 for State consumption and also advise GRIDCO to avail the balance State share of power from this power plant for trading purpose depending upon the commercial viability.

M/s Jindal India Thermal Power Ltd.

192. The IPP of M/s Jindal India Thermal Power Limited (M/s. JITPL) is of the capacity of 3x600 MW, out of which two units have been commercially operated. As per PPA with M/s JITPL, GRIDCO is entitled for 14% of the power sent out at Variable Cost, to be determined by the Commission, if coal block is allocated within the State. Otherwise, JITPL shall supply 12% of the power sent out at Variable Cost. GRIDCO has submitted that as there was de-allocation of coal blocks by the Hon'ble Supreme Court of India, the State entitlement of power becomes 12% of energy sent out at variable cost only. At present JITPL is declaring schedule to ERLDC for supply of power to GRIDCO from its two no. of units on short term basis i.e. day ahead basis. Since the IPP has not submitted the generation plan for FY 2017-18, GRIDCO

proposes to procure only 372 MU from M/s JITPL based on the actual drawal pattern during first six months of the current financial year 2016-17.

193. The Commission observed that out of the 1200 MW (2X600 MW) of M/s JITPL, considering the State share of 12%, PLF of 85% and auxiliary consumption of 6%, energy availability to the State from this IPP is estimated to be 1007.89 MU, whereas GRIDCO has projected the drawal of only 372 MU based on the present trend of drawal from the IPP. However, the Commission advise GRIDCO to purchase at least 50% of the estimated state share of 1007.89 MU from the said IPP during FY 2017-18. Hence, the Commission approves 503.95 MU for procurement by GRIDCO from M/s JITPL during the FY 2017-18 for State use and advises GRIDCO to avail balance State share of power for trading purpose on commercial principle.

M/s Nava Bharat Ventures Ltd.

194. Regarding the procurement of power from the 60MW thermal power plant of M/s Nava Bharat Ventures Limited (M/s NBVL), GRIDCO has submitted that as per the PPA executed with M/s. NBVL, GRIDCO is entitled to 14% of the power sent out at Energy Charge Rate/Variable Cost to be determined by OERC, if coal block is allocated within the State. Otherwise, NBVL shall supply 12% of the power sent out at Variable Cost / Energy Charge Rate. Though the COD of the said Unit had already been declared since 30.11.2015, the IPP is yet to supply any power to GRIDCO towards State entitlement. In its reply to the Commission's query for not availing power from this IPP, GRIDCO has stated that it has not availed any power from this IPP as of date, since M/s. NBVL is yet to generate any power from their IPP Unit even though they had taken permission for sale of power through Short Term Open Access in Power Exchanges.
195. The Commission observed that the 60 MW IPP of M/s NBVL is having a State share of 12% at variable cost since no coal block is stated to have been allotted to NBVL at present. Considering the auxiliary consumption of 9% and PLF of 85% as per OERC Generation Tariff Regulations, 2014, the energy availability to GRIDCO comes to 48.79 MU. However, based on the proposal of GRIDCO, the Commission does not consider any procurement of power from the IPP of M/s. NBVL during the FY 2017-18 for State consumption. GRIDCO is directed to make a spot visit to the plant and verify the authenticity of claim. The Commission direct that when this IPP will be in

operation, GRIDCO should avail State share power from the IPP at variable cost for State consumption by reducing the schedule of high cost power.

M/s. Ind-Barath Energy (Utkal) Ltd.

196. In its application GRIDCO has stated that COD of the 1st Unit (350MW) of the IPP of M/s. Ind-Barath Energy (Utkal) Limited (IBEUL) has been accepted to be effective from 20.07.2016 with de-rated capacity of 339.60 MW. As per the PPA GRIDCO shall procure 14%/12% at Variable Cost/Energy Charge Rate as determined by the Commission based on allocation /de-allocation of coal blocks within the State .The Unit is presently connected through LILO at 400kV Raigarh-Jharsuguda CTU line. In its reply to the Commission's query on the issue of not availing power from this IPP, GRIDCO has stated that although COD of one Unit of M/s. IBEUL has been declared, both CERC and ERPC have denied connectivity to the IPP with the CTU for commercial sale of power as M/s. IBEUL has failed to complete the dedicated transmission line up to the CTU bus. However, the IPP is still connected with the CTU which is just sufficient only to avail start up power, at the time of requirement. The status of construction of dedicated transmission line by M/s. IBEUL is being monitored by the ERPC regularly in the monthly OCC meetings and once completed, GRIDCO is hopeful to draw the State share of power from this IPP.
197. The Commission observed that the 1st Unit (350MW) of the IPP of M/s. IBEUL has already been commissioned on 20.07.2016. GRIDCO is entitled to purchase the State share of 12% (14% if coal block is allocated) at variable cost. Considering the State share of 12% at present, PLF of 85% and auxiliary consumption of 6%, energy availability to the state from this IPP is estimated to be 284.59 MU. However, based on the proposal of GRIDCO, the Commission does not consider any procurement of power from the IPP of M/s. IBEUL during the FY 2017-18 for State consumption. The Commission directed that when this IPP will be in operation, GRIDCO should avail State share power from the IPP at variable cost for State consumption by reducing the schedule of high cost power.
198. In the above paragraphs the Commission has estimated the total availability of 8222.90 MU from the IPPs within the State those are presently supplying power to GRIDCO, out of which the Commission approves 7060.49 MU to be purchased by GRIDCO during the FY 2017-18 for consumption in the state. However, depending

on the requirement, cost and availability, GRIDCO may purchase more quantum of energy from the IPPs in the event of non-availability of energy from other sources and/or increase in state demand than the estimation. In fact, GRIDCO should draw the full quantum of State's share of power from the IPPs as per the PPA to have export earnings after meeting the State's requirement, if commercially viable. The proposal of GRIDCO and approval of the Commission in respect of purchase of power from the IPPs during the FY 2017-18 is as indicated in the table below.

Table - 19
Power Procurement from the IPPs during FY 2017-18

IPPs	Proposal of GRIDCO (MU)	Availability estimated by the Commission as per Orders / PPA (MU)	Approval of the Commission (MU)
Vedanta Limited	4792.42	5039.45	5039.45
GMR Kamalanga Energy Ltd.	1517.10	1842.19	1517.10
Jindal India Thermal Power Ltd.	372.00	1007.89	503.95
Nava Bharat Ventures Ltd.	0.00	48.79	0.00
Ind Barath Energy(Utkal) Ltd.	0.00	284.59	0.00
Total	6681.52	8222.90	7060.49

Power Purchase from Central Generating Stations

199. Odisha has been allocated shares in all the NTPC stations located in the Eastern Region as well as from the Chukha and Tala Hydro Electric Projects in Bhutan and Teesta Hydro Electric Project in Sikim. The entitlement from these stations is based on share allocation made by the CEA/MoP from time to time. The energy accounting from these stations is done on a monthly basis as per the ABT based Regional Energy Accounts (REA) prepared by the Eastern Regional Power Committee.

Central Transmission Loss:

200. The constituents of power utilities of the Eastern Region share the losses occurring in the Central Transmission System as per the Point of Connection (PoC) Methodology. As per the Inter-state transmission charges sharing Regulation (POC Regulation), total transmission loss of the CTU is to be divided equally among the injectors (Generators) and Drawees (Beneficiaries). The loss component attributable to Generators is regarded as the "Injection Loss". In the instant case, since the

Generators are different their injection losses are different based on the load flow study conducted by NLDC. These losses are determined in weekly basis and are published in NLDC site. Similarly, GRIDCO being a beneficiary has to bear the “withdrawal loss” towards the central sector drawal. This again is determined by NLDC based on load flow study for the withdrawal zone Odisha on weekly basis and published in their website. Further, GRIDCO have entered into agreements with ISGSs to draw power on cost plus basis. As such, GRIDCO is bearing the injection losses of these stations in addition to its withdrawal losses. In the ARR filling for 2017-18, GRIDCO has projected different percentage of transmission loss in the Eastern Region Power System in respect of power procurement from different Central Generating Stations. The station-wise losses have been arrived at by GRIDCO, based upon the injection loss and withdrawal loss data for the month of September, 2016 as available from the NLDC Website.

201. The Commission scrutinized the proposal of GRIDCO on Central Transmission Losses with reference to the figures published in NLDC site and it is observed that the scheduled PoC loss in the eastern regional system varies from week to week for Odisha injection and Odisha withdrawal. After scrutiny, the Commission considered the average transmission loss for drawal of power from individual central generating stations based upon the injection loss and withdrawal loss data of the current financial year (upto the month of December, 2016) as submitted by GRIDCO later, after availing the same from NLDC website, for estimation of power purchase cost of GRIDCO, which is given below:

Table - 20
Percentage of System Loss considered for Central Stations

Name of power stations	Central Transmission Loss proposed by GRIDCO for FY 2017-18 taking the losses of the month of Sept.'2016 only (%)	Central Transmission Loss considered by the Commission for FY 2017-18 taking the average of losses from the month of Apr.'2016 to Dec.'2016 (%)
TSTPS -I	2.23	2.27
TSTPS -II	2.73	2.82
FSTPS- I, II & III	1.73	1.81
KHSTPS - I &II	1.98	1.91
Barh- II	1.98	2.08
Chhuka & Tala	2.23	2.07
Teesta-V	2.23	2.15

Central Hydro Generating Stations

202. **Chukha:** Odisha has been assigned a share of 15.19% from ER allocation of 270 MW out of the installed capacity of 336 MW (4x84 MW) of Chukha Hydro Electric Project, Bhutan. GRIDCO has projected the drawl of 261.95 MU from Chukha for FY 2017-18 considering the average drawal of last 6 years i.e. from FY 2010-11 to 2015-16. After deducting central sector loss of 2.23%, the net availability to GRIDCO is projected at 256.10 MU for the FY 2017-18.
203. The Commission scrutinized the above proposal of GRIDCO and observed that the drawal of GRIDCO from Chukha during the period from FY 2010-11 to 2015-16 were 278.49 MU, 260.39 MU, 237.58 MU, 275.41 MU, 247.41 MU & 272.39 MU respectively, which varies from 237.58 MU during FY 2012-13 to 278.49 MU during the FY 2010-11. Due to in consistent drawal from this power station, the Commission approves the drawl from Chukha hydro station at 261.95 MU for FY 2017-18 considering the average drawal of last 6 years i.e. from FY 2010-11 to 2015-16 as proposed by GRIDCO. After deducting the Central Loss of 2.07%, the net drawal of GRIDCO comes to 256.52 MU for FY 2017-18.
204. **TALA:** GRIDCO has an allocated share of 4.25% i.e 43.35 MW from Tala HEP, Bhutan having installed capacity of 1020 MW (6X170 MW). GRIDCO has proposed to draw 143.48 MU of energy from Tala HEP during FY 2017-18 by averaging previous 6 years drawal i.e. from FY 2010-11 to 2015-16. After deducting Central Sector Loss of 2.23%, the net availability to GRIDCO is projected as 140.28 MU for FY 2017-18. After scrutiny, the Commission accepts the proposal of GRIDCO and approves the net drawal of 140.51 MU from Tala Hydro Power Station during FY 2017-18 considering the Central Sector Loss of 2.07%.
205. **TEESTA:** GRIDCO in its ARR application has submitted that Teesta-V HEP having installed capacity of 510 MW is situated in Sikkim and Odisha has a share of 23.40% of the saleable energy from this power station. The annual design energy of Teesta-V HEP is 2572.67 MU. Considering 12% free energy to Home State & 1.2% of Auxiliary Consumption, the annual saleable energy of the project is 2236.808 MU. Further, considering Odisha share of 23.40% of the saleable energy, GRIDCO proposes to procure net energy of 511.74 MU during FY 2017-18 after deducting the Central Sector loss of 2.23%.

206. The Commission scrutinized the proposal of GRIDCO with reference to Regional Energy Account (REA) prepared by ERPC. It is observed that the GRIDCO is entitled to get a share of 20.59% on the total generation less auxiliary consumption. So the Commission estimates a drawal of 523.36 MU considering the share of 20.59% from annual saleable energy of 2541.808 MU i.e. the design energy less auxiliary consumption @ 1.20%. Considering the central sector transmission loss of 2.15%, the Commission approves the net drawl of 512.11 MU from Teesta HEP during FY 2017-18 as shown in the table below.

Table - 21

Design Energy less aux. (MU)	2541.83
GRIDCO Share (%)	20.59
Availability (MU)	523.36
Net energy available after deducting Central Transmission Loss @ 2.15% (MU)	512.11

Central Thermal Generating Stations

207. GRIDCO has submitted that Clause 36 (A) of CERC (Determination of Terms & Conditions of Tariff) Regulations, 2014 effective from 01.04.2014 to 31.03.2019 stipulates “Normative Annual Plant Availability Factor (NAPAF)” as under:

“(a) All Thermal Generating Stations, except those covered under clauses (b), (c), (d), & (e) - 85%

Provided that in view of shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed.”

The above provision shall be reviewed based on actual feedback after 3 years from 01.04.2014.”

208. However in the meantime, the Tariff Orders of two numbers of Central Thermal Stations i.e. KHSTPS-I and TSTPS-I for the period 2014-19 have already been pronounced by the Hon’ble CERC vide Orders dtd. 30.07.2016 and 29.07.2016 respectively. In these Orders, Hon’ble CERC have stated that in view of shortage of domestic coal supply, the target Plant Availability was then allowed as 83% for 3 years from FY 2014-15 to FY 2016-17. Now that this period is over, the PLF is considered as 85% for FY 2017-18 and FY 2018-19 in terms of the Regulation 36 (A)(a) of the CERC Tariff Regulations, 2014. Further, GRIDCO has mentioned that, to avoid drawal of its share of costly thermal power from NTPC Stations viz., FSTPS-

I, II III, BARH-II and KHSTPS-I &II, it follows Merit Order norms in order to optimize the Power Purchase Cost / Rate. However, in view of the provisions of Indian Electricity Grid Code (IEGC) which prescribes Minimum Technical Limit of the Thermal Generating Stations at Plant Availability of 70%, costly power is thrust upon GRIDCO by the said NTPC Thermal Stations. Hence, projection of energy drawal from NTPC Stations of FSTPS-I, II & III, KHSTPS-I & II and Barh-II is considered at 70% Availability while it is taken as 85% in case of TSTPS-I and II.

209. GRIDCO has further submitted that in estimating the energy drawal for FY 2017-18, energy drawal of Unit-V of Barh-II STPS during the year 2017-18 has been considered, since the Unit has already been put into the commercial operation w.e.f. 18.02.2016. GRIDCO has considered the projected energy availability from Barh STPS-II of NTPC as per the share allocation in favour of Odisha since the same is yet to be cancelled by the Ministry of Power, the Govt. of India despite continuous follow-up by GRIDCO and the Govt. of Odisha with the Central Government in this regard. Govt. of Odisha has requested the Ministry of Power (MoP), Govt. of India several times for de-allocation of power from upcoming NTPC Stations outside the State including the Barh-II STPS since 2012. In this regard, MoP, Govt. of India has already notified vide Notification dated 31.08.2015 for surrendering of the allocated power by different States including Odisha and sought willingness from other States to avail such surrendered power. However, till now no alternative buyer has offered willingness to purchase the power from Barh-II, and hence, de-allocation in favour of Odisha is yet to take effect. Hence, GRIDCO has considered energy drawal from Unit-IV and Unit-V of Barh STPS-II and also in the name of technical minimum generation, power is being thrust upon GRIDCO from these Units in spite of “NIL” / “No-Requisition” by GRIDCO.
210. The actual Plant Availability for the months from April’16 to Sept’16 and the percentage of Cumulative Availability of power from CGSs for the 1st six-months of FY 2016-17 submitted by GRIDCO varies from 66.03% to 98.58% as given in the table below.

