

BEFORE
THE
ODISHA ELECTRICITY REGULATORY COMMISSION,
BHUBANESWAR

PETITION

FOR

APPROVAL OF
**Aggregate Revenue Requirement (ARR) and Determination of Bulk
Supply Price (BSP) for the Financial Year 2021-22**

Filed By

GRIDCO LIMITED, BHUBANESWAR
(A Government of Odisha Undertaking)

November 2020

Notes:

In this Application:

- Year is defined as Financial Year 2021-22 (referred to as FY 22)
- All currency figures used in this Application, unless specifically stated otherwise, are in Rs Crores.
- All energy unit figures used in this Application, unless specifically stated otherwise, are in Million Units.

List of Abbreviations

AEC	Auxiliary Energy Consumption
APGENCO	Andhra Pradesh Power Generation Corporation
APTEL	Appellate Tribunal for Electricity
ARR	Aggregate Revenue Requirement
BSP	Bulk Supply Price
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CESU/TPCODL	Central Electricity Supply Utility of Odisha/Tata Power Central Odisha Distribution Limited
CGPs	Captive Generation Plants
CIMFR	Central Institute of Mining & Fuel Research
CoD	Commercial Operation Date
CPSUs	Central Public Sector Undertakings
Cr.	Crores (Indian Rupees)
CTU	Central Transmission Utility
CVPF	Calorific Value of Primary Fuel
CVSF	Calorific Value of Secondary Fuel
DISCOMs	Distribution Companies
DSM	Deviation Settlement Mechanism
DSTPS	Darlipalli Super Thermal Power Station
DVC	Damodar Valley Corporation
EA 2003	Electricity Act, 2003
ECR	Energy Charge Rate
ED	Evidential Document
EHT	Extra High Tension
EPS	Electric Power Survey
FSTPS	Farakka Super Thermal Power Station
FY	Financial Year
FY 21	Financial Year 2020-21
FY 22	Financial Year 2021-22
GCV	Gross Calorific Value
GEDCOL	Green Energy Development of Odisha Limited
GDP	Gross Domestic Product
GHR	Gross Station Heat Rate
GKEL	GMR Kamalanga Energy Limited
GoI	Government of India
GoO	Government of Odisha
GRIDCO	Grid Corporation of Odisha
GW	Giga-Watt
HEP	Hydro Electric Project
IMFA	Indian Metals & Ferro Alloys Limited
IPPs	Independent Power Producers
ISTS	Inter-State Transmission System

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

JITPL	Jindal India Thermal Power Limited
JNNSM	Jawaharlal Nehru National Solar Mission
KBUNL	Kanti Bijli Utpadan Nigam Limited
KhSTPS	Kahalgaon Super Thermal Power Station
kVA	Kilo Volt Ampere
kW	Kilo Watt
kWh	Kilo Watt Hour or Unit
LPPF	Landed Price of Primary Fuel
LTA	Long Term Agreement
MHEP	Machhkund Hydro Electric Project
MoD	Merit Order Dispatch
MOC	Market Operation Charges
MNRE	Ministry of New & Renewable Energy
MPERC	Madhya Pradesh Electricity Regulatory Commission
MTC	Monthly Transmission Charges
Mus	Million Units
MVA	Mega Volt Ampere
MW	Mega Watt
NALCO	National Aluminium Company
NCLT	National Company Law Tribunal
NESCO	Northern Electricity Supply Company of Odisha
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
NVVNL	NTPC Vidyut Vyapar Nigam Limited
OERC	Odisha Electricity Regulatory Commission
OHPC	Odisha Hydro Power Corporation
OPGC	Odisha Power Generation Corporation
OPTCL	Odisha Power Transmission Company Limited
OREDA	Odisha Renewable Energy Development Agency
OSEB	Odisha State Electricity Board
PGCIL	PowerGrid Corporation India Limited
PLF	Plant Load Factor
POSO	Power System Operation Corporation
PPAs	Power Purchase Agreements
PSA	Power Sale Agreement
P/U	Paise/Unit
Rs.	Indian Rupees
REA	Regional Energy Account
RERC	Rajasthan Electricity Regulatory Commission
RIL	Reliance Infrastructure Limited
RPO	Renewable Purchase Obligation
RPSSGP	Rooftop PV Small Solar Generation Program
RST	Retail Supply Tariff
RTS	Roof Top Solar
SDE	State Designated Entity