Table-22**Cumulative Availability (%) of CGSs for the 1st six-months of FY 2016-17**

Stations	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Cumulative Availability (%)	Cumulative Availability % (NAPAF%) proposed for CGSs by GRIDCO for FY 2017-18
TSTPS Stage-I	96.32	97.06	95.49	96.07	95.98	95.72	96.11	85
TSTPS Stage-II	96.98	96.42	95.42	96.03	93.19	89.69	94.63	85
FSTPS-I&II	34.84	55.39	69.20	75.34	79.52	81.46	66.03	70
FSTPS-III	97.81	98.81	99.10	98.75	98.39	98.60	98.58	70
KhSTPS St-I	89.68	94.24	95.52	96.11	95.12	91.94	93.79	70
KhSTPS St-II	97.72	97.70	97.88	91.39	93.01	93.15	95.12	70
Barh STPS –II.	50.85	66.93	71.59	76.27	77.68	72.31	69.34	70

211. The estimation of energy drawal for FY 2017-18 from Central Thermal Generating Stations has been done by GRIDCO by considering the relevant allocated share in favour of Odisha as derived from the Regional Energy Account (REA) of Eastern Regional Power Committee (ERPC), Auxiliary Consumption as per the CERC Tariff Regulations, 2014 and the Central Sector Transmission Loss specific to each of the Stations, as per the Point of Connection (PoC) Methodology. However, NAPAF of 85% has been considered for KhSTPS-I and TSTPS-I and Minimum Technical Limit of 70% for Barh-II, FSTPS-I, II & III and KhSTPS-I & II. The losses considered Station-wise during estimation of energy drawal have been arrived at based upon the injection loss and withdrawal loss data for the month of Sept'16 as available from the NLDC Website. Considering the above parameters, GRIDCO has proposed the total energy drawal of 7371.37 MU from Central Thermal Generating Stations of ER, NTPC for FY 2017-18 as given in the Table below:

Table-23
Availability of Power from Central Generating NTPC Stations FY-2017-18

Central Thermal Stations	Installed Capacity (MW)	Aux. Cons (%)	Based on NAPAF% as per Para 36 (A) of CERC Regn.,2014& Minimum Technical Generation limit	Net Availability (ESO) (MU)	GRIDCO Share (%)	Ex-bus Availability (MU)	Central Trans. Loss (%)	GRIDCO share after the applicable C.S. Trans. Loss (MU)
TSTPS Stg.-I	1000	5.75	85	7,017.86	31.97	2,243.57	2.23	2,193.53
TSTPS Stg.-II	2000	5.75	85	14,035.71	10.00	1,403.57	2.73	1,365.25
FSTPS-I&II	1600	6.47	70	9,176.42	13.81	1,267.15	1.73	1,245.23
FSTPS-III	500	5.75	70	2,889.71	19.85	573.66	1.73	563.73
KhSTPSStg-I	840	9.00	70	4,687.30	15.40	721.89	1.98	707.59
KhSTPSStg-II	1500	5.75	70	8,669.12	2.24	194.04	1.98	190.19
Barh STPS-II(UNIT-IV)	1320	5.75	70	7,628.82	14.79	1,128.17	1.98	1,105.83
TOTAL				54,104.92		7,532.05		7,371.35

212. The Commission observed that in the ARR & BSP order of GRIDCO for FY 2016-17, the Commission had not approved any drawal of power from the Central Thermal Stations viz. FSTPS-I, II & III and approved a part drawal from KhTPS-I keeping in view the higher energy charge rate of these stations and availability of low cost power from other sources. But State share of fixed cost of these central power stations was allowed by the Commission in the ARR of GRIDCO. Further, in the case of Barh STPS, the Commission had not allowed any drawal of power for State consumption for the FY 2016-17 because of the very high rate and share of fixed cost of this station was also not allowed. However, in its reply to the Commission's query on the ARR & BSP application for the ensuing year 2017-18, GRIDCO has stated that as per the provisions of Indian Electricity Grid Code (IEGC), 2010, the technical minimum for operation in respect of a generating unit(s) of an Inter State Generating Station (ISGS) or Central Generating Station (CGS) shall be 55% of the Maximum Continuous Rating (MCR) loading or installed capacity of the generating station. Further, the CGSs and ISGSs are directed by the concerned Regional Load Despatch Center (RLDC) to operate their Unit(s) at or above the technical minimum but below the Normative Annual Plant Availability Factor (NAPAF) on account of Grid security or fewer schedules given by the beneficiaries. In the eastern region the technical minimum limit of generation is 70% as per the decision taken in the 111th Operation

and Coordination Committee (OCC) Meeting held on 24.07.2015. It is for this reason GRIDCO has projected procurement of costly power from NTPC stations taking 70% NAPAF instead of 85% fixed by the CERC.

213. The Commission scrutinised the submissions of GRIDCO and observed that as per the CERC Tariff Regulations, 2014, the NAPAF of the Central Thermal generating stations is fixed at 85%. Hence, for the purpose of computation of availability of power from these power stations NAPAF should be considered at 85%. However as per the IEGC, the generators should run at technical minimum limit of 55% of MCR loading or installed capacity of the generating unit, in case of lower schedule for drawal by the beneficiaries and difficulty in maintaining the safe grid operation. In case the scheduled generation falls below the technical schedule, the concern CGS or ISGS shall have the option to go for reserve shutdown. Here, in order to draw less energy from some of the central generating stations due to their higher energy charges, GRIDCO has considered the plant availability of 70% for these stations in view of the minimum technical limit for plant operation as decided for eastern region in the 111th OCC Meeting. Some of the objectors have raised that in the OCC meeting GRIDCO could have objected to the provision of technical minimum generation of 70%, where it is 55% as per the IEGC. Now GRIDCO should claim for reserve shutdown of a unit of Barh STPS instead of accepting the forced scheduling of power from this station. We are inclined to accept the views of the objectors for the reason that proceedings of meeting cannot ignore the provision of a code accepted by the competent authority. We agree with the objectors that GRIDCO should have disagreed to it. Therefore, we advise GRIDCO to insist on economical drawal from the power stations and should avoid forced injection of power to the Grid at higher cost which is ultimately loaded on the consumers. Further, GRIDCO should also raise the said issue in appropriate forum to adhere the provision of technical minimum generation of 55% as per IEGC. However, the Commission has computed the availability of power from the central generating stations considering the NAPAF of 85% and drawal of GRIDCO for state consumption based on the requirement.
214. The Commission further observed that GRIDCO is purchasing bundled solar power which includes thermal power from the unallocated quota of the NTPC stations. Hence, the share of thermal power purchase by GRIDCO from NTPC station increases accordingly. The state share of power from ER-NTPC stations inclusive of

the said bundle thermal power has been considered by the Commission based on the REA for the month of January'2017. Considering the Central Sector transmission loss provisionally as stated earlier and NAPAF of 85% as per CERC Regulations, the details of availability of power from Central Thermal Stations, estimated for the FY 2017-18 and GRIDCO's drawal as per requirement are given in the table below:

**Table - 24
Drawal From Central Thermal Generating Stations for FY-2017-18**

Central Thermal Stations	Installed Capacity (MW)	Aux. Cons. (%)	Availability considering 85% PLF & Auxiliary Consum. (MU)	GRIDCO Share (%)	GRIDCO Share (MU)	Central Trans. Loss (%)	Estimated Share excluding Central Sector Transmission Loss (MU)	GRIDCO's proposal excluding Central Sector Transmission Loss (MU)
TSTPS -I	1000	5.75	7017.86	32.344	2269.86	2.27	2218.42	2193.53
TSTPS -II	2000	5.75	14035.71	10.000	1403.57	2.82	1363.95	1365.25
FSTPS-I& II	1600	6.47	11142.94	14.184	1580.47	1.81	1551.89	1245.23
FSTPS-III	500	5.75	3508.93	20.170	707.75	1.81	694.96	563.73
KhSTPS -I	840	9.00	5691.72	15.775	897.86	1.91	880.76	707.59
KhSTPS-II	1500	5.75	10526.78	2.621	275.86	1.91	270.61	190.19
TOTAL	7440		51923.94		7135.37		6980.59	6265.52

NTPC-Barh Super Thermal Power Station-Stage- II

215. The Commission in ARR & BSP order for the FY 2015-16 had directed GRIDCO and the State Government to take up the matter with Ministry of Power, Govt. of India for immediate de-allocation of power to the State of Odisha from Barh-II STPS of NTPC because the cost of power from this power station was very high and low cost power was available to GRIDCO from other sources. Again in the ARR & BSP order for the FY 2016-17, the Commission had also directed both GRIDCO and the State Government to expedite the matter with Ministry of Power, Govt. of India for earliest de-allocation of power to the State of Odisha from Barh-II STPS of NTPC or appeal before CERC/APTEL for reduction of tariff of this power station. In the said order GRIDCO was also advised to explore legal options in the event this effort of does not materialise. In the reply to the Commission's query GRIDCO has stated that subsequent to notification dated 31.08.2015, Ministry of Power, Govt. of India has issued another notification dated 06.05.2016 seeking willingness by other states for drawal of surrendered power by the unwilling states. However, as per the information available with GRIDCO there is no offer of willingness from other states to accept the allocated share of Odisha in response to the said notification dated 06.05.2016. Since,

the share of Odisha from Barh-II STPS has not yet been de-allocated; power is eventually being thrust upon GRIDCO from this NTPC station in the name of Technical Minimum Generation, in spite of Nil or No requisition of power. GRIDCO has further stated that earlier only one unit i.e. Unit-IV of Barh-II STPS was in operation and now the second unit i.e. Unit-V of Barh-II STPS has already been put into the commercial operation w.e.f. 10.02.2016. Therefore, GRIDCO has calculated the drawl of power from both the Units at 1105.83 MU for FY 2017-18 after taking into account Odisha share of 15.40% and Central Sector Loss of 1.98% with minimum technical limit of 70% availability for generation.

216. The Commission observed that the price of power from this new generating station is very high compared to that available from IPPs and other sources inside the State. Deptt. of Energy, Govt. of Odisha has taken up the matter with Ministry of Power, Govt. of India for de-allocation of State's share of power from the Barh-II STPS. We also direct GRIDCO to approach appropriate forum (Court of law or Commission) for reduction of capital cost through VGF or any other means citing availability of better and cheaper power from other sources in the State to the reduce burden on consumers or take steps for de-allocation of the power from Barh-II. We are hopeful this imbroglio will be resolved soon. We also suggest that Government may consider bearing the burden of fixed cost of the power stations because of PPA with Government till a settlement is reached. Therefore, the Commission does not consider drawal of 1105.83 MU from Barh STPS-II (Unit- 4 & 5) for State use during the FY 2017-18 and direct GRIDCO and the State Government again to expedite the matter for de-allocation or reduction of cost through above stated options.

Summary of the proposal for purchase of power and approval by OERC

217. As mentioned above, the total estimated availability of power from different sources comes to 28781.80 MU. However, the total power requirement for drawal by DISCOMs for State use comes to 26051.63 MU. Since, the least cost power is available, costly power from certain Central Thermal Generating Stations has not been considered in the ARR of GRIDCO for consumption inside the State. However, GRIDCO may trade this power if commercially viable and earn some revenue to bridge the past gap. Hence, taking the least cost power procurement for the state from different generating stations, the Commission approves quantum of purchase for FY 2017-18 as given in the table below:

Table – 25
Quantum of Power Purchase from Various Sources for FY 2017-18

(Figures in MU)

Sources of Purchase	Commission's Approval for State Drawl for 2016-17	GRIDCO's Proposal for 2017-18	Estimated Availability for 2017-18	Commission's Approval for State Drawl for 2017-18
HYDRO (OLD)	3,676.86	3654.32	3,676.86	3,676.86
Indravati	1,942.38	1944.36	1,942.38	1,942.38
Machakund	262.50	262.50	262.50	262.50
Total Hydro	5,881.74	5861.18	5881.74	5,881.74
OPGC	2861.50	2796.22	2861.50	2861.50
TTPS (NTPC)	3150.40	3162.93	3162.93	3162.93
IPPs	8034.16	6681.00	8222.90	7060.49
CGPs	-	-	-	-
Co-Generation Plants	-	-	-	-
Small Hydro	320.00	320.00	320.00	320.00
Biomass Energy	115.00	80.00	80.00	80.00
Solar Energy	230.00	363.00	363.00	363.00
TOTAL STATE	20592.80	19264.33	20892.07	19,729.66
CHUKHA HPS	254.24	256.00	256.52	256.52
Tala HPS	141.13	140.00	140.51	140.51
Teesta-V HPS	511.37	512.00	512.11	512.11
Total Central Hydro	906.75	908.00	909.14	909.14
TSTPS-I	2157.27	2193.53	2218.42	2218.42
TSTPS-II	1327.24	1365.25	1363.95	1363.95
FSTPS-I & II	-	1245.23	1551.89	679.09
FSTPS-III	-	563.73	694.96	-
KhTPS-I	245.41	707.59	880.76	880.76
KhTPS-II	263.42	190.19	270.61	270.61
Barh STPS-II	-	1105.83	-	-
Total Central Thermal	3993.32	7371.35	6980.58	5,412.83
Total Central Sector	4900.07	8279.35	7889.72	6,312.97
TOTAL GRIDCO	25492.87	27543.68	28781.80	26051.63

Power Procurement Cost

218. The cost of power is the highest component in the revenue requirement of GRIDCO. The Commission, for determination of the cost of power purchase, has exercised due diligence in arriving at the cost in respect of each of the power stations based on the relevant rules, regulations and documents available.

OHPC Stations

219. OHPC has submitted the application for approval of its Annual Revenue Requirement and Tariff of its individual power stations separately for the FY 2017-18 in terms of Section 62, 64 and 86 of the Electricity Act, 2003 which has been registered as Case

No.61/2016. The tariff approved for OHPC Stations in the said case will be considered for determination of the power procurement cost of GRIDCO in respect of all stations of OHPC.

220. Accordingly, the cost of power purchase by GRIDCO from each of the power stations of OHPC is given in the table below:

Table – 26
Cost of Power Purchase from OHPC Stations for FY 2017-18

Name of the Power Station	Quantum of Power Purchase for 2017-18 (MU)	Approved Average Tariff for 2017-18 (P/U)	Cost of Power Purchase for FY 2017-18 (Rs. Cr.)
Burla	677.16	144.72	97.998
Chipilima	485.10	53.28	25.845
Balimela	1171.17	82.50	96.627
Rengali	519.75	118.20	61.435
Upper Kolab	823.68	55.74	45.916
Upper Indravati	1942.38	77.50	150.525
Sub-Total	5619.24	85.13	478.346
Machhkund	262.50	55.07	14.456
Total	5881.74	83.78	492.802

IB Thermal Power Station of OPGC

221. OPGC has also filed its ARR & Tariff application before OERC for determination of Generation Tariff of its 2x210 MW Ib Thermal Power Station for the year 2017-18, which has been registered as Case No.62 of 2016. The Commission in its order passed in Case No.62 of 2016 has determined the capacity charge of 72.52 p/u and energy charge of 123.74 p/u for the said power station of OPGC. Hence the cost of power purchase for procurement of 2861.50 MU from OPGC comes to Rs.561.60 crore at an average rate of 196.26 p/u.

Talcher Thermal Power Station (TTPS)

222. GRIDCO has submitted that CERC Tariff Order dated 15.05.2014 in Petition No.304 of 2009, in respect of Tariff of TTPS-NTPC for the period from 2009-10 to 2013-14, had been challenged by both NTPC and GRIDCO before APTEL which were admitted as Appeal No.175/2014 and 180/2014 respectively and are sub-judice at present. Further, the Writ Petition i.e. W.P. (C) No.18695 of 2014 filed by GRIDCO against CERC Regulation, 2009 before the Hon'ble Odisha High Court is also sub-judice at present. Now the Tariff Petition No. 334/GT/2014 filed by NTPC in respect of TTPS for the period 2014-19 as per the CERC Tariff Regulations, 2014, has been

disposed of by CERC vide Order dated 26.09.2016. Earlier NTPC has challenged the CERC (Terms and Conditions of Tariff) Regulations, 2014 before Hon'ble Delhi High Court in WPC No.1641 of 2014 and GRIDCO has become a party to it. GRIDCO has also filed a Writ Petition against the said Regulations before the Hon'ble Odisha High Court which has been admitted as W.P. (C) No.12122 of 2015 and Hon'ble Odisha High Court vide Order dated 03.11.2015 granted an interim stay on the said CERC Regulations, 2014.

223. **Fixed Charges:** Pending the aforesaid petitions at different judicial Forums, NTPC-TTPS, at present, is claiming the Monthly Fixed Charges as per the Annual Fixed Charge determined in CERC Tariff Order dated 26.09.2016 passed in Petition No.334 of 2014 in respect of NTPC-TTPS for the period from 2014-19. As per the said Order, the Annual Fixed Charges of TTPS is fixed as Rs.426.93 Crore for FY 2017-18. Accordingly, GRIDCO has worked out the Fixed Cost per Unit of energy from TTPS as 134.98 P/U for FY 2017-18 at the projected PLF of 87.70 % and Aux. Energy Consumption of 10.50% for the proposed energy drawal of 3162.93 MU.
224. After scrutiny of the submissions of GRIDCO, the Commission observed that Talcher Thermal Power Station (TTPS) is owned and operated by NTPC and tariff for this generating station is determined by Central Electricity Regulatory Commission (CERC). The CERC vide its Order dated 26.09.2016 passed in Petition No. 334/GT/2014 has determined the Annual Fixed Charge (AFC) of Rs.426.93 Crore for FY 2017-18 in respect of TTPS (NTPC). Hence, the Commission considers the fixed cost of TTPS at Rs.426.93 crore for the FY 2017-18 as determined by CERC. Accordingly, the fixed charge per unit comes to 134.98 p/u for drawal of 3162.93 MU from TTPS during the FY 2017-18.

Energy Charges:

225. As per the CERC Tariff Order dated 26.09.2016 in Petition No 334 of 2014 in consonance with the CERC Tariff Regulations, 2014, the Base Energy Charge for TTPS has been fixed as 110.187 Paise/kWh. Further, in the said Tariff Order, it has been mentioned that NTPC-TTPS is entitled to compute and recover the Energy Charges in accordance with Regulation 21(6) (a) of the Tariff Regulations, 2014. Accordingly, NTPC-TTPS is claiming the Monthly Energy Charges every month as per the Energy Charge Rate (ECR) worked out from the landed price and GCV of coal

and oil for that month and considering the operational parameters laid down in CERC Tariff Regulation, 2014. However, based on the trend of ECR as claimed by TTPS-NTPC during last six months, GRIDCO has considered 10% escalation over and above the Monthly Average Energy Charge of 167.37 P/U and thus, proposes 184.11 P/U towards ECR for FY 2017-18 as given in the table below.

Table-27
Energy Charge Rate (ECR) of TTPS (in P/U)

Apr-16	May-16	June-16	July-16	Aug-16	Sept-16	Monthly Average Energy Charge	Monthly Highest Energy Charge	GRIDCO's proposal for FY 2017-18 considering 10% escalation on 167.37 P/U
158.5	161.8	172.9	171.7	162.3	163.3	167.37	172.9	184.11

226. The Commission scrutinized the proposal of GRIDCO and observed that NTPC-TTPS is entitled to compute and recover the energy charges as per Clause 21(6)(a) of the said Regulations. Accordingly, NTPC-TTPS is claiming the Energy Charges every month based on the Price and GCV of Coal and Oil etc. for that month. Considering the data on coal and oil price and GCV of Coal etc. from the monthly bills of last nine months i.e. from April, 2016 to December, 2016 as claimed by NTPC in respect of TTPS, the average energy charge rate is computed at 166.25 P/U. Hence, for the purpose of computation of ARR & BSP of GRIDCO for the FY 2017-18, the Commission provisionally approves the energy charge rate of 166.25 P/U for drawal of energy from TTPS.

227. **Year-end Adjustment Charges:** GRIDCO has projected the year-end adjustment charges of TTPS to the tune of Rs.26.22 crore for the FY 2017-18 based on the pro-rated assessment of actual charges paid by GRIDCO during 1st six months of the FY 2016-17, which includes electricity duty, charges towards water cess, UI charges, SLDC charges and incentive. The Commission on examination of the claims provisionally approves (i) Electricity duty of Rs. 11.13 crore calculated @ 30 paise/unit on auxiliary consumption of the generation at 87.70% PLF, (ii) Water Charge / Cess of Rs.0.16 crore, (iii) SLDC Charges of Rs.0.36 Crore and (iv) Rs.4.87 Crore towards incentive on excess generation beyond the normative PLF. The claim for UI Charges is not being allowed in the tariff since the possibility of overdrawl or underdrawl cannot be predicted at this moment. Thus, the total year-end charges

approved for 2017-18 comes to Rs.16.53 crore. The year-end charges proposed by GRIDCO and approved by the Commission for the FY 2017-18 is shown in the table below:

Table – 28
Year-End Charges of TTPS for FY 2017-18

(Rs. in crore)

ITEM	OERC approval for FY 2016-17	GRIDCO's Proposal for FY 2017-18	OERC approval for FY 2017-18
Electricity duty	11.09	11.67	11.13
Water Cess / Charge	0.25	0.16	0.16
UI overdrawl	0.00	2.60	0.00
SLDC charges	0.38	0.25	0.36
Incentive	4.24	11.54	4.87
Total (Rs. Crore)	15.96	26.22	16.53
ESO (MU)	3150.40	3162.93	3162.93
Per unit cost (P/U)	5.07	8.30	5.22

228. After taking into account all the above estimated cost, the approved tariff for TTPS power comes to 306.45 p/u comprising of fixed cost @ 134.98 p/u, energy charges @166.25 p/u and year end charges @5.22 p/u. Hence, the total power procurement cost from NTPC-TTPS during FY 2017-18 is estimated at Rs.969.28 Crore for the approved drawl of 3162.93 MU.

Captive Generation Plants (CGPs) and Co-generation Plants

229. GRIDCO has proposed not to procure any power from the CGPs and Co-generation Plants during the FY 2017-18 in view of adequate availability of power due to State's share in various existing and up-coming Power Plants in the State. GRIDCO has further indicated that procurement of power from CGPs may be resorted to depending upon exigencies / force majeure conditions. However, the Commission has directed GRIDCO to purchase the available surplus power from CGPs and Co-generation plants at the existing ceiling rate fixed by the Commission for trading purposes after meeting the state demand subject to commercial viability. In case of any revision in CGP price for FY 2017-18 the revised price shall be applicable and any adjustment in revenue due to such price revision will be considered in the truing up exercise.

Power Purchase from Renewable Sources

230. In its ARR application for FY 2017-18, GRIDCO has proposed to procure 220 MU from Meenakhi Small Hydro Electric Project of M/s. MPL and 100 MU from Samal

Small Hydro Electric Project of M/s. OPCL at an average rate of 368.94 Paise per unit during FY 2017-18. The total procurement cost of this 320 MU of energy from small hydro sources has been estimated at Rs.118.06 crore.

231. The Commission in its Order dtd.19.05.2011 passed in Case Nos.17 & 24 of 2011 have fixed 368.00 paise per unit (inclusive of 4 Paise per unit as trading margin of PTC) towards procurement of power by GRIDCO from PTC in respect of drawal from Lower Kolab & Middle Kolab SHEPs of M/s.MPL. Similarly, the Commission vide its order dated 04.02.2016 passed in Case No. 15/2015 have fixed 371.00 Paise per unit (inclusive of 4 Paise per unit as trading margin of PTC) towards procurement of power by GRIDCO from PTC in respect of drawal from Samal Barrage SHEP of M/s. OPCL. Earlier the Commission has approved procurement of 220 MU from Lower Kolab & Middle Kolab SHEPs of M/s.MPL and 100 MU from Samal Barage SHEP of M/s. OPCL by GRIDCO for the ensuing year 2017-18. Accordingly, the Commission approves Rs.118.06 Cr towards procurement of total 320 MU of energy at an average rate of 368.94 P/U from the said small hydel sources during FY 2017-18.
232. Earlier the Commission has approved 80 MU to be procured by GRIDCO from the Biomass plant of M/s. Shalivahana Green Energy Ltd., which was commissioned during the FY 2011-12 i.e. during the control period from FY 2010-11 to 2012-13. Hence the tariff of this biomass plant will be governed by the order of the Commission dtd.01.03.2014 passed in Case No. 16/2013 where the tariff for Biomass energy has been re-determined for the control period 2010-11 to 2012-13. Accordingly the Commission approves cost of Rs.49.28 crore at the average of 616 p/u for procurement of 80 MU of Biomass energy from M/s. Shalivahana Green Energy Ltd. for the purpose of computation of ARR of GRIDCO for the FY 2017-18.
233. GRIDCO has proposed to procure 363 MU of solar energy from different sources at the total cost of Rs.223.25 cr. with an average rate of 615.01 p/u as indicated in the Table below:

Table -29
Procurement & Cost of Solar Power during FY 2017-18

Sl. No.	Solar RE Sources	Energy (MU)	Rate (P/U)	Total Cost (Rs. Cr.)
1	8 Nos. of Solar PV projects of 1 MW each under RPSSGP	13	628	8.16

Sl. No.	Solar RE Sources	Energy (MU)	Rate (P/U)	Total Cost (Rs. Cr.)
2	20 MW from NVVN through 'New Projects scheme' under JNNSM, Phase-1	34	1065	36.21
3	5 MW through NTPC from Solar PV project at Dadri	8.5	1294	11.00
4	5 MW through NTPC from Solar PV project at Faridabad	8.5	935	7.95
5	5 MW from M/s Alex Green Energy Ltd. through OREDA State Scheme	8	700	5.60
6	25 MW from M/s ACME Odisha Solar Power Pvt. Ltd.	42	728	30.58
7	70 MW through Solar Energy Corporation of India (SECI) under JNNSM, Phase –II, Batch-I	117	550	64.35
8	270 MW through Solar Energy Corporation of India (SECI) under JNNSM, Phase-II, Batch-IV	132	450	59.40
	Total	363	615.01	223.25

234. The Commission has scrutinized the above proposal of GRIDCO along with the energy bills raised by the solar generators in recent past and approves the same for the computation of ARR of GRIDCO for the FY 2017-18. Accordingly, the procurement cost comes to Rs.223.25 crore at an average rate of 615.01 p/u for procurement of total 363 MU of solar power during the FY 2017-18.
235. The Commission, in the above paragraphs, has approved a purchase of 763 MU from renewable energy sources (both solar and non-solar) during the FY 2017-18 based on the proposal of GRIDCO and availability of the same. But such available quantum of renewable energy is inadequate to meet the RPO fixed by the Commission for FY 2017-18. In its submission GRIDCO has stated that they have planned to procure renewable energy from different other sources during the ensuing year for meeting the RPO. It is to mention here that in the ARR of GRIDCO for the FY 2016-17, the Commission had allowed a corpus of Rs.30 Cr. to be utilized in exigency exclusively for purchase of renewable power in case of any shortfall of fund for purchase of the same. From the submission of GRIDCO it is observed that GRIDCO has procured 350.09 MU of renewable energy (both solar and non-solar) upto the month of November, 2016 against the approval of 665 MU for the FY 2016-17. It appears that GRIDCO may not be able to purchase the approved quantum of renewable energy by the end of the current FY 2016-17. Hence, the aforesaid amount of Rs.30 Cr. might have not been utilized in the current year for procurement of additional quantum of renewable energy over the approved quantum. Therefore, the Commission directed

GRIDCO to utilise the said Rs.30 Cr. towards purchase of additional quantum of renewable energy during the ensuing year 2017-18.

IPPs

M/s. Vedanta Ltd.

236. In its application, GRIDCO has submitted that the Multi Year Tariff (MYT) Petition filed by M/s Vedanta Ltd for FY 2014-15 to 2018-19 in Case No.95 of 2013 and application for interim tariff in Case No.68 of 2014 are yet to be disposed of by the Commission. In the meantime, the Commission vide its order dated 27th January,2016 in Case No.21 of 2016 has allowed conversion of three IPP Units (600MW each) of M/s Vedanta Ltd to CGP with effect from 1st April,2015. Further, the Appeal No. 25 of 2014 filed by Vedanta Ltd (erstwhile Sesa Sterlite Ltd.) against the Tariff Order dated 12.06.2013 (passed by the Commission in Case Nos. 117 of 2009, 31 of 2010 and 56 of 2012) in respect of its IPP for the period 2009-10 to 2013-14, was dismissed by APTEL vide order dated 10th May,2016. Based on the said APTEL order, M/s. Vedanta Ltd had filed fresh petition before this Commission for determination of tariff for the period 2010-11 to 2013-14 afresh which has been admitted as Case No.38 of 2016.
237. Pending disposal of the aforementioned Appeal and the MYT petition filed by M/s. Vedanta Ltd, the Commission for FY 2016-17 had fixed a provisional tariff of 236.22 Paise/kWh (fixed charge component of 90.25 Paise/kWh and energy charge of 145.97 Paise /kWh) towards procurement of power by GRIDCO from the said IPP. At present, M/s. Vedanta Ltd-IPP is raising monthly energy bills based on provisional ECR as fixed by the Commission for FY 2016-17 and capacity charges considering Annual Fixed Charges as fixed by the Commission in the Tariff Order dated 12.06.2013 taking into account the PAFM calculated monthly on its own instead of the same furnished by SLDC. However, for computation of ARR for FY 2017-18, GRIDCO has considered the Fixed Charge of 116.90 Paise/kWh based on the submission made by M/s. Vedanta Ltd. before this Commission, in their MYT application admitted in Case No. 95 of 2013. The average of actual Energy Charge Rate of M/s. Vedanta Ltd-IPP is calculated from the linkage coal and oil data submitted for the period from April-16 to Sept-16, and the proposed Energy Charge Rate for FY 2017-18 is calculated by GRIDCO considering 10% escalation on the weighted average ECR and it works out to be 168.30 Paise/kWh (i.e.153

- Paise/kWh*1.1). However, these coal and oil data so submitted are under consideration of GRIDCO. Accordingly, estimated rate of power procurement from M/s Vedanta Ltd has been worked to be 286 Paise/kWh (i.e. Fixed Charges plus Energy Charge Rate) by GRIDCO for the FY 2017-18 for 4792 MU as per the Para 35 (c) of Commission's Order 27.01.2016.
238. However, out of the said quantum, 839 MU shall be procured at Energy Charge Rate (ECR) i.e. @ 168.30 Paise/kWh. Therefore, the total quantum to be procured from Vedanta Ltd-(IPP) shall be 4792 MU at an estimated cost of Rs.1271.48 Crore at an average rate of 265.30 Paise/kWh.
239. The Commission observed that the MYT petition filed by M/s. Vedanta Ltd. (erstwhile Sesa Sterlite Ltd) before the Commission for the FY 2014-15 to 2018-19 is under consideration. The Commission in its order dated 27.01.2016 passed in Case No. 21/2015 has concluded that Unit-II of the 4x600 MW power plant of M/s. Vedanta Ltd. will continue to remain as IPP and connected to the State Grid. Quantum of power supply to GRIDCO towards State entitlement should be 25% (at full cost) and 7% / 5% (at variable cost) of total energy sent out from the power station as per the PPA in force. The Unit-II must remain connected to STU as State dedicated unit and accordingly supply to GRIDCO must be 25% + 7%/5% of total energy sent out from the power station or total ex-bus generation from Unit-II whichever is higher. Such quantum of power supply should not be disturbed at any point of time. Unit – I, III & IV of the power plant are allowed to be converted to CGP w.e.f. 01.04.2015. The above conversion is based on the assurance of the Petitioner that in case of low or no generation in Unit-II, the Petitioner shall meet its commitment in the PPA from the CGP units and its pricing shall be as per the relevant IPP Regulations of the Commission. The coal used for generating power for State entitlement shall be linkage coal / captive mines allocated to the Petitioner for State use.
240. In view of the above, for the purpose of computation of ARR of GRIDCO for the FY 2017-18, the Commission considers the fixed cost as approved for FY 2013-14 to be applicable for the FY 2017-18. Accordingly, the fixed cost is considered at 90.25 Paise/unit. Further, considering the average Linkage coal & Oil price indicated in the monthly bills of M/s. Vedanta Limited from the month of April'16 to Jan'17 as submitted by GRIDCO, the energy charge rate is computed as 160.97 p/u. Accordingly, the provisional tariff for the IPP of M/s. Vedanta Ltd. for the FY 2017-

18 is fixed at 251.22 p/u comprising of the energy charge of 160.97 p/u and fixed charges of 90.25 p/u. The Commission has earlier approved the power procurement of 5039.45 MU (4199.54 MU at fixed & variable cost and 839.91 at variable cost only) from M/s. Vedanta Ltd. for state use. Further, the Commission allows Rs. 8.04 Crore in tariff towards payment of E.D. on normative auxiliary consumption. Accordingly the average tariff for Vedanta Ltd comes to 237.78 P/U. The Commission provisionally consider the same for the FY 2017-18 for procurement of power from M/s. Vedanta Ltd. Therefore, the power procurement cost is estimated at Rs.1198.28 crore considering the approved quantum of 5039.45 MU to be procured from M/s. Vedanta Ltd. for state use during the FY 2017-18. As stated earlier this figures are provisional to estimate the ARR of GRIDCO and the final tariff will be determined by the Commission after disposal of the Tariff petitions filed by M/s. Vedanta Ltd. before the Commission.

M/s GMR Kamalanga Energy Ltd.

241. GRIDCO has submitted that at present it is procuring power from M/s. GKEL at the provisional rate of 275 Paise/kWh as fixed by the Commission in the ARR order of GRIDCO for 2016-17. However, CERC vide its Order dated 12.11.2015 in Petition No.77/GT/2013 has pronounced the Tariff Order in respect of GKEL till 31st March, 2014. Further, Appeal No.74/2014 filed by GRIDCO before the APTEL against the maintainability of CERC order 03.01.2014 in the matter of jurisdiction of CERC for determination of tariff (of the IPP which comes in the category of Composite Scheme) in respect of 25% State entitlement has been dismissed by the Hon'ble APTEL vide Order dated 7th April, 2016. The said APTEL judgement dated 7th April, 2016 has been challenged by GRIDCO before the Hon'ble Supreme Court of India in Civil Appeal No.5415 of 2016 and the matter is sub-judice at present. Further, GRIDCO has also challenged the CERC Tariff Order 12.11.2015 (in Petition No.77/GT/2013 for 2013-14) before APTEL in Appeal No.45 of 2016 in respect of GRIDCO's share of power. M/s. GKEL had also challenged the said order before APTEL in Appeal No.35 of 2016. Both the Appeals have been clubbed up for analogous hearing. The hearing of Appeal No.35 of 2016 filed by M/s. GKEL commenced on 15th October, 2016 whereas that of Appeal No.45 of 2016 filed by GRIDCO is yet to begin before the APTEL. Further, M/s. GKEL had filed application for determination of tariff for the control period 2014-19 before the CERC admitted as Petition No.61/GT/2016

along with truing-up for 2013-14. However, the Annual Fixed Charges proposed by M/s. GKEL for the Control Period 2014-19 in Petition No. 61/GT/2016 are as follows:

Table-30

Item	2014-15	2015-16	2016-17	2017-18	2018-19
AFC (Rs. Cr.)	1352.76	1388.04	1414.52	1410.01	1383.78
GRIDCO's share of AFC (Rs. Cr.)	338.19	347.01	353.63	352.50	345.94

242. GRIDCO has further submitted that as per the generation plan for FY 2017-18 and tentative tariff calculation furnished by M/s. GKEL to GRIDCO, the Annual Fixed Charges of Rs.1410.01Crores for the Station has been considered for FY 2017-18 as filed by M/s. GKEL in its tariff petition before CERC. Accordingly M/s. GKEL has derived the fixed cost to be 194 Paise/kWh, taking into account normative generation at 85% PLF and 7.5% Auxiliary Energy Consumption. The ECR projected by GKEL is 159 Paise/kWh with the total rate of 353 Paise/kWh. Based on the same principle, GRIDCO in its ARR application has computed the fixed cost at 193 Paise/kWh considering the Annual Fixed Charges for the Station to be Rs.1410.01Crores as per the tariff filing made by GKEL and ECR at 159.28 Paise/kWh considering the average of the actual ECR based on use of linkage coal only and proposed the total power procurement cost of Rs.535.50 Crore towards procurement of 1517 MU from GKEL at the average rate of 353.00 Paise /kWh for the FY 2017-18.
243. The Commission observed from the submission of GRIDCO that as per PPA with M/s. GMR Kamalanga Energy Ltd., GRIDCO is entitled to procure 25% of the power sent out at the tariff to be determined by the Commission and the power generated in excess of 80% PLF shall be made available to the state at variable cost. However, it is observed that CERC Tariff Order dated 12.11.2015 passed in Petition No.77/GT/2013 in respect of the Tariff of M/s GKEL till 31st March, 2014, has been challenged by GRIDCO before APTEL in Appeal No.45 of 2016. Further, APTEL judgement dated 7th April, 2016 passed in Appeal No.74/2014 has been challenged by GRIDCO before the Hon'ble Supreme Court of India in Civil Appeal No.5415 of 2016 and the matter is sub-judice at present. Further, the application filed by M/s. GKEL before CERC for determination of tariff for the control period 2014-19 along with the truing up of the fixed cost for FY 2013-14 is yet to be disposed of. Hence, pending the decisions of the aforesaid issues, the Commission, like previous year, considers the provisional

rate of 275 p/u for procurement of power from the IPP of M/s. GKEL during FY 2017-18. Accordingly, the power procurement cost is arrived at Rs.417.20 crore @ 275.00 p/u considering the approved quantum of 1517.10 MU (computed at the PLF of 70% based on the application of GRIDCO) for state use during the FY 2017-18. However, any excess generation beyond 80% PLF shall be purchased by GRIDCO at the variable cost i.e. ECR considering the linkage coal price. The tariff computed here is provisional and considered for computation of ARR of GRIDCO for the FY 2017-18. Any difference after finalization of tariff by the appropriate Commission will be considered in truing up exercise.