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

SECI	Solar Energy Corporation of India
SERC	State Electricity Regulatory Commission
SFC	Specific Fuel Consumption
SGEL	Shalivahana Green Energy Limited
SHEP	Small Hydro Electric Plants
SLDC	State Load Despatch Centre
SMD	Simultaneous Maximum Demand
SOC	System Operation Charges
SOUTHCO	Southern Electricity Supply Company of Odisha
SPO	Solar Power Obligation
The Petitioner/ Petitioner	GRIDCO
TSTPS	Talcher Super Thermal Power Station
TTPS	Talcher Thermal Power Station
UIHEP	Upper Indravati Hydro Electric Project
UPERC	Uttar Pradesh Electricity Regulatory Commission
VGF	Viable Gap Funding
WESCO	Western Electricity Supply Company of Odisha
YoY	Year on Year

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**BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION
BHUBANESWAR**

Case No.....

Filing No.....

IN THE MATTER OF: Application for approval of Aggregate Revenue Requirement (ARR) and determination of Bulk Supply Price (BSP) for the Financial Year 2021-22 under Section 86 (1) (a) & (b) and all other applicable provisions of the Electricity Act, 2003 read with relevant provisions of OERC (Conduct of Business) Regulations, 2004, and other related Rules and Regulations.

AND

IN THE MATTER OF: GRIDCO Ltd., Janpath, BhubaneswarApplicant

The Humble Applicant above named MOST RESPECTFULLY SHOWETH:

GRIDCO Limited (hereinafter called as “GRIDCO”) is a Deemed Trading Licensee under 5th Proviso to Section 14 of the Electricity Act, 2003 (hereinafter called as “the Act”). GRIDCO, a wholly owned Undertaking of the State of Odisha, is engaged in the business of purchase of electricity in bulk from various generators located in & outside Odisha and the State share of power from the Central Generators for supply in bulk to the four Electricity Distribution Utilities (hereinafter called as “Discoms”) in the State of Odisha.

Chapter I: Summary of the petition

1. GRIDCO Limited is filing this application for approval of Aggregate Revenue Requirement and determination of Bulk Supply Price for the Financial Year 2021-22 under Section 86 (1) (a) & (b) and all other applicable provisions of the Electricity Act, 2003 read with relevant provisions of OERC (Conduct of Business) Regulations, 2004, and other related Rules and Regulations.
2. GRIDCO, a wholly owned Undertaking of the State of Odisha, is engaged in the business of purchase of electricity in bulk from various generators located in & outside Odisha and the State share of power from the Central Generators for supply in bulk to the four Electricity Distribution Utilities in the State of Odisha and also trading of surplus power through traders. GRIDCO is a Deemed Trading Licensee under 5th Proviso to Section 14 of the Electricity Act, 2003.
3. The Government of Odisha has also notified GRIDCO as the “State Designated Entity” for execution of Power Purchase Agreements with the various Developers generating energy like Hydro Power, Wind Power, Power from Agricultural Waste etc. along with Thermal Power vide Government of Odisha Notification No. PPD-II-2/05 (pt.) 7947, dated 17th August 2006. GRIDCO has statutory obligation to procure power and act as a bulk supplier to supply power to DISCOMs and meet the electricity demand in the State.
4. Based on projections submitted by DISCOMs and projections for CGPs, GRIDCO shall be required to meet a demand of 27,375.02 MU in FY 2021-22. Transmission losses for FY 2021-22 has been taken at 3% based on Hon’ble OERC approved OPTCL transmission losses by OERC. Thus, the requirement for GRIDCO for FY 2021-22 is 28,221.67 MU.
5. In order to fulfil its statutory obligation, GRIDCO entered into various long term PPAs with various Public sector and Private sector generators to cater the peak demand of the State. PPAs were signed with cheaper source NTPC plants under State allocation and PPAs with IPPs were done under State share of concessional power.
6. Based on demand projections under the 17th EPS, GRIDCO signed several PPAs to meet the anticipated energy demand of the state. The total tied up capacity of GRIDCO is 8,989 MW including capacities of OPGC, OHPC, CPSUs, IPPs and Renewable energy stations.
7. As per contractual obligations, GRIDCO has to pay Fixed Charges for all the tied-up generating stations based on their availability. The Energy charges shall be as per Scheduled Energy or technical minimum schedule as applicable to the power station. The Petitioner humbly submits before the Hon’ble Commission that all the Fixed Charges and Energy Charges as payable to generating stations must be considered in ARR.