M/s Jindal India Thermal Power Ltd.

244. GRIDCO has submitted that M/s. JITPL have filed an Application on 08.03.2014 before the Commission for approval of Energy Charge Rate (ECR) for FY 2013-14 and 2014-15 in respect of their IPP admitted as Case No.26 of 2014. Now JITPL is supplying power @12% of tentative day ahead declaration citing the fact that allocation of coal block has been cancelled by Hon'ble Supreme Court of India and thus may be directed to clarify its status of linkage coal supply for generation of power for onward supply to GRIDCO for State consumption. However, pending disposal of the Case No-26 of 2014 by the Commission, GRIDCO has proposed to procure 372 MU of power from M/s. JITPL at a provisional ECR of 144.30 Paise/kWh considering 10% escalation over the average of actual Energy Charge Rate (ECR) for the period April-16 to September-16 (based on firm linkage coal only) as calculated from the monthly coal data submitted by M/s. JITPL along with the monthly energy bills. Accordingly, the total proposed procurement cost from M/s. JITPL for 372 MU @ 144.30 Paise/ kWh is worked out by GRIDCO to be Rs.53.69 Crore for FY 2017-18.
245. The Commission has earlier approved purchase of low cost power of 503.95 MU from the IPP of M/s JITPL during the FY 2017-18 for State use at variable cost. Considering GRIDCO submission and the average Linkage coal price indicated in the monthly bills of M/s. JITPL from the month of April'16 to Jan'17 as submitted by GRIDCO, the energy charge rate comes to 127.73 p/u. Pending finalisation of the tariff of such power from M/s JITPL, the Commission considers a provisional rate of 127.73 p/u for the energy to be procured from the IPP of M/s JITPL during the FY 2017-18. Accordingly, the power procurement cost comes to Rs.64.37 cr. @ 127.73

p/u for purchase of the approved quantum of 503.95 MU by GRIDCO for State use. The tariff computed here is provisional and considered for computation of ARR of GRIDCO for the FY 2017-18.

246. Thus, the procurement cost of total 7060.49 MU from the above IPPs is Rs.1679.85 cr. at an average rate of 237.92 p/u as shown in the Table below:

Table -31
Power Procurement & Cost from IPPs during FY 2017-18

IPPs	Quantity	Provisional Rate	Cost
	(MU)	(P/U)	(Rs. Crore)
M/s. Vedanta Ltd.	5039.45	237.78	1198.28
M/s GMR Kamalanga Ltd.	1517.10	275.00	417.20
M/s Jindal India Thermal Power Ltd.	503.95	127.73	64.37
Total	7060.49	237.92	1679.85

247. Pending finalization of the tariff for the aforesaid IPPs, the Commission considers the above price provisionally for the purpose of computation of ARR of GRIDCO for the FY 2017-18. However, GRIDCO may make payment of the energy bill of these IPPs after due scrutiny as per the PPA and tariff determined by the appropriate Commission. Further, the Commission directs that deviations /adjustment in revenue, if any, after finalization of tariff shall be considered in the truing up exercise.

Central Hydro Generating Stations

248. **Chukha:** In its application, GRIDCO has submitted that the procurement cost of power from Chukha for FY 2017-18 has been considered as 229.00 P/U (including trading margin @ 4 paise/unit) based on the Office Memorandum dated 06.01.2016 of Ministry of External Affairs, Govt. of India regarding withdrawal of subsidy provided by Ministry of External Affairs w.e.f. 01.04.2017. GRIDCO has, therefore, proposed a rate of 234.22 paise/unit towards drawal of power from Chukha hydro power stations for the FY 2017-18 including Central Transmission Loss of 2.23%, but excluding transmission charges of PGCIL. Thus, the power purchase cost of 256.00 MU as proposed by GRIDCO works out to Rs.59.96 crore.
249. The Commission scrutinized the submission of GRIDCO and approves the rate of 233.84 paise/unit considering the central transmission loss @ 2.07% for the power procurement from Chukha for FY 2017-18. So the cost for Chukha power comes to Rs.59.99 crore for the approved drawal of 256.52 MU for FY 2017-18. The details are given in Table below.

Table – 32

	GRIDCO's Proposal for FY 2017-18	Commission's Approval for FY 2017-18
Net Energy Drawal (MU)	256.00	256.52
Energy Charge (P/U)	229.00	229.00
Energy Charge incl. Tr. Loss (P/U)	234.22 (C.T.L. of 2.23%)	233.84 (C.T.L. of 2.07%)
Cost of Chukka Power (Rs. Crore)	59.96	59.99

250. **TALA:** GRIDCO has proposed the rate of 202 P/U (including trading margin @ 4 paise/unit payable to PTC India) for estimating the power purchase cost from TALA during the FY 2017-18. This rate of 202 P/U is based on the bills served to GRIDCO. Considering Central Transmission Loss of 2.23%, the rate of TALA Power comes to 206.61 p/u. Considering the drawl of 140.00 MU, the power purchase cost from TALA HEP worked out to be Rs.28.92 crore for the FY 2017-18 excluding transmission charges of PGCIL.
251. The Commission scrutinized the above proposal of GRIDCO and approves the rate of 206.27 paise/unit considering the central transmission loss @ 2.07% for the power procurement from TALA HEP for FY 2017-18. So the cost of TALA power comes to Rs.28.98 crore for the approved drawal of 140.51 MU for FY 2017-18. The details are given in Table below.

Table – 33

	GRIDCO Proposal for 2017-18	Commission's Approval for 2017-18
Net Energy Drawal MU	140.00	140.51
Energy Charge (P/U)	202.00	202.00
Energy Charge incl. Tr.Loss (P/U)	206.61 (C.T.L. of 2.23%)	206.27 (C.T.L. of 2.07%)
Cost of Tala Power (Rs. In Cr.)	28.92	28.98

252. **TEESTA:** GRIDCO has stated that the Energy Charge Rate (ECR) being claimed by NHPC-TEESTA in the present bills is 115.10 P/U. The ECR in case of TEESTA station constitute 50% of the total charges and balance 50% constitute the fixed charges. Thus, the per unit fixed charge for TEESTA station works out to 115.10 p/u, the total per unit cost being 230.20 p/u. Considering the central sector loss @ 2.23% the proposed rate for TEESTA works out to 235.45 p/u. So, the power purchase cost from TEESTA-V HEP estimated by GRIDCO comes to Rs.120.55 crore considering the proposed drawl of 512.00 MU for FY 2017-18.

253. After due scrutiny, the Commission observed that as per the CERC order dated 16.08.2016, the Annual Fixed charges of TEESTA-V is approved at Rs. 518.74 crore and accordingly the average rate of TEESTA Power comes to 231.91 p/u considering the saleable energy of 2236.81 MU. Hence, the average rate per unit of TEESTA power computed to be 237.01 P/U inclusive of central transmission loss of 2.15% for FY 2017-18. Accordingly, the cost of TEESTA power comes to Rs.121.37 crore for the approved drawal of 512.11 MU during FY 2017-18. The details are given in Table below.

Table – 34

	GRIDCO Proposal for FY 2017-18	Commission's Approval for FY 2017-18
Net Energy Drawal MU	512.00	512.11
Energy Charge (P/U)	230.20	231.91
Energy Charge incl. Tr. Loss (P/U)	235.45 (C.T.L. of 2.23%)	237.01 (C.T.L. of 2.15%)
Cost of Teesta Power (Rs. In Crore)	120.55	121.37

Central Sector Thermal Power Stations:

254. GRIDCO in its ARR filing submitted that the Capacity Charges (Fixed Cost) of respective NTPC Stations are being claimed by NTPC as per the relevant Tariff Orders / Regulations notified by the CERC applicable from time to time. NTPC had filed Petitions before the CERC as per the CERC (Terms and Conditions of Tariff) Regulations, 2014 for determination of tariff for its various Generating Stations which are pending before the CERC except for TSTPS-I and KHSTPS-I for which respective Tariff Orders have been issued by CERC vide its orders dated 29.07.2016 and 30.07.2016 respectively. CERC vide its Order dtd. 25.01.16 in Petition No. 283/GT/2014 had clarified that the measurement of GCV of coal on “as received basis” shall be taken from the loaded wagons at the unloading point either manually or through Hydraulic Augur. Since NTPC had not submitted the required data regarding measurement of GCV of coal in compliance with the above directions, CERC, in the aforesaid orders dated 29.07.2016 & 30.07.2016 for TSTPS-I and KhSTPS-I respectively, has decided to compute the fuel components and the energy charges in the working capital by provisionally taking the GCV of coal on “as billed basis” and allowing the adjustment for total moisture as per the formula given as under:

$$GCVX(1-TM)/(1-IM)$$

Where, GCV= Gross Calorific value of coal

TM= Total moisture

IM= Inherent moisture

In these orders, CERC has computed the cost of fuel components in Working Capital at 83% NAPAF for the year 2014-15, 2015-16 and 2016-17 and at 85% NAPAF for the year 2017-18 & 2018-19 and based on “as billed” GCV of coal and price of coal procured by NTPC for the preceding 3 months. Similarly, the Energy Charge Rate (ECR) has been computed basing on the billed GCV with an adjustment on account of coal received at the generating station on equilibrated basis. Accordingly NTPC has recalculated the AFC as determined by the CERC as per new Interest on Working Capital based on Total Moisture Correction in GCV as mentioned above.

255. GRIDCO has submitted that other than KhSTPS-I and TSTPS-I, NTPC is raising the Capacity Charges of its Generating Stations on GRIDCO by applying the Fixed Cost determined by the Central Commission as per the CERC Tariff Regulations, 2009-14 and subsequent revision thereon regarding actual tax rate applicable to NTPC for the respective years. Similarly, for Barh Super Thermal Power Station-II (both for Unit-IV & Unit-V), the bill has been raised by NTPC at 85% of the tariff filed before the CERC. In the Tariff Petitions filed before CERC as per the CERC (Terms and Conditions of Tariff) Regulations, 2014, NTPC has claimed higher Fixed Cost for its different Generating Stations from which GRIDCO sources the power for Odisha share. It is very likely that such petitions may get finalised at any point of time, whereby the revised Tariff including the higher Fixed Cost as per the Regulations, 2014, may be approved by CERC. In such contingencies, GRIDCO in its present application has considered the Fixed Cost as filed by NTPC for its power stations except KhSTPS-I and TSTPS-I. Accordingly, GRIDCO has projected to pay about Rs.1002.52 Crore as Capacity Charge (Fixed Cost) towards its share from NTPC Stations at the availability of 85% irrespective of the drawl from these Stations during FY 2017-18 inherited by virtue of PPA. The apportionment of Fixed Cost has been made as per the share of GRIDCO from Central Thermal Stations. With inclusion of Central Transmission Loss (CTL), the projected Fixed Cost applicable to GRIDCO for its share of energy drawal from different Stations are shown in the Table below:

Table -35
Fixed Cost projected by GRIDCO for NTPC-ER Central Generating Stations for FY
2017-18
(Based on NTPC Tariff Applications before CERC)

Central Thermal Stations	Annual Fixed cost for FY 2009-14 as per CERC Orders (Rs. Cr.)	Annual Fixed Cost billed by NTPC as per actual tax rate for the year 2016-17 @ 21.3416% (Rs. Cr.)	Annual Fixed Cost filed by NTPC for FY 2017-18 before CERC (Rs. Cr.)	Annual Fixed Cost projected by GRIDCO for FY 2017-18 (As per filing made by NTPC) (Rs. Cr.)	GRIDCO Share (%)	GRIDCO F.C. share for FY2017-18 at Normative Availability of 85% / 70% (Rs. Cr.)	GRIDCO's Proposed drawal for FY2017-18 after C.S. Loss (MU)	Fixed Cost (P/U)
TSTPS -II	1125.8805	1066.8900	1025.1948	1025.1948	10.00	102.52	1365.25	75.09
FSTPS-I&II	908.7606	857.9060	1136.8409	1136.8409	13.81	156.98	1245.23	126.07
FSTPS-III	581.4423	555.3925	552.8765	552.8765	19.85	109.76	563.73	194.69
KhSTPS-II	1251.0683	1189.5830	1238.9190	1238.9190	2.24	27.73	190.19	145.80
Barh STPS - II (Unit-IV & Unit-V)**	1727.4450	1727.4450	2068.3080	2068.3080	14.79	305.87	1105.83	276.59
SUB-TOTAL (A)	5594.60			6022.14		702.86	4470.23	157.23

Based on respective CERC Orders
(for TSTPS-I & KhSTPS-I)

Central Thermal Stations	Annual Fixed cost for FY 2017-18 as per CERC Order (Rs. Cr.)	AFC Calculation Revised as per new Interest on Working Capital based on Total Moisture Correction in GCV (Rs. Cr.)	Annual Fixed Cost projected by GRIDCO for FY 2017-18 (Rs. Cr.)	GRIDCO Share (%)	GRIDCO F.C share for FY17-18 at 85% / 70% Cumulative Normative Availability (Rs. Cr.)	GRIDCO's Proposed drawal for FY17-18 after C.S. Loss (MU)	Fixed Cost (P/U)
TSTPS -I	652.8891	655.1411	655.1411	31.97	209.44	2193.53	95.48
KhSTPS-I	583.0806	585.7950	585.7950	15.40	90.22	707.59	127.50
SUB TOTAL (B)	1235.97	1240.94	1240.94		299.66	2901.12	103.29
TOTAL (A+B)	7258.11				1002.52	7371.35	136.00

* The AFC for the afore-mentioned Stations has been calculated basing upon the Tariff Orders of CERC for the period 2014-19 and revised there from, due to recalculation of interest on Working Capital basing upon the total moisture correction in GCV in compliance with the CERC order.

256. **Fixed Cost:** The Commission scrutinized the above proposal of GRIDCO and observed that GRIDCO has considered the Fixed Cost of Central Thermal Generating Stations as per the filing of NTPC (based on the CERC Tariff Regulations, 2014), except KhSTPS-I and TSTPS-I for which tariff orders have already been issued by CERC before filing of the present ARR & BSP Application by GRIDCO. The Commission observed that apart from the tariff orders for TSTPS-I & KhSTPS-I as submitted by GRIDCO, the tariff orders for the Central Generating Stations viz. TSTPS-II & KhSTPS-II have already been issued by CERC vide its orders dated

16.02.2017 and 21.01.2017 respectively after filing of the application by GRIDCO. Further, the Capacity Charges of the other NTPC Stations are now being billed on GRIDCO based on the Fixed Cost determined by the Central Commission as per the previous CERC (Terms and Conditions of Tariff) Regulations, 2009, factoring the actual tax rate applicable to NTPC for respective years. Therefore, to calculate the power purchase cost of central sector thermal stations provisionally towards State share of power, the Commission consider the fixed cost of NTPC-ER stations as approved by CERC in its recent Tariff Orders based on CERC Tariff Regulations, 2014 and for other power stations for which tariff orders have not been issued, based on the current billing by NTPC, as shown in table below:

Table – 36
Fixed Cost considered by the Commission for Central Thermal Stations for 2017-18

Name of Power Station	Fixed cost approved by CERC (Rs. In Cr.)	GRIDCO share estimated by the Commission (%)	GRIDCO's proposal for its share of Fixed Cost (Rs. In Cr.)	GRIDCO's proposal including Central Tr. Loss (P/U)	Commission's approval of Fixed Cost for 2017-18 (Rs. In Cr.)	Estimated energy after Central Tr. Loss (MU)	Commission's approval including Central Tr. Loss (P/U)
TSTPS –I	652.889	32.344	209.44	95.48	211.17	2218.42	95.19
TSTPS –II	958.070	10.000	102.52	75.09	95.81	1363.95	70.24
FSTPS-I & II	857.906	14.184	156.98	126.07	121.68	1551.89	78.41
FSTPS-III	471.971	20.170	109.76	194.69	95.20	694.96	136.98
KhSTPS- I	583.081	15.775	90.22	127.50	91.98	880.76	104.43
KhSTPS–II	1155.608	2.621	27.73	145.80	30.28	270.61	111.91

257. **Energy Charge Rate (ECR):** GRIDCO stated that as per the CERC Tariff Regulation, 2009-14, the cost of Secondary Fuel Oil (SFO) was included in fixed cost of the Thermal Central Generating Stations (CGSs). But, as per the CERC Tariff Regulations, 2014-19, it will now be included in the Energy Charges of CGSs. At present, NTPC is raising bills as per the earlier Regulations, 2009-14 for the CGSs viz. TSTPS-II, KhSTPS-II, FSTPS-I, II & III and for the CGSs TSTPS-I & KhSTPS-I, as per the tariff orders issued by CERC. For Barh STPS-II NTPC is raising energy charges bills as per the CERC Regulations, 2014-19. Since NTPC has filed Tariff Petition before the CERC based on the Tariff Regulations, 2014-19, GRIDCO in its ARR application has re-casted the ECRs as per the CERC Tariff Regulations, 2014-19 and escalated the same by 10% for the FY 2017-18. The ECRs of the Central Thermal Generating Stations including the Central Sector Transmission Loss have been projected by GRIDCO as shown in the table below:

Table – 37
Energy Charge Rate of NTPC Stations Projected by GRIDCO for FY 2017-18

Central Thermal Stations	Weighted Average ECR of 1 st six months of FY 2016-17 (Apr.'16 to Sept.'16) as billed by NTPC	Energy Charge Rate (ECR) of NTPC Stations recasted by GRIDCO as per the Regulation 2014-19	Energy Charge Rate projected by GRIDCO for 2017-18 considering 10% escalation on ECR recasted as per CERC Regulations, 2014-19	Projection for FY 2017-18 including Central Sector Loss
	(P/U)	(P/U)	(P/U)	(P/U)
TSTPS-I	160.965	160.965	177.062	181.101
TSTPS-II	159.048	160.820	176.902	181.867
FSTPS-I&II	246.691	289.364	318.300	323.904
FSTPS-III	245.110	293.824	323.206	328.896
KhSTPS-I	238.559	238.559	262.415	267.716
KhSTPS-II	224.398	247.620	272.385	277.887
Barh STPS-II (Unit-IV & V)	274.281	274.281	301.709	307.804

258. Actual bills submitted by NTPC to GRIDCO are scrutinized and it is observed that the ECR of the Central Generating Stations (except TSTPS-I & II) has decreased as compared to the approval for FY 2016-17. The details of Price of Coal, GCV & ECR as per the bills served by NTPC to GRIDCO for the period from April, 2016 to January, 2017 are given in the table below:

Table-38
Price of Coal & GCV of CGS

MONTH	FSTPS - I & II			FSTPS-III	KSTPS-I			KSTPS -II	TSTPS-I			TSTPS - II
	Cost of Coal (Rs./MT)	GCV of Coal Kcal/Kg	ECR Rs./ KWH	ECR Rs./ KWH	Cost of Coal (Rs./MT)	GCV of Coal Kcal/Kg	ECR Rs./ KWH	ECR Rs./ KWH	Cost of Coal (Rs./MT)	GCV of Coal Kcal/Kg	ECR Rs./ KWH	ECR Rs./ KWH
Apr-16	2,874.3	3,442.0	2.14	2.19	2,019.8	2,815.0	1.95	1.86	1,795.5	3,084.0	1.48	1.48
May-16	3,084.1	3,503.0	2.25	2.27	2,440.6	2,848.0	2.32	2.22	1,902.4	2,914.0	1.66	1.66
Jun-16	3,237.5	3,520.0	2.35	2.37	2,655.6	2,890.0	2.49	2.37	1,869.7	2,860.0	1.66	1.66
Jul-16	3,419.2	3,364.0	2.60	2.62	2,667.1	2,810.0	2.57	2.45	2,109.8	3,251.0	1.65	1.65
Aug-16	3,492.3	3,443.0	2.60	2.61	2,563.6	2,813.0	2.46	2.36	2,111.3	3,252.0	1.65	1.65
Sep-16	3,595.3	3,467.0	2.65	2.67	2,682.2	2,810.0	2.58	2.47	1,987.4	3,250.0	1.55	1.55
Oct-16	3,627.1	3,791.0	2.45	2.46	2,593.7	2,686.0	2.61	2.50	2,081.0	3,350.0	1.58	1.58
Nov-16	3,501.4	3,692.0	2.43	2.44	2,680.8	3,084.0	2.35	2.25	2,210.1	3,397.0	1.65	1.65
Dec-16	3,619.9	3,911.0	2.37	2.38	2,798.0	3,318.0	2.28	2.18	2,205.0	3,300.0	1.70	1.70
Jan-17	4,118.3	4,251.0	2.48	2.50	2,828.6	3,305.0	2.32	2.21	2,056.2	3,121.0	1.67	1.67
Avg from 4/16 to 1/17	3,456.9	3,638.4	2.43	2.45	2,593.0	2,937.9	2.39	2.28	2,032.8	3,177.9	1.62	1.63

259. From the above table it is found that the ECR for FSTPS-I & II varies from 213.70 p/u to 265.40 p/u, for FSTPS-III it varies from 219.40 p/u to 266.80 p/u, for KhSTPS-I, it varies from 194.50 p/u to 261.00 p/u, for KhSTPS-II, it varies from 186.30 p/u to

249.50 p/u and for TSTPS-I & II, it varies from 148.00 p/u to 169.70 p/u for the period from April, 2016 to January, 2017. It is observed that the ECRs of the central generating stations have not followed a particular pattern in their variations. Therefore, reaching a conclusion on likely ECRs of different power stations for the ensuing year is difficult. The comparisons of ECRs of different central thermal stations are given below.

Table – 39

Central Thermal Stations	Approved ECR for 2016-17	GRIDCO Proposal for 2017-18 (considering 10% escalation on average ECR recasted as per CERC Regulations)	Max. ECR from 04/16 to 01/17	Min. ECR from 04/16 to 01/17	Avg. of actual ECR for 2016-17 (from April'16 to Jan.'17)
	(P/U)	(P/U)	(P/U)	(P/U)	(P/U)
TSTPS-I	145.97	177.06	169.50	148.20	162.30
TSTPS-II	145.97	176.90	169.70	148.00	162.60
FSTPS- I & II	304.81	318.30	265.40	213.70	243.10
FSTPS- III	307.12	323.21	266.80	219.40	245.20
KHSTPS-I	268.51	262.42	261.00	194.50	238.80
KHSTPS-II	256.30	272.38	249.50	186.30	228.20

260. The wide variation in ECR in recent times may be due to use of different types of coal used by NTPC in its plants for power generation. Hence, the actual ECR of the Central Thermal Power Stations for the ensuing year is unpredictable. Therefore, the Commission, for the purpose of computation of ARR of GRIDCO for FY 2017-18, considers the average of actual ECR of first ten months of the current FY 2016-17 (i.e. from April, 2016 to January, 2017) of the Central Thermal Power Stations as indicated in Table below.

Table – 40
Energy Charge Rate (ECR) of CGSs approved for 2017-18

(Paise/Unit)

Central Thermal Stations	GRIDCO's Proposal for 2017-18 (considering 10% escalation on average ECR recasted as per CERC Regulations)	Approval of the Commission considering the Avg. of actual ECR from April, 2016 to Jan, 2017 (excluding central Tr. Loss)	Approval of the Commission including central Tr. Loss
TSTPS-I	177.06	162.30	166.06
TSTPS-II	176.90	162.60	167.32
FSTPS-I & II	318.30	243.10	247.58
FSTPS -III	323.21	245.20	249.71

Central Thermal Stations	GRIDCO's Proposal for 2017-18 (considering 10% escalation on average ECR recasted as per CERC Regulations)	Approval of the Commission considering the Avg. of actual ECR from April, 2016 to Jan, 2017 (excluding central Tr. Loss)	Approval of the Commission including central Tr. Loss
KHSTPS-I	262.42	238.80	243.44
KHSTPS-II	272.38	228.20	232.63

261. In case of any variation in ECR during 2017-18 over and above the rate approved by the Commission, the same may be recovered in accordance with the procedure and guidelines outlined in Appendix-7 read with the Regulations 60 of the OERC (Conduct of Business) Regulations, 2004. This would be over and above the normal tariff applicable. Alternatively such additional expenditure would be considered while determining the tariff for FY 2018-19.
262. **Year-end Adjustment Charges (YEA):** GRIDCO had proposed the year-end adjustment charges of central generating stations for FY 2017-18 to the tune of Rs. 21.73 crore in line with the actual for FY 2015-16 and FY 2016-17 (April to Sept'16) along with the projected Central Sector loss without considering FPA of secondary fuel oil.
263. The Commission scrutinized the above proposal of GRIDCO and accepted the Year-end Charges of Rs.9.31 Crore for the FY 2017-18 which is at the level of the actual Year-end Charges for the FY 2015-16 as proposed by GRIDCO except electricity duty and incentive. However, for Electricity Duty, the Commission approves Rs.6.72 Crore for FY 2017-18 considering normative auxiliary consumption and the Commission does not allow incentive due to consideration of normative generation. Accordingly, the year-end charges approved by the Commission including central transmission loss are given in the table below.

Table – 41
Year End Charges Approved for the FY 2017-18

Central Generating Stations	Water/ Pollution Cess (Rs. Cr.)	Electricity Duty (Rs. Cr.)	SOC & MOC charges (Rs. Cr.)	Total (Rs. Cr.)	Estimated energy after Central Tr. Loss (MU)	Rate including loss (P/U)	GRIDCO Proposal including loss (P/U)
TSTPS –I	0.08	4.15	0.45	4.68	2218.42	2.21	4.98
TSTPS-II	0.08	2.57	0.20	2.85	1363.95	2.09	6.68

Central Generating Stations	Water/ Pollution Cess (Rs. Cr.)	Electricity Duty (Rs. Cr.)	SOC & MOC charges (Rs. Cr.)	Total (Rs. Cr.)	Estimated energy after Central Tr. Loss (MU)	Rate including loss (P/U)	GRIDCO Proposal including loss (P/U)
FSTPS- I & II	1.02	0.00	0.21	1.23	1551.89	0.79	1.02
FSTPS – III	0.02	0.00	0.08	0.10	694.96	0.14	0.19
KhSTPS –I	0.16	0.00	0.12	0.28	880.76	0.32	0.40
KhSTPS –II	0.01	0.00	0.02	0.03	270.61	0.11	0.17

Transmission Charge for PGCIL System

264. GRIDCO in its ARR application has submitted that Transmission charges of PGCIL are being determined applying the norms and principles laid down by CERC from time to time. CERC vide its Order dtd.15.06.2010 have notified a Regulation known as CERC (Sharing of Inter State Transmission Charges and Losses) Regulation, 2010, amended vide CERC notifications dated 24.11.2011, 28.03.2012 and 01.04.2015. The last amendment came into force with effective from 01.05.2015. According to this Regulation, PGCIL Charges shall be shared applying Hybrid Methodology, which shall be sensitive to distance, direction & as well as quantum of power flow using load flow studies. The sharing of Inter-State Transmission System (ISTS) Charges shall be based on the technical and commercial information provided by various customers to the evaluating agency known as Implementing Agency which shall calculate the point of connection rates on quarterly basis for every customer (such as generator or demand customer) using the aforesaid method, for which Orders are being published by the CERC for the specified period from time to time. The Point of Connection (PoC) rates shall be on Rs/MW/Month basis. CERC vide its Order dtd.06.05.2016 have furnished the Slab PoC Rates for the period from April to June, 2016 taking into consideration the 3rd Amendment Regulations.
265. Accordingly, GRIDCO has received first part of the Bill (Bill #1) amounting to Rs.29.97 Crore towards recovery of charges for use of transmission assets of ISTS licensees for the month of April'16 for the approved Long Term Access (LTA) of 1315.71 MW. Based on the Weighted Average of Withdrawal Charges and Reliability Support Charges applicable for Odisha from April'16 to Sept'16 and considering an escalation of 10% on Account of Asset Addition, GRIDCO proposes to pay an amount of Rs.394.05 Crore for the ensuing year 2017-18.

266. GRIDCO has not been receiving any Bill towards the second part of Bill (Bill #2) due to absence of additional Medium Term Open Access. The third part of the Bill (Bill #3), which is basically quarterly adjustment in nature, are being received by GRIDCO on quarterly basis. GRIDCO has received bills on this account amounting to Rs.44.83 Crore for the period from April'16 to Sept'16. Accordingly, GRIDCO proposes Rs.89.66 Crore towards Bill #3 for the ensuing year 2017-18. PGCIL is also furnishing the deviation bills (Bill #4) as per the provision mentioned in the Regulation which is based on deviation from the approved withdrawal. Considering the bills received during the last six months and prorating the same for a year, GRIDCO proposes an amount of Rs. 0.44 Crore payable towards Bill #4 for the ensuing FY 2017-18.
267. Besides the above, GRIDCO has paid Rs. 3.21 Crore towards ULDC and Communication Charges for the period from Apr'16 to Sep'16 and prorating the same for the year, GRIDCO proposes to pay an amount of Rs. 6.42 Crore for the FY 2017-18. Further, GRIDCO has received an amount of Rs. 18.97 Crore towards Short-Term Open Access (STOA) Charges for the period from April,16 to Sept,16. Accordingly, GRIDCO proposes Rs.37.94 Crore to be received on account of STOA Charges for the FY 2017-18.
268. With the above submission, GRIDCO has estimated the net amount of Rs.452.61 Crore payable towards Transmission Charges for the ensuing year FY 2017-18. Considering energy drawal of 8832.87 MU and after allowing 2.16% of CTU loss, the per unit PGCIL Transmission Charge including loss has been worked out by GRIDCO to 52.37 P/U.
269. The Commission observed that the tariff for central transmission system is fixed by the principles and norms lay down by the CERC from time to time. Hence, the Commission feels it prudent to provisionally consider the PGCIL transmission charges in line with the CERC Regulations for the purpose of computation of the ARR of GRIDCO for FY 2017-18. The Commission scrutinized the submission of GRIDCO and estimated the PoC charges towards Bill #1 at Rs.395.82 crore based on the average of the charges paid / to be paid by GRIDCO from April'16 to March'17 as per CERC Orders for FY 2016-17 and considering an escalation of 5% on account of asset addition. Hence the Commission provisionally approves the amount of Rs.395.82 crore towards Bill #1 for the ensuing year 2017-18. Similarly, the

Commission scrutinized the Bill #3 raised for the month from April'16 to Dec'16 by PGCIL and pro-rating the same for the whole year the amount anticipated is Rs.50.57 crore. The Commission provisionally approves the same for the ensuing year 2017-18. The Commission scrutinized the Bill #4 towards Deviation charges of PGCIL for the period from April'16 to Dec'16 and pro-rating the same for the whole year the amounts comes to Rs.0.44 crore. The Commission provisionally approves the same for the ensuing year 2017-18. Further the Bill #2 has not yet been raised by PGCIL to GRIDCO due to absence of additional medium-term Open Access. Accordingly, the Commission provisionally approves the total amount of Rs.446.83 crore towards transmission charges of PGCIL for the FY 2017-18 on account of Bill #1, Bill #3 and Bill #4 against Rs.484.15 crore proposed by GRIDCO.

270. The Commission also scrutinized the ULDC & Communication Charges as proposed by GRIDCO in the ARR for FY 2017-18 and provisionally approves Rs.6.42 crore for pass through in the tariff as proposed by GRIDCO. Further the Commission observed that GRIDCO has collected an amount of Rs. 28.75 Crore from the Short-term OA Customers during April'16 to Dec.'16. Prorating the same for the whole year, the amount comes to Rs.38.33 Crore. Hence the Commission provisionally considers the amount of Rs.38.33 crore towards collection from Short-term Open Access Customers during the ensuing year 2017-18 and deducts the same from the total Transmission charges.

271. Taking all the above costs into account the Commission approves the PGCIL transmission charge payable by GRIDCO including the average projected Central Sector Loss of 2.15% for the year 2017-18 at 42.68 P/U. The details of total cost towards PGCIL transmission charges is indicated in the table below:

Table – 42
PGCIL Transmission Charges for FY 2017-18

Particulars	GRIDCO's Proposal	Commission's Approval
Transmission charge payable by GRIDCO for 2016-17 towards Bill#1 (Rs. Cr.)	394.05	395.82
Deviation charges proposed towards bill #4 (Rs. Cr.)	0.44	0.44
Year End Charges proposed towards Bill #3 (Rs. Cr.)	89.66	50.57
Total (Rs. Cr.)	484.15	446.83
ULD and Communication Charges (Rs. Cr.)	6.42	6.42
Less: allocable to short term customers(Rs. Cr.)	(-) 37.94	(-) 38.33

Particulars	GRIDCO's Proposal	Commission's Approval
Net amount payable by GRIDCO towards Transmission Charges (Rs. Cr.)	452.63	414.92

272. Taking all the above cost into account the summary of power purchase from Central Thermal Generating Stations and its cost for GRIDCO estimated for FY 2017-18 is given in the table below:

Table – 43

Sl. No.	Generators	Estimated Energy (MU)	Fixed Cost (Rs. In Crore)	Fixed Cost (P/U)	Energy Charge Rate (P/U)	Other Cost (P/U)	Total Rate (P/U)	TOTAL Cost (Rs Cr)
1	TSTPS St-I	2218.42	211.17	95.19	166.06	2.11	263.36	584.25
2	TSTPS St-II	1363.95	95.81	70.24	167.32	2.09	239.65	326.88
3	FSTPS I & II	1551.89	121.68	78.41	247.58	0.79	326.78	290.35**
4	FSTPS III	694.96	95.20	136.98	249.71	0.14	386.84	95.20*
5	KhTPS St-I	880.76	91.98	104.43	243.44	0.32	348.19	306.67
6	KhTPS St-II	270.61	30.28	111.91	232.63	0.11	344.65	93.27
NB:	(i) The rates include Central Transmission Loss. (ii) * No energy is considered for State drawal. Full fixed cost is allowed. (iii) ** Only 679.09 MU is considered for State drawal. Full fixed cost is allowed.							

273. Further, GRIDCO has projected an amount of Rs.2.93 crore towards payment of ERLDC fees and charges consisting of System Operation Charges (SOC) and Market Operation Charges (MOC) for the FY 2017-18. GRIDCO submitted that CERC vide its order dtd.18.05.2015 had framed Regulation on CERC (Fees and Charges of Regional Load Despatch Centres & Other Related Matters) Regulations, 2015 which is applicable during the control period from 01.04.2014 to 31.03.2019, based on which ERLDC shall levy and collect fees and charges from the users towards its SOC and MOC. GRIDCO being the 'State Designated Entity' under the 'Single Buyer Model' has the Odisha Share allocation from the Central Sector Generating Stations in its favour and thus comes under the category of Distribution Utility/ Buyers and hence, liable to pay the SOC & MOC claimed by the ERLDC. The total projected SOC & MOC payable by GRIDCO to ERLDC is calculated as Rs. 3.57 crore for the ensuing year 2017-18. The Commission approves the same as pass through in the tariff.