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

8. The total energy available at the State Periphery for FY 2021-22 is 35,290 MUs, considering projections of various factors like water availability, R&M schedule, normative availability etc of the stations with which GRIDCO has tied-up PPAs.
9. The Petitioner submits that against states demand of 28,221.67 MU, it has availability of 35,290.03 MU resulting in surplus energy of 7,068.36 MU. The Petitioner plans to sell all the surplus power which has variable cost below real time rate in the exchange. Given the minimum technical requirement to run a plant at 55%, if force scheduled by Load Despatch Centers, Petitioner will also have to source power from station which have variable charges above Rs 2.13/kWh assumed. Petitioner will try to maximize its prices of power in trading. Variable cost of surplus power is INR 1464.7 Cr which is proposed to be reduced from power purchase cost passed on to ARR as it is to be sold in power exchange.
10. The total cost of power purchase for FY 2021-22 is Rs. 10,788.19 Cr with break up as below:
 - Fixed Charge of Rs. 4873.81 Cr.
 - Energy Charge of Rs. 5731.72 Cr
 - Year End Charges of Rs. 182.67 Cr
11. The Power Purchase Cost for regulated power shall be Rs. 9,323.50 Cr, after adjusting the variable charge of surplus power which is to be sold in power exchange.
12. All the other costs of the ARR like Interest cost, Employee cost, Repair & Maintenance cost, Administrative & General Expenses, Depreciation and Return on Equity have been computed based on tariff regulations and past orders of the Hon'ble Commission.
13. The Summary of ARR of GRIDCO for FY 2021-22 is provided below:

Table 1: Summary of ARR for FY 2021-22 (Rs Cr)

Particulars	Amount
Power purchase cost	9,323.50
Pass Through Power purchase cost	777.66
Interest cost	559.90
Employee cost	18.80
Repair & Maintenance	0.70
Administrative and General Expenses	7.33
Depreciation	1.33
Return on Equity	92.27
ARR	10,781.48
Less Revenue from Emergency sales	42.90
Net ARR	10,738.58
Units to be sold to Discoms Utilities (MU)	27,315.02
Revenue from Discoms at existing tariff	7,846.41
Deficit Revenue at existing Average BSP	(2,892.18)
Proposed Average BSP to recover the Net Aggregate Revenue Requirement (P/U)	393.14

14. Further, GRIDCO has faced cash deficit in the past due to non-cost reflective tariffs BSP, disallowance of carrying cost of Regulatory Assets, receivables outstanding from DISCOMs etc. The Petitioner has met these cash deficit through working capital loans. It has total outstanding loans of Rs 6,564 Cr as on 31st March 2020. The Repayment liability for FY 2021-22 is Rs 1164.97 Cr. for FY 2021-22 towards loans taken from Commercial Banks (except State Govt loan, NTPC bonds).
15. As directed by Hon'ble Commission in its previous orders, the Petitioner plans to meet Repayment liability first from margin from sale of surplus power and is requesting Hon'ble Commission to create a regulatory gap amortisation mechanism separate from BSP to meet out repayment liability as the margin of trading will be insufficient to meet repayment obligation.
16. In Summary, the Petitioner humbly prays the Hon'ble Commission to allow proposed Net ARR & BSP of Rs. 10,738.58 Crore and 393.14 P/U.
17. In addition to BSP, the Petitioner requests Hon'ble Commission to create a separate mechanism to repay loan liability under Special Appropriation of Rs 1164.97 Cr for FY 2021-22 net of any margin earned on trading of surplus power.
18. The Petitioner further requests Hon'ble Commission to create separate mechanism through Regulatory Surcharge to amortize Regulatory asset of Rs 3,588 Cr approved by Hon'ble Commission (till FY14-15) which has accumulated to Rs 6,257. 22 Cr. till FY 2020-21. The Petitioner also request Hon'ble Commission to allow carrying cost on unfunded gap accumulated till now.