274. GRIDCO's proposal for the cost of power purchase from various generating stations and the Commission's approval based on least cost power purchase for the FY 2017-18 are given in the table below:

Table – 44
GRIDCO's Proposal & Commission's Approval for FY 2017-18

Generators	GRIDCO's PROPOSAL			COMMISSION's APPROVAL		
	Energy	Total Rate	Total cost	Energy	Total Rate	Total cost
	MU	P/U	Rs.in Cr.	MU	P/U	Rs.in Cr.
HYDRO (OLD)	3,654.32	92.44	337.79	3,676.86	89.16	327.82
Indravati	1,944.36	76.70	149.13	1,942.38	77.50	150.53
Machakund	262.50	55.09	14.46	262.50	55.07	14.46
Total Hydro	5,861.18	85.54	501.38	5,881.74	83.78	492.80
OPGC	2,796.22	236.91	662.44	2,861.50	196.26	561.60
TTPS (NTPC)	3,162.93	327.39	1,035.51	3,162.93	306.45	969.28
IPPs	6,681.00	278.53	1,860.83	7060.49	237.92	1,679.85
CGPs	-	-	-	-	-	-
Renewable						
Total Small Hydro	320.00	368.94	118.06	320.00	368.94	118.06
Biomass Energy	80.00	578.00	46.24	80.00	616.00	49.28
Solar Energy	363.00	615.01	223.25	363.00	615.00	223.25
TOTAL STATE	19,264.33	230.88	4,447.71	19,729.66	207.51	4,094.12
CHUKHA	256.00	286.60	73.37	256.52	233.84	59.99
Tala HPS	140.00	259.00	36.26	140.51	206.27	28.98
Teesta-V	512.00	287.81	147.36	512.11	237.01	121.37
Total Central Hydro	908.00	283.03	256.99	909.14	231.36	210.34
TSTPS St-I	2,193.53	333.93	732.49	2,218.42	263.36	584.25
TSTPS St-II	1,365.25	316.02	431.44	1,363.95	239.65	326.88
FSTPS I & II	1,245.23	503.36	626.80	679.09	326.78	290.35**
FSTPS III	563.73	576.16	324.80	-	386.84	95.20*
KhTPS St-I	707.59	447.97	316.98	880.76	348.19	306.67
KhTPS St-II	190.19	476.26	90.58	270.61	344.65	93.27
Barh STPS – I & II	1,105.83	636.90	704.30	-	-	-
Total Central Thermal	7,371.35	437.83	3,227.39	5,412.83	313.44	1,696.61
Total Central Sector	8,279.35	420.85	3,484.38	6,321.97	301.64	1,906.95
PGCIL Tr Charge						414.92
ERLDC Charges			2.93			3.57
TOTAL GRIDCO	27,543.68	287.98	7,932.09	26,051.63	246.42	6,419.56

NB: * No energy is considered for State drawal. Full fixed cost is allowed.

** Only 679.09 MU is considered for State drawal. Full fixed cost is allowed.

Rebate for Prompt Payment from the Generators

275. The PPA between the generators and GRIDCO provides for a rebate of 2% on the gross power bill, if payment is made through Letter of Credit. 1% rebate on the billed amount is allowed when payment is made within 30 days. In case of payment beyond

the due date, delayed payment surcharge @ 1.25% per month is payable by GRIDCO to the generators.

276. For the purpose of calculation of revenue requirement, the cost of power should be calculated at its gross value, as the rebate available from the generator is likely to offset the rebate that will be allowed to the DISCOMs for payment through L.C.

Pass through of Arrear Power Purchase Dues

277. GRIDCO has proposed expenses of Rs.875.56 crore incurred/to be incurred till 2017-18 as a pass through in the ARR of 2017-18. The details of proposed expenses claimed by GRIDCO as a pass through is given hereunder.

Arrear payment to NTPC in respect of TTPS:

278. GRIDCO has submitted that as per the CERC tariff order 15.05.2014 in Petition No.304 of 2009, GRIDCO was making payment to NTPC towards power procurement cost in respect of TTPS till the month of July, 2016. However, the Annual Fixed Charges in respect of TTPS for the financial years 2009-10 to 2013-14 has been revised vide the final order dated 31.08.2016 pronounced by CERC in the Truing-up Petition No.273/GT/2014. Accordingly, NTPC has claimed an amount of Rs. 35.56 Crore as differential arrear (including interest charges of Rs.3.50 Crore) based on the said Final Truing-Up Order along with their monthly energy bill raised for the month of Aug'16. Subsequently, CERC pronounced the Tariff Order on 26.09.2016 in Petition No.334/GT/2016 in respect of TTPS for the Control period 2014-19 in line with the CERC Tariff regulation, 2014. The Annual Fixed Charges as fixed by CERC in respect of TTPS are as follows:

FY	2014-15	2015-16	2016-17	2017-18	2018-19
AFC (Rs. Crore)	367.9727	385.4905	406.17	426.9269	444.7101

279. Accordingly, NTPC has raised the arrear bill for an amount of Rs.68.84 Crore in October, 2016 and GRIDCO has already made payment of the said amount. GRIDCO has requested the Commission to consider the above and allow the arrear payment of Rs.104.41 Crore in respect of TTPS as pass through in the ARR of GRIDCO for 2017-18.
280. The Commission observed that CERC vide its Order dated 15.05.2014 passed in Petition No.304 of 2009 had determined the year wise annual fixed charges in respect of TTPS for the control period 2009-14 as per CERC Tariff Regulations, 2009 and

GRIDCO had filed an appeal before APTEL, New Delhi against the said CERC order which was admitted as Appeal No.180 of 2014. Similarly, GRIDCO had also filed a Writ Petition before Hon'ble High Court of Orissa against the CERC Tariff Regulation, 2009 in the matter of high normative O & M expenditures and relaxed norms of operation of Thermal Power Plant of TTPS. Both the petitions of GRIDCO are now sub-judice before the respective Forums. However, in the meantime CERC vide its order dated 31.08.2016, passed in the Truing-up Petition No-273/GT/2014 filed by NTPC, has finalised the annual fixed charges in respect of TTPS for the control period 2009-14. Accordingly NTPC has claimed an amount of Rs. 35.56 Crore on GRIDCO towards differential arrear (including the interest charge of Rs. 3.50 Crore), which has already been paid by GRIDCO. Since, this arrear amount of Rs. 35.56 Crore has already been paid by GRIDCO, the Commission decided to pass through this amount in the ARR of GRIDCO for the FY 2017-18 subject to outcome of the judgments of the aforesaid judicial forums. Further CERC vide its order dated 29.09.2016 passed in Petition No-334/GT/2016 has determined the annual fixed charges in respect of TTPS for the control period 2014-19 based on the CERC Tariff Regulations, 2014. Accordingly NTPC has raised an arrear bill amounting to Rs. 68.84 Crore which has already been paid by GRIDCO. Since, this arrear amount of Rs. 68.84 Crore has already been paid by GRIDCO, the Commission decided to pass through the amount in the ARR of GRIDCO for the FY 2017-18. Accordingly, the Commission approves an amount of Rs. 104.40 Crore (Rs. 35.56 + Rs. 68.84) as pass through in the ARR of GRIDCO for FY 2017-18 as claimed by GRIDCO.

Arrear payment in respect of NTPC-Barh STPS, FSTPS-I,II&III, KHSTPS-I station

281. GRIDCO has submitted that the Commission while approving ARR & BSP for FY 2016-17, had not considered the energy and procurement cost towards purchase of power from Barh STPS-II (Unit-IV& Unit-V) stating that steps ought to be taken for surrender of such costly power. Accordingly, the State of Odisha requested the Ministry of Power, Government of India for de-allocation of power from Barh STPS of NTPC and following Odisha's request (coupled with that of other States) to de-allocate costly power from Central Generating Stations, Ministry of Power, Government of India notified for such de-allocation seeking interest from other States to avail such power so that suitable reallocation could be considered in favour of those States. However, none of the States has expressed willingness till now to purchase

such surrendered power from Barh Station. In the meantime the commercial operation of Unit-V of Barh-II has already started since 18.02.2016. Most of the time the requisition from these stations is made nil by GRIDCO, however the energy is being thrust upon GRIDCO in view of minimum technical generation of the plant to keep it running. However, during exigency condition in summer or due to obligation to return power under power banking arrangement GRIDCO is forced to schedule power from this station. Therefore, GRIDCO is entirely bearing the financial burden towards entitlement of power from Barh-II (Unit-IV& Unit-V) Station and has paid an amount of Rs. 357.33 Crore from October'15 to September'16. Since, de-allocation is yet to be effected by Ministry of Power, Govt. of India and GRIDCO has actually paid the aforesaid amount of Rs.357.33 Crore, GRIDCO has requested the Commission to allow the same as pass through during the approval of ARR & BSP for FY 2017-18. GRIDCO has further submitted that a sum of Rs. 413.83 Crore has also been paid by GRIDCO towards arrear of all other NTPC Stations (except for Barh-II) for the period from Apr.'16 to Sept.'16. The total amount of Rs. 771.16 Crore has been claimed by GRIDCO towards arrear payment to NTPC central generating stations as given in the Table below:

Table-45
Proposed Pass through Expenses in respect of NTPC Stations

Arrear in respect of NTPC as per actual billing by NTPC	Amount in (Rs. Crore)
<ul style="list-style-type: none"> • Arrear towards Barh-II STPS from Oct.'15 to Sept.'16 • Arrear of all NTPC Stations (Except Barh-II) prior to April'16 • Arrear towards FSTPS-I&II from Apr.'16 to Sept.'16 • Arrear towards FSTPS-III from Apr.'16 to Sept.'16 • Arrear towards KhSTPS STPS from Apr.'16 to Sept.'16 	<p>357.33</p> <p>134.34</p> <p>168.12</p> <p>78.41</p> <p>32.96</p>
Total amount proposed for pass Through in the ARR & BSP for FY 2017-18	771.16

282. The Commission in ARR & BSP order for the FY 2015-16 had not approved any energy drawal from Barh STPS-II of NTPC and directed GRIDCO and the State Government to take up the matter with Ministry of Power, Govt. of India for immediate de-allocation of power to the State of Odisha from Barh STPS-II because the cost of power from this power station was very high and low cost power was available to GRIDCO from other sources. However, in the BSP order for the FY 2016-17, the Commission had allowed an amount of Rs. 167.14 Crore as pass through towards claim of GRIDCO on account of power purchase from Barh-II station during

the period from November'14 to September'15, keeping in view the 1st year of operation of Barh STPS-II and at the same time both GRIDCO and the State Government were again directed to expedite the matter with Ministry of Power, Govt. of India for earliest de-allocation of power from Barh STPS-II or appeal before CERC/APTEL for reduction of tariff of this power station. In that order GRIDCO was also advised to explore legal options in the event of failure with the above efforts. Now, GRIDCO has submitted before the Commission to allow Rs.357.33 Crore as pass through towards power purchase from Barh STPS-II during the period from October'15 to September'16. Many objectors have also raised the issue of purchasing such high cost power from the central generating stations where low cost power could be available to GRIDCO. As observed elsewhere in this order the issue of drawal from Barh-II power station involves both State Government and Central Government. GRIDCO may also take legal recourse in this regard. In view of the above we do not allow Rs.357.33 crore to GRIDCO as a pass through for power drawal from Barh-II during October, 2015 to September, 2016. GRIDCO is advised to move the State Government for resolution of the arrear dues and any cost involved in the drawal of power from Barh-II power station. We also advise the State Government to bear this cost, so that it does not put extra burden on the consumers.

283. Regarding the claim of GRIDCO towards arrear payment in respect of other NTPC central generating stations (except Barh STPS-II) as indicated in the above Table 45, it is pertinent to mention here that in the previous BSP orders, the Commission has estimated power procurement by GRIDCO on merit order basis for meeting the State requirement. Now, GRIDCO has claimed an amount of Rs.413.83 crores as pass through for payment of arrear dues of Central Thermal Generating Stations other than Barh-II. It could not be ascertained from the filing of GRIDCO whether this arrear dues relates to quantum of power already approved in the relevant year tariff order or overdrawal beyond what has been approved by the Commission for GRIDCO. The above things can be ascertained when audited accounts will be available and the Commission resort to truing up for that period. The Commission sought details of power purchase from GRIDCO, which is awaited. However, to reduce the burden on GRIDCO, the Commission allows Rs. 50.00 crore only in this account in the ARR of GRIDCO for FY 2017-18.

Reimbursement to OHPC during FY 2017-18

284. The Commission while passing the order in ARR and Tariff application of OHPC for the FY 2017-18 in Case No.61 of 2016 has allowed an amount of Rs.24.95 Crore for reimbursement by GRIDCO during the FY 2017-18 as given in the table below. The Commission approves the same in the ARR of GRIDCO for the FY 2017-18.

Table – 46

(Rs. in Cr.)

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(a) License fee for use of water for generation of electricity	0.525	0.832	1.183	0.684	0.490	1.962	5.68
(b) ED on Auxiliary Consumption	0.079	0.125	0.177	0.103	0.074	0.294	0.85
(c) SLDC charges							1.44
(d) Application fees and publication expenses							0.26
(e) Fluctuation loss of PFC loan of Balimela HEP			5.65				5.65
(f) Contribution to ERPC							0.16
(g) Reimbursement of Income tax paid during FY 2015-16							10.91
Total							24.95

Reimbursement to OPGC during FY 2017-18

285. The Commission while passing the order in ARR and Tariff application of OPGC for the FY 2017-18 in Case No.62 of 2016 has allowed an amount of Rs.52.31 Crore for reimbursement by GRIDCO during the FY 2017-18 as given in the table below. The Commission approves the same in the ARR of GRIDCO for the FY 2017-18.

Table- 47

Sl. No.	Particulars	OERC Approval for FY 2017-18
1	Electricity Duty	7.97
2	Water Cess and Water Charges	6.35
3	Tax and Cess on Land	0.22
4	Electricity Inspection Fees	-
5	SOC and MOC for SLDC	0.33
6	ERPC Charges	0.16
7	Income Tax	37.07
8	Ash Utilisation expenses	-
9	Recovery of ARR and Tariff Petition Fees	0.21
	Total	52.31

Summary of Pass Through Expenses in the ARR & BSP for FY 2017-18

286. The proposed and approved Pass Through expenses in the ARR of GRIDCO for FY 2017-18 relating to Power Purchase Cost are given below:

Table - 48

(Rs. In Crore)

Particulars	Proposal of GRIDCO	Commission's approval
(i) Arrear payment in respect of TTPS (Differential AFC paid by GRIDCO to NTPC for the control period FY 2009-14 and FY 2014-15 to FY 2016-17 (upto Sept.'2016))	104.40	104.40
(ii) Arrear paid to NTPC in respect of Barh STPS-II for the period from Oct.'15 to Sept.'16	357.33	-
(iii) Arrear in respect of NTPC Stations (except Barh STPS-II) as per actual billing by NTPC	413.83	50.00
(iv) Reimbursement to OHPC during FY 2017-18	-	24.95
(v) Reimbursement to OPGC during FY 2017-18	-	52.31
Total amount for pass through in the ARR & BSP for FY 2017-18	875.57	231.66

GRIDCO FINANCE

Truing up of GRIDCO

287. GRIDCO in its submission has stated to file a copy of the audited account for the FY 2015-16 necessary for truing up. But in reply to query, GRIDCO submitted the authenticated account without attaching audit report. The Commission, therefore, decides to defer the truing up exercise till the audit report for FY 2015-16 is available.

Employees cost

288. The Annual Revenue Requirement for the Financial Year 2017-18 filed by GRIDCO includes an amount of Rs.11.06 crores towards employees cost, which is analysed in the table below:-

Table - 49

	2016-17 (Approved)	2017-18 (Proposed)	2015-16 (Actuals un-Audited)
Basic Pay+GP	2.13	6.00	2.13
DA	2.79	0.36	2.56
HRA	0.32	1.20	0.29
Medical Reimbursement	0.11	0.12	0.15
Others	0.55	0.64	0.21
Terminal benefits	1.62	2.28	0.78
Contractual engagement/ Outsourcing	0.37	0.46	0.40
7 th Pay Impact	-	-	-
Total	7.89	11.06	6.52

Basic Pay + GP

289. The figure as per the actual un-audited data for the FY 2015-16 was Rs.2.13 crore. GRIDCO in the reply to queries of the Commission reported that the actual cash outflow on Basic Pay + GP from April, 2016 to November, 2016 (for a period of 8 month) was Rs.1.42 crore. Extrapolating the same for a period of 12 months and factoring in 3% annual increment, the figure for the FY 2017-18 works out to Rs.2.19 crore. Commission therefore accepts the figure of 2.19 crore for FY 2017-18 towards basic pay and G.P.

Dearness Allowance:

290. The prevailing rate of D.A. as on 01.7.2016 is 132%. The incremental D.A. allowed by Government of Odisha last time was 7%. Prior to the above, the rise in the rate of DA was 6% w.e.f. 01.01.2015, 01.07.2015 and 01.01.2016. Assuming the level of rise at same at 6% percentage on January 2017, June 2017 and January, 2018, the Commission allows the weighted average rate of DA at 144% during FY 2017-18. Accordingly an amount of Rs.3.51 crore is allowed towards DA as a pass through for FY 2017-18.

291. In respect of other major expenditure such as medical allowance, HRA, Terminal benefits the following principle has been adopted.

- i. Medical reimbursement - 5% of Basic Pay + GP
- ii. House rent allowance -15% of Basic Pay + GP limiting to claim made by licensee in these filing.
- iii. All other items including Terminal benefits for FY 2017-18 have been allowed as provided in the actual un-audited account for the year 2015-16.
- iv. Impact of 7th Pay Commission has been disallowed.

292. With the above principle the approved employees cost for 2017-18 is shown in table below:-

Table – 50

	2016-17 (App.)	2017-18 (Prop.)	2017-18 (App.)
Basic Pay + GP	2.13	6.00	2.19
DA	2.79	0.36	3.15
HRA	0.32	1.20	0.33
Expenses on contractual	0.37	0.46	0.46

	2016-17 (App.)	2017-18 (Prop.)	2017-18 (App.)
engagement			
Medical reimbursement	0.11	0.12	0.11
Others	0.55	0.64	0.22
Terminal liabilities	1.62	2.28	0.78
Impact of 7 th Pay commission	-	-	-
Total	7.89	11.06	7.24

293. The Commission approves an amount of Rs.7.24 crore towards employees cost for 2017-18 as against proposed amount of Rs.11.06 crore.

294. Regarding organization structure and manpower planning, GRIDCO in its submission stated the following:

After segregation of transmission activities, all the employees working with GRIDCO were transferred and vested with OPTCL. Thereafter the employees working in GRIDCO are on deputation from OPTCL except Functional Directors and Company Secretary. In the meantime, the restructuring of OPTCL has been finalized and implemented. Considering the observation of C&AG and commitment of the Department of Energy, Govt. of Odisha, Xavier Institute of Management, Bhubaneswar (XIMB) was assigned with the responsibility for designing Organization Structure and Manpower Planning of GRIDCO.

Xavier Institute of Management Bhubaneswar submitted the Final Report on Organization Structure and Manpower Planning of GRIDCO on 25.11.2016. It is expected that the same will be approved by the Government of Odisha during the financial year 2017-18 and will be implemented in the last part of FY 2017-18. Therefore, GRIDCO is not projecting any increase in Employees Cost on account of Organization Structure. However, GRIDCO shall claim any excess amount, because of the implementation of Organization Structure which may be allowed as Pass Through / Truing-up in subsequent ARR & BSP Application(s).

295. The Commission took note of the above submission made by the GRIDCO and will consider subsequently after the proposal of GRIDCO is approved by State Govt.

Repair Maintenance

296. During Financial Year 2017-18, GRIDCO proposes an amount of Rs.0.32 crore towards repair & maintenance under the head air conditioner, computer, vehicle, furniture and office equipment. The Commission approves an amount of Rs.0.22 crore limiting to the expenditure shown in the un-audited accounts for FY 2015-16 as a pass through in the ARR for FY 2017-18.

Administration & General Expenses

297. During Financial Year 2017-18, GRIDCO proposed an amount of Rs.8.00 crore under the head Administrative and General Expenses, inclusive of an amount of Rs.1.50

crore towards license fee payable to OERC and Rs.1.79 crore towards escrow audit spent during 2015-16. The Commission considers the approved figure of Rs.2.62 crore last year and factoring in the annual inflation of (+) 5.25% for FY 2017-18, the amount works out to Rs.2.76 crore. Over and above the amount, the licence fee applicable for 2017-18 amounting to Rs.1.50 crore and escrow audit fee amounting Rs.1.79 crore are allowed. Thus the Commission approves an amount of Rs.6.05 crore under the head Administration and General Expenses for FY 2017-18 with a rider that GRIDCO shall make all endeavours to reduce the A&G costs by prudent management of resources. Escrow audit fees may be reviewed by GRIDCO.

Depreciation

298. Under this head GRIDCO has proposed Rs.0.73 crore towards the depreciation on fixed assets (vehicle, furniture and office equipment etc.) for the FY 2017-18. The Commission approves the same as a pass through in the ARR for FY 2017-18.

Interest on Loan

299. GRIDCO has calculated the total interest amount of Rs.592.24 crore for the FY 2017-18. However, in its application GRIDCO has proposed an amount of Rs.502.62 crore towards interest and finance charges as a pass through in the ARR excluding an amount of Rs.89.62 crore towards interest payable to State Govt. loan.
300. On scrutiny of the figure submitted by the licensee, it is found that all loans upto 31.03.2008 inherited by GRIDCO at the time of demerger of GRIDCO into GRIDCO & OPTCL has been accepted and recognized by the Commission. The interest liability of the above loan has been allowed by the Commission as a pass through in the revenue requirement in earlier BSP order. Subsequent to demerger GRIDCO claimed the following loans, year wise details of which are given below:

Table -51

Rs. in cr.

Year	Loan availed	Interest Claimed
<u>Upto 31.03.2008</u>		20.07
(i) Govt. Loan	162.54	
(ii) NTPC Bond	1102.87	69.55
2008-09 (Act.)	300.00	-
2009-10 (Act.)	1213.00	10.40
2010-11 (Act.)	1640.71	36.60
2011-12 (Act.)	864.16	39.92
2012-13 (Act.)	843.83	5.20

Year	Loan availed	Interest Claimed
2013-14 (Act.)	483.50	28.90
2014-15 (Act.)		27.26
(i) Bank Loan	990.50	
(ii) OHPC Bond	619.00	46.83
Sub-total		74.09
2015-16	1300.00	140.19
2016-17	1000.00	94.81
2017-18 (Proposed)	1200.00	60.00
Total Interest		579.73
Guarantee Commission		12.51
Total Interest + Guarantee Commission		592.24

Loan from Banks

301. In the last tariff order the Commission allowed interest on loans availed from 2008-09 to 2015-16 except interest on OHPC Bond. This year the Commission took the same stand and allows the interest impact on loan availed from 2008-09 to 2015-16, based on the figure finalized as per the annual accounts. For the year 2016-17, GRIDCO proposed to draw an amount of Rs.1000 crore from Banks/ Financial Institutions, the interest impact of which works out to Rs.94.81 crore. From the cash flow statement submitted by GRIDCO for the FY 2016-17 (upto January 2017), it is found that GRIDCO has already availed an amount of Rs.1200 crore during this period. The cash flow statement submitted by GRIDCO reveals that the cash outflow on power purchase cost is nearly Rs.600 crore more than the revenue collected from DISCOMs, which means GRIDCO is unable to collect current BSP dues from the DISCOMs. This necessitated borrowings from bank by GRIDCO to discharge power purchase dues of generators. In the tariff order for FY 2016-17, the Commission estimated the revenue from DISCOMs to the tune of Rs.6702.94 crore and the power purchase dues of GRIDCO to the tune of Rs.5849.16 crore which is nearly Rs.850 crore less than the revenue estimated to be collected from DISCOMs. In other words, the Commission consciously set the BSP dues in such a manner that GRIDCO is left with a surplus of nearly Rs.850 core to discharge other obligation such as salary, R&M, interest, etc. after payment to the generators. But GRIDCO in reality landed in deficit balance i.e. the revenue received from DISCOMs is not sufficient to discharge even power dues of the generators, which is quite alarming. If this situation persists, every year GRIDCO will resort to borrowing from Banks, the interest impact of which will be passed on to the consumer. Therefore, the Commission is not inclined to accept the interest liability

on loan availed by GRIDCO for the year 2016-17, which is attributable to inability of GRIDCO to mobilize the internal resource by way of collection of BSP dues from DISCOMs. Hence, the interest impact on loan for the year 2016-17 has not been considered by Commission in determining the ARR for FY 2017-18. In this regard Para-279 of the ARR & BSP order for the FY 2016-17 may be referred. GRIDCO is advised to fill the gap from collection of arrears from the DISCOM Utilities.

302. The Commission in line with the earlier order disallows the interest amount of Rs.20.07 crore due on Govt. loan. Similarly, the interest of Rs.69.55 crore due on NTPC Bond is also disallowed as proposed by GRIDCO.
303. Regarding the claim of Rs.46.83 Cr. towards interest on securitized dues of OHPC, the same is disallowed following detailed findings given in the tariff order para 290 for the FY 2015-16. Further, OHPC has not yet shown this interest income as their receivable in their ARR.
304. The final figure for consideration of interest as per discussion made above is worked out as follows:

Table -52

		(Rs. Cr.)
Total interest impact excluding G.C.		579.73
Less disallowed		291.26
(i) Interest on Govt. loan	- 20.07	
(ii) Interest on NTPC Bond	- 69.55	
(iii) Interest on OHPC Bond	- 46.83	
(iv) Interest on loan availed during 2016-17	- 94.81	
(v) Interest on proposed loan during 2017-18 (Not yet availed)	- 60.00	
Net interest		288.47
Guarantee Commission		12.51
Total Interest including Guarantee Commission		300.98

305. The final amount allowed as interest and Guarantee Commission is approved at Rs.300.98 crore for FY 2017-18.

Special Appropriation of Repayment of Principal

306. For the FY 2017-18 GRIDCO has proposed Special Appropriation of Rs.1054.63 crore under the following heads:-

Table - 53
Special Appropriation claimed by GRIDCO

(Rs. in Crore)

Particulars	Loan Repayment Dues	Interest Dues	Total
State Govt. Loan	162.54	355.98	518.52
NTPC-GoO Special Bonds (Rs.1102.87 Crore)	818.81	405.64	1224.45
Sub-total	981.35	761.62	1742.97
Bank Loans	1054.63	-	1054.63
Total	1054.63	761.62	2797.60

307. GRIDCO proposed to defer the State Govt. loan and NTPC bond to the tune of Rs.981.35 crore.

Bank Loan

308. Balance commercial bank loan amounting Rs.1054.63 crore (principal repayment) is shown under the head special appropriation to be recovered from BSP.

309. As per the revised submission of GRIDCO dt.27.02.2017, the total cash deficit from 2008-09 to 2016-17 (upto September, 2016) becomes Rs.12644.46 crore on account of approved gap left by the Commission, repayment of loan and BSP dues defaulted by the DISCOMs. To meet the cash deficit GRIDCO has availed loan Rs.9354.69 crore as shown in the table below:

Table-54

(Rs. Crore)

FY	Actual Power Pur. Cost (P/U)	Appd. Power Pur. Cost (P/U)	Approved BSP (P/U)	Approved Gap	Profit/(loss) in P&L Accounts	Loan Repayment	BSP Dues defaulted by DISCOMs	Total Cash Deficit	Loan availed to meet deficit
2008-09	151	127	122	410.05	98.14	374.26	163.94	440.06	300
2009-10	197	148	122	882.85	-1560.84	205.06	164.22	1930.12	1213
2010-11	198	175	170	806.15	-587.86	328.15	297.01	1213.02	1640.71
2011-12	228	210	232	746.05	-936.81	382.4	269.74	1588.95	864.16
2012-13	237	236	271	700.58	31.79	777.69	590.01	1335.91	943.83
2013-14	214	229	265	707.6	-1464.34	1006.57	167.3	2638.21	483.5
2014-15	214	227	263	884.18	-120.35	868.31	86.91	1075.57	1609.49
2015-16	247	230	284	882.06	-406.66	532.62	102.2	1041.48	1300
2016-17 (upto Sept'16)	262	230	273	812.59	-96.38	592.6	972.19	1661.17	1000
Total				6832.11	-5043.31	5067.66	2813.52	12924.49	9354.69

310. GRIDCO further stated that as per Tariff Policy, depreciation on fixed assets shall be utilized for payment of principal component of loan. In case of GRIDCO, there is virtually no fixed asset and hence, no depreciation is available to GRIDCO to meet

the cash deficit arising due to the above reasons. Although as per direction of Commission GRIDCO has to recoup such deficit by way of trading of surplus power and UI, no such improvement has taken place and GRIDCO at the end of the year is ending up with huge deficit. Under such circumstances GRIDCO submits that the loans from bank as well as interest thereon may be considered as a pass through in the ARR of GRIDCO. GRIDCO therefore proposed an amount of Rs.1054.63 crore under the head Special Appropriation of expenses for meeting the principal repayment of bank loan.

311. The Commission took note of the submission made by the licensee. In para 295 and 296 of the BSP order for the FY 2014-15, the Commission made the following observation. The same is extracted below:

“295. The repayment liability of the State Govt. loan as well as Bank loan put a huge burden on the Bulk Supply Price of DISCOMs. The Commission feels that in order to keep the BSP at a reasonable level, the repayment liability should not be considered as pass through in the ARR of GRIDCO so that the revenue requirement of GRIDCO is kept at minimum and DISCOMs will have the benefit of the lower BSP. In this context it is necessary to analyse in depth the generation potential of OHPC and its commercial implication. A large number of objectors have pointed out that by proper planning with regard to storage of water in the reservoir and having satisfied the need for flood control and irrigation in the normal monsoon year OHPC can generate much more than its design energy. We have already provided for generation of 5881 MU and any generation beyond the design energy available to GRIDCO can be traded with profit and this amount can be made available for repayment of loan. In the current year Tariff Hearing OHPC submitted that GoO directed them to restrict generation. The Commission is, therefore, of the view that lesser generation from OHPC is not so much due to monsoon failure but because of administrative Order issued by GoO from time to time. In the present context the Commission would like to advise the Govt. to revisit its earlier assumption with regard to storage capacity for flood control and irrigation. The Commission is of the view that by proper planning and redesigning of priorities, power generation of OHPC can go beyond the design energy without sacrificing obligation towards flood control and irrigation. The Commission feels that a proper day to day planning and co-ordination with different purchaser within and outside the State, GRIDCO on conservative estimate will be able to trade about 2500 MU of power and generate a substantial amount of revenue, which can be utilised for repayment of principal loan liabilities.

296. In view of this Commission decides the following measures to be taken by GRIDCO:-

- a) A separate head may be created under GRIDCO account where the revenue from trading of surplus power above design energy of OHPC, UI Charges and other miscellaneous receipts, shall be shown as receipts for repayment of principal. Since GRIDCO is fully owned Govt. of Odisha undertaking the State Govt. shall monitor and ensure that the money kept under this separate head is utilised only for repayment of loan.*

b) *In case the earmarked fund receipts as mentioned above is not sufficient to meet the repayment obligation of principal amount of loan, the State Govt. may make budget provision for the differential amount and pay the same to Banks/Financial Institutions through GRIDCO.*

c) *For the time being repayment of the principal amount along with interest on State Govt. loans and Bonds may be deferred till the financial health of GRIDCO becomes sound.*

Hence, in view of the above decision of the Commission, the repayment liability recognized by the Commission through amortisation of Regulatory Asset as stated in the Para above has not been considered as a pass through in the revenue requirement for the year 2014-15.”

312. The Commission for the FY 2016-17 took the same stand and did not consider the amount of Rs.812.59 crore as a pass through under the head special appropriation. For FY 2017-18 the Commission reiterates its decision and does not consider the amount of Rs.1054.63 crore as a pass through in the revenue requirement. GRIDCO is at liberty to collect the amount from the DISCOM Utilities through arrear collection drive.

313. In form F-18 of the filing GRIDCO submitted a statement of revenue from sale of power (Trading and UI) as per which the revenue from trading and UI amounts to Rs.180.74 crore which is very less in comparison to earlier years. However, the actual position will be known after the year is over. In reply to query, GRIDCO submitted the following:

It is respectfully submitted that against a projected sale of 2690.53 MU of surplus energy earning revenue of Rs.739.90 crore @ Rs.2.75/Kwh during FY 2016-17, GRIDCO could manage to sell only 212 MU of energy @Rs.2.33/ Kwh, thus earning Rs.49.4 crore only up to 31.12.2016 (April'16 to Dec.'16) because of a very subdued power market. In this context, it may be relevant to note that similar down trend in the Power Market is continuing and the chances of any revival in near future seen remote. Under such depressed circumstances, GRIDCO always tries to surrender its surplus power as much as possible in order to reduce the financial loss. However, despite GRIDCO's best efforts to surrender such costly as well as surplus power, there always remains a chance that some power shall be forcibly scheduled to GRIDCO by the System Operator under the plea of minimum technical limit of thermal generating stations. It is submitted that the current year's (FY 2016-17) revised projection of 572.92 MU of surplus power for trading purpose is based on such thrust upon/unwanted power.

314. The Commission considers that market fluctuations are likely to stay and swing to advantage of GRIDCO. The Commission therefore desires that GRIDCO should continue to procure power from CGPs and IPPs of the State and market the surplus for better earnings. To overcome the deficit situation GRIDCO is directed to make all out

effort for collection of its current dues as well as arrear dues finalized in the securitization order dt.01.12.2008 of the Commission to avoid borrowings.

Return on Equity

315. GRIDCO proposes Rs.92.27 crore towards Return on Equity (RoE) @ 16% on its Equity Capital of Rs.576.71 crore in line with National Tariff Policy and OERC Tariff Regulations. In line with the previous BSP orders, the Commission disallows the return on equity as a pass through in the revenue requirement for FY 2017-18.

Other Income/ Miscellaneous Receipts

316. During the FY 2017-18 GRIDCO expects to earn an amount of Rs.3.43 crore (at existing approved tariff) from proposed emergency sale of 5 MU to long term customers like NALCO & IMFA as per the MoU signed with these entities. The Commission approves an amount of Rs.3.43 crore for FY 2017-18.

Receivables from DISCOMs and Others

Securitized Dues

317. GRIDCO in its filing submitted that the DISCOMs have defaulted payment of Rs.2085.33 crore by 31.03.2016 towards securitized dues as per the direction of the Commission vide order dated 01.12.2008. The DISCOMs wise default is given below:-

Table –55

Particulars	Unpaid as on 31-03-2015
WESCO	294.70
NESCO	303.37
SOUTHCO	259.98
CESU	1227.28
Total	2085.33

318. The Commission dealt the issue in the BSP as well as RST tariff orders of previous years. A statement showing the amount approved by the Commission in the ARR amount due as per the securitization order the amount paid by the utilities over and above the 100% current BST bills, adjustment against the securitized amount and balance default amount is given in Table below:

Table - 56
Dues as per OERC Order Dt. 01-12-2008 and Actual Payment

(Rs. crore)

Sl No	Particulars	WESCO	NESCO	SOUTHCO	Sub-Total	CESU	Grand Total
1	BST						
	OB 01-04-99	46.18	41.66	26.50	114.34	80.16	194.50
	From 01-04-99 to 31-03-05	118.41	194.83	47.19	360.43	605.20	965.63
	Sub total	164.59	236.49	73.69	474.77	685.36	1,160.13
2	DPS on Above	58.72	87.20	32.02	177.94	526.41	704.35
3	Loan						
	Principal	138.46	94.64	134.36	367.46	307.61	675.07
	Interest	60.31	41.05	58.43	159.79	162.86	322.65
	Sub total	198.77	135.69	192.79	527.25	470.47	997.72
4	Outstanding as on 31-03-2005 vide OERC Order Dated 01-12-2008 (1+2+3)	422.08	459.38	298.50	1,179.96	1,682.24	2,862.20
5	Average per month	3.52	3.83	2.49	9.84	14.02	23.86
6	Due from 2006-07 to 2014-15 as per securitisation order				-		
	2006-07	42.24	45.96	29.88	118.08	168.24	286.32
	2007-08	42.24	45.96	29.88	118.08	168.24	286.32
	2008-09	42.24	45.96	29.88	118.08	168.24	286.32
	2009-10	42.24	45.96	29.88	118.08	168.24	286.32
	2010-11	42.24	45.96	29.88	118.08	168.24	286.32
	2011-12	42.24	45.96	29.88	118.08	168.24	286.32
	2012-13	42.24	45.96	29.88	118.08	168.24	286.32
	2013-14	42.24	45.96	29.88	118.08	168.24	286.32
	2014-15	42.24	45.96	29.88	118.08	168.24	286.32
	2015-16	41.92	45.74	29.58	117.24	168.08	285.32
	Total	422.08	459.38	298.50	1,179.96	1,682.24	2,862.20
7	Excess BSP paid by DISTCOs to be adjusted against securitised dues						
A	Downward Revision of BST in 2007-08	88.31	3.32	11.07	102.70	93.37	196.07
B	Payment by DISCOMS over and above the current						
	2006-07	36.83	41.36	-	78.19	-	78.19
	2007-08	4.40	41.36	9.53	55.29	-	55.29
	2008-09	-	65.00	5.86	70.86	32.47	103.33
	2009-10	2.00	-	9.69	11.69	80.50	92.19
	2010-11	-	-	-	-	-	-
	Total B	43.23	147.72	25.08	216.03	112.97	329.00
C	Total (A+B)	131.54	151.04	36.15	318.73	206.34	525.07
8	Shortfall upto 31.3.2016 (6 - 7 C) as per securitization order	290.54	308.34	262.35	861.23	1475.90	2337.13

319. The Commission in its Business Plan order dated 21.3.2014 stated the following:-

53. The three Reliance managed DISCOMs have not submitted in detailed action plan for liquidation of the arrears of GRIDCO as per Commission's direction dated 01.12.2008. CESU in its submission stated that it will start paying its outstanding dues of GRIDCO from the FY2015-16 and it may liquidate all its outstanding by FY 2020-21.

The Commission vide para 26 of the order 01.12.2008 had mentioned the following:-

"We order that DISTCOs shall repay the outstanding loans including interest along with securitized BST dues as at 31st March, 2005 in 120 monthly (maximum) equal installments starting from the FY 06-07 ending in 2015-16. They shall also continue to pay the monthly BST dues regularly through LC as per the bulk supply arrangement."

53. Every year the Commission in its tariff order gives direction to the DISCOMs to pay the outstanding arrears of GRIDCO as per the schedule given by the Commission. But the DISCOMs made continuous default and have not carried out the direction of the Commission. Commission therefore, directs the licensee to clear the dues of GRIDCO by the end of 2015-16 as per the order of the Commission. The Commission shall take a review after FY 2014-15 and may pass necessary directions in this regard to the DISCOMs.

320. In the last years BSP order, the Commission stated the following:

299. In spite of the direction of the Commission as mentioned above, the DISCOMs defaulted in payment of the securitized dues to the GRIDCO. The term of the securitization order is going to be completed by 31.03.2016. The Commission directs all the DISCOMs to submit their action plan for liquidation of arrear securitized dues by 01.05.2016.

321. Neither GRIDCO nor DISCOM Utilities filed any action plan before Commission yet. Therefore, at the cost of repetition the Commission directs GRIDCO and DISCOMs to apprise the up-to-date status of the action plan prepared by GRIDCO and DISCOMs to liquidate the arrears as per the securitization order of the Commission dt.01.12.2008. The reply must reach the Commission by 01.05.2017.

400 Crore NTPC Bond dues

322. GRIDCO submitted that apart from securitise dues, the DISCOMs have failed to honour the OERC order dated 29-03-2012 read with corrigendum Order dated 30.03.2012 against the Bond dues of Rs.308.45 Crore. In the said order OERC had directed the erstwhile REL managed DISCOMs to pay Rs.50 Crore by the end of April 2012 and at least @Rs.10 Crore per month w.e.f. May 2012 so that the entire amount shall be cleared by the end of FY 2012-13 or else the order will stand non-est. The erstwhile R-Infra managed DISCOMs have paid Rs.62 Crore by 31-10-2014, besides payment of Rs.50 Crore in March 2012 leaving a balance of Rs.195.36 Crore.

On this issue the Commission have given direction to both GRIDCO and DISCOMs several times for compliance of the order. The Commission reiterates the same and directs both GRIDCO and DISCOMs to comply the order dtd.29.03.2012 in case No.107 of 2011.

Non-payment of BSP dues and Year End Adjustment Bills of DISCOMs

323. Over and above, the default in securitised dues and Rs.400 crore of bond, as stated in above para, the DISCOMs made default in payment of BSP dues and year-end bill amounting Rs.2805.64 crore. The details of which is given below.

Table-57
Outstanding Dues relating to Current BSP and Year end Adjustment bills of DISCOMs payable to GRIDCO

Particulars	(Amount Rs. Crore)					
	WESCO	NESCO	SOUTHCO	Sub-Total	CESU	TOTAL
BSP Bills- 2011-12	210.48	53.74	5.52	269.74	-	269.740
BSP Bills- 2012-13	265.06	324.95	-	590.01	-	590.010
BSP Bills- 2013-14	22.43	57.87	40.01	120.31	-	120.310
BSP Bills- 2014-15	17.42	13.66	94.94	126.02	-	126.020
BSP Bills- 2015-16	-	-	-	0	102.2	102.200
BSP Bills- 2016-17 (upto Sept-16)	402.31	159.27	186.63	748.21	223.98	972.190
Sub Total	917.7	609.49	327.1	1854.29	326.18	2180.470
Year end Adj. Bills-2008-09	69.08	-	36.72	105.8	58.14	163.940
Year end Adj.Bills-2009-10	-	87.47	32.81	120.28	43.94	164.220
Year end Adj.Bills-2010-11	46.8	22.65	60.24	129.69	167.32	297.010
Sub Total	115.88	110.12	129.77	355.77	269.4	625.170
Grand Total	1033.58	719.61	456.87	2210.06	595.58	2805.640

324. In the last year's tariff Commission has given the following direction in para 302 and 303. The extract of which is given below:

The Commission directs the DISCOMs to settle the issue with GRIDCO and submit a signed joint reconciliation statement by 31.05.2016 after paying the outstanding dues of GRIDCO in full.

The Commission further directs the DISCOMs to pay the current BSP bill in full by renewing the Letter of Credit (LC) or through SOD.

325. The Commission directs both GRIDCO and DISCOMs to file a reply before the Commission regarding action plan taken for liquidation of the arrears as stated above by 31.05.2017.
326. The summary of the ARR of GRIDCO approved for the FY 2017-18 is given below:

Table –58
Revenue Requirement of GRIDCO for FY 2017-18

(Rs. in Cr.)				
	Particulars	Approved for 2016-17	Proposed for 2017-18	Approved for 2017-18
A				
	Cost of Power Purchase	5849.16	7932.09	6419.56
	Employee costs	7.89	11.07	7.24
	Repair & Maintenance	0.25	0.32	0.22
	Administrative and General Expenses	4.12	8.00	6.05
	Depreciation	0.72	0.73	0.73
	Other expenses (ERLDC Charges)			
	Interest Chargeable to Revenue (including guarantee commission)	336.38	502.62	300.98
	Total expenses (Total of A)	6198.52	8454.83	6734.78
B	Special appropriation			
	Carry forward of Previous Loss through amortization of Regulatory Assets			
	Repayment of principal for the loan	0.00	1054.63	0.00
	Pass Through of Power Purchase Dues (Ref: Table- 48)	468.85	875.56	231.66
	Total of B	468.85	1930.19	231.66
C	Return on Equity	0.00	92.27	0.00
	TOTAL (A+B+C)	6667.37	10477.29	6966.44
D	Less Miscellaneous Receipt	6.85	3.43	3.475
E	Less receivable from DISCOMs			
F	Less receivable from outside States			
G	Revenue proposed from trading of surplus power	-	180.73	0.00
H	Total Revenue Requirement	6660.52	10293.13	6962.97
I	Expected Revenue (Full year) from DISCOMs	6702.94	10293.13	6969.15
J	GAP (+/-)	42.42	0.00	6.18

327. Against GRIDCO's net revenue requirement of Rs. 6962.97 Crore after adjustment of miscellaneous receipts of Rs. 3.47 Crore, it will recover Rs. 6969.15 Crore from the DISCOM Utilities through energy charges for the FY 2017-18 with a surplus of Rs. 6.18 Crore, which could be utilized by GRIDCO towards differential power purchase dues of Central Thermal Generating Stations.

Design for Bulk Supply Pricing Methodology

328. The Commission has been following a particular methodology considering the uniqueness of Odisha power sector for a long time. The State Designated Agency GRIDCO holds all the Power Purchase Agreements (PPAs) with the Generators on behalf of State Government. Therefore, power purchased from Generators is pooled at GRIDCO end and thereafter supplied to DISCOM Utilities. It is not possible to allocate particular power station to a DISCOM Utility since the Power Purchase Agreement of that Generator has been made with the GRIDCO and not with a particular DISCOM Utility. Moreover, DISCOM Utilities have also Bulk Supply Agreement (BSA) with GRIDCO. This has been a legacy of the past. The allocation of power from a generator to a particular DISCOM Utility shall be a possibility only when the PPAs will be allocated to DISCOM Utilities as per the decision of the Government. Therefore, the Commission has no alternative but to consider the pooled power purchase cost of GRIDCO while designing the BSP of DISCOM Utilities.
329. OERC has been following a uniform retail tariff policy. Considerations of public interest for consumers of the entire State warrants continuance of a uniform retail tariff policy. The retail tariff for each distribution Utility based solely on its ARR and its expected revenue ought not to be considered in isolation. The law requires the Commission to take into consideration not only the annual revenue requirement and the expected revenue of the distribution Utility, but also such policy inputs for safeguarding consumers' interest, one of which is the uniform retail tariff for the whole State, vide Section 61(d) of the Electricity Act, 2003. Moreover, uniformity of retail tariff for the whole State is in line with the National Tariff Policy, vide Para 8.4(2) thereof. Only when distribution Utilities show appreciable rise in their respective levels of efficiency by reducing distribution losses, both technical and commercial, a question of rewarding efficiency by a differential retail tariff may arise. This is not the case now. Besides, the benefit of differential Bulk Supply Price has been an accepted practice, as the State transmission network serves the whole State as a single backbone system and the consumers of Odisha have been paying for the cost of this transmission system uniformly. The distribution companies have little contribution towards the growth and development of the EHT industries and yet a distribution Utility would reap substantial higher revenue than another distribution Utility by virtue of mere concentration of EHT industries in its area. It is just and

proper that differential Bulk Supply Price should be higher for the DISCOM Utilities with higher concentration of HT/EHT industries than for those with little HT/EHT load. Therefore, with differential Bulk Supply Price there is no necessity of shifting away from the uniform retail tariff prevailing in the state of Odisha.

330. Until we move away from the uniform RST structure, the higher bulk pricing mechanism should give a signal to the utility having higher EHT & HT concentration that improved performance at LT through higher LT sale would enable that utility to get power at a lower rate. That is to say, such utility should endeavour to convert lost units to billing units at LT resulting in reduction of commercial loss, which needs to be encouraged.
331. Tariff is essentially intended to balance the conflicting interest of various stakeholders like the distribution Utilities and various groups of consumers as well as the generators. Some amount of judgement is to be exercised while determining the bulk supply price for distribution utilities. The process has to be fair, transparent, with sound logic, so that the revenue earned by the utilities are adequate to service all their expenditures like the cost of employees, servicing the interest burden, meet return on equity in addition to meeting the cost of power purchase which constitute a substantial part of their revenue requirement.
332. At this point, we are taking into consideration the extent of revenue that a distribution utility likely to earn for sale of power to HT & EHT groups of consumers. Besides, the volume of sale at LT is an important criterion where the loss level is high and the expected revenue realisation is low. Thus, the Bulk Supply Price (BSP) is fixed in a manner that makes all the distribution utilities financially near viable.

Demand Charges

333. Like the ARR approval of GRIDCO for FY 2016-17, there shall not be any levy of separate maximum demand charges upto the permitted SMD in a month for the Distribution Utilities for the FY 2017-18. Permitted SMD would mean monthly SMD recorded upto maximum of 10% over the approved SMD in the current tariff order to take care of monthly variations. Any excess drawl over the permitted SMD will have to be paid by DISCOM Utilities @ Rs.250 per KVA per month. This is again subject to the condition that the annual average SMD shall be limited to the SMD approved in the order. This is necessary to maintain the load planning and system stability. In case

the annual average SMD is more than the approved SMD, then overdrawal quantum shall attract the penalty @ Rs.250 per KVA per month, notwithstanding the fact that a utility might have paid the SMD charges for exceeding the permitted SMD in any month.

Determination of Bulk Supply Price

334. GRIDCO has proposed a BSP @ 397.77 P/U to be levied on the DISCOM Utilities towards their purchase of power during FY 2017-18. The Commission determines the Bulk Supply Price in such a way that their expected estimated revenue shall be sufficient to pay the power bills, the transmission charge bills including SLDC charges and they shall meet their statutory obligations including meeting the expenses towards establishment, maintenance and other allied expenses.
335. The details of Bulk Supply Price as well as the quantum of energy approved by the Commission for each DISCOM Utility are presented in a table below:

Table – 59
Bulk Supply Price and Quantum of Energy for FY 2017-18

Name of the DISCOMs	Existing Bulk Supply Price i.e. approved for FY 2016-17 (P/U)	Quantum of Energy for sale during FY 2017-18 (MU)	Total Revenue for FY 2017-18 (Rs. Crore)	Bulk Supply Price approved for FY 2017-18 (P/U)
CESU	270.00	8850.00	2424.90	274.00
NESCO	297.00	5680.00	1709.68	301.00
WESCO	296.00	7090.00	2134.09	301.00
SOUTHCO	197.00	3520.00	700.48	199.00
Total	273.14	25140.00	6969.15	277.21

336. The above approved revenue has to be realized by GRIDCO from the DISCOM Utilities through escrow mechanism. In case of any default in monthly BSP dues by the DISCOM Utilities, they are liable for imposition of power regulations. It is directed that GRIDCO should resort power regulation to the DISCOM Utilities to the extent of non-payment of monthly BSP dues.

Charges for Overdrawal of Energy

337. GRIDCO in its application proposes that any excess drawl of energy by a Distribution and Retail Supply Utility during a month over and above the approved drawal would be payable on provisional basis at the highest power purchase rate for a station approved by the Commission for the FY 2017-18 (which includes transmission

charges & transmission loss) on a monthly basis instead of the normal differential BSP applicable to the respective DISCOM Utilities subject to final year-end adjustment considering the highest power purchase rate/cost including the rate(s) of energy drawn through UI / Deviation Settlement of the month plus transmission charges and transmission loss.

338. However, the Commission has already framed guidelines/regulations for intra-state ABT, which will be binding on all the users of the system. As the Commission have introduced Intra-state ABT between GRIDCO and DISCOM Utilities in the 1st phase (in a separate order), the issue of overdrawal / underdrawal of energy will be adjusted through un-scheduled interchange mechanism. The scheduled energy shall be billed by GRIDCO and paid by DISCOMs as per the present Tariff Order of the Commission. Any deviation from the scheduled energy shall be billed by SLDC and paid by DISCOMs as per the prevalent UI rate. The Commission may at latter date notify the Intra-State Deviation Settlement Regulations which would replace the existing ABT Regulations.

Rebate

339. For payment of bills through a letter of credit or by cash within two working days (excluding holidays under N.I. Act, 1881) of presentation of bills, a rebate of 2% shall be allowed on current dues. If the payments are made by a mode other than through a letter of credit but within a period of one month by the Distribution Utilities, a rebate of 1% shall be allowed. However, payment by DISCOM Utilities within the specified period shall be first adjusted towards current months dues raised in the bill. If the current dues are fully met within the specified time period, GRIDCO shall allow rebate. Payments over and above the current dues shall be adjusted towards the arrears after rebate.

Late Payment Surcharge

340. In case payment of bills by the Distribution Utilities is delayed beyond a period of 1 month from the date of billing, a late payment surcharge at the rate of 1.25% per month shall be levied by GRIDCO on the unpaid amount.

Duty and Taxes

341. The Commission approves that statutory levy/duty/tax/cess/toll etc. imposed under any law from time to time shall be charged over and above the bulk supply price fixed by the Commission.
342. The Bulk Supply Price in respect of GRIDCO as indicated below will become effective from 1st April, 2017 and shall continue until further orders.

Table -60

Name of the DISCOMs	Paise/ Kwh
CESU	274
NESCO	301
WESCO	301
SOUTHCO	199

343. The application of GRIDCO in Case No. 63 of 2016 is disposed of accordingly.

Sd-
(S. K. PARHI)
MEMBER

Sd/-
(A. K. DAS)
MEMBER

Sd/-
(U. N. BEHERA)
CHAIRPERSON