Chapter II - Background

19. Odisha was the first State to undertake sector wide reforms in 1994, with the passing of the Orissa Electricity Reform Act 1995. This was followed by the unbundling of the erstwhile vertically integrated Orissa State Electricity Board (“OSEB”) into Orissa Hydro Power Corporation (“OHPC”), which were vested with the hydro generating assets of the State) and the Grid Corporation of Orissa Limited (“GRIDCO”, which were vested with the transmission and distribution functions of the erstwhile OSEB).
20. Subsequently, on 25 November 1998, the distribution business of GRIDCO was segregated and vested into four distribution companies (viz., WESCO, NESCO, CESCO and SOUTHCO), each incorporated as a separate legal entity under the Companies Act. Subsequently, these distribution companies were privatised.
21. After separation of distribution business, GRIDCO was engaged with electricity transmission, bulk supply and trading activities.
22. Keeping in view the statutory requirement of the Electricity Act 2003 for separation of trading and transmission functions into two separate entities, the State Government incorporated Orissa Power Transmission Corporation Limited (OPTCL) to take over the transmission and SLDC functions of GRIDCO in 2005. GRIDCO is currently involved in the business of bulk purchase and bulk supply of electricity to the four distribution companies and also trading of surplus power through traders.
23. As per the provision of the Orissa Electricity Reforms Act 1995, GRIDCO at present is vested with the following residual functions:
 - a. Engaged in business of procurement and Bulk supply of Power
 - b. To undertake planning and coordination to determine the electricity requirement of the State
 - c. Purchase power in an economical manner and under a transparent power purchase procurement process
 - d. Establish a tariff or to calculate its charges from time to time in accordance with the requirements prescribed by the Commission
24. GRIDCO has statutory obligation to procure power and act as a bulk supplier to supply power to Discoms and meet the electricity demand in the State.
25. The Government of Odisha has also notified GRIDCO as the “State Designated Entity” (SDE) for execution of Power Purchase Agreements (PPAs) with the various Developers generating energy like Hydro Power, Wind Power, Power from Agricultural Waste etc. along with Thermal Power vide Government of Odisha Notification No. PPD-II-2/05 (pt.) 7947, dated 17th August 2006. A copy of the said Notification is attached herewith as Evidential Document(ED-1) for reference.
26. Therefore, GRIDCO is empowered to source the State’s share of power from the entitled Power Developers / Generators in order to make reliable and quality power available to the distribution companies for onward retail sale to the consumers at an affordable price.

27. GRIDCO's existence as the "State Designated Entity" to procure power on behalf of the State of Odisha for bulk supply to the Discoms for onward retail sale to the end consumers of the State is consistent with the provisions of the Electricity Act, 2003 (hereinafter referred to as "Act") under section 14 and 131 of the Act.
28. The above bulk supply function of GRIDCO in the State Power Sector has been duly acknowledged and endorsed by the Hon'ble Odisha Electricity Regulatory Commission (In short, "OERC" or the "Commission").
29. In fact, Hon'ble Commission has recognized GRIDCO as a State owned organization whose principal role is to undertake bulk procurement of power from the State's entitled sources (located inside & outside Odisha) and other sources as may be necessary and supply the same to the four Discoms for onward retail sale to meet the State's power demand in greater public interest.
30. Hon'ble Commission has extensively dealt with the various issues pertaining to the "Legal Status" of GRIDCO vide in the Aggregate Revenue Requirement (ARR) & Bulk Supply Price (BSP) Order dated 18th March 2011 for FY 2011-12 & 23rd March 2012 for FY 2012-13. Hon'ble Commission concluded that the continuance of GRIDCO is in line with the applicable Laws and essential in the overall interest of the people of Odisha and the State Power Sector in particular.

Chapter III – Legislative Framework

31. Under the existing Bulk Supply Agreements between the Discoms and the GRIDCO, the Discoms are required to purchase power from GRIDCO at a regulated price to be determined and approved by the Hon'ble Odisha Electricity Regulatory Commission.
32. The Hon'ble Commission is empowered under section 86 (1) (a) and (b) of the Electricity Act, 2003 to determine the power purchase cost for the Discoms. This procurement price of Discoms is the Bulk Supply Price at which GRIDCO supplies power in bulk to the Discoms.
33. It may also be noted that Sub Section 5 (k) of Section 15 of the Orissa Electricity Act, 1995 requires GRIDCO to file tariff/ Annual Revenue Requirement petition in accordance of the requirements of Hon'ble Commission.
34. It is also provided in the OERC (Conduct of Business) Regulations, 2004, as amended up to May, 2011 that GRIDCO is required to submit its Aggregate Revenue Requirement (ARR)/ tariff petition before 30th November of each year for the ensuing year before the Hon'ble Commission for approval.
35. Therefore, it is a statutory requirement for GRIDCO to submit its Aggregate Revenue Requirement (ARR)/ tariff petition before the Hon'ble OERC for determination and approval of the procurement price of the Discoms.

Chapter IV- Business relationship with Distribution Companies under the administrative control of Chairman, GRIDCO

36. It may be relevant to mention that Hon'ble Commission has revoked the Retail Supply Tariff (RST) Licenses U/s 19 of the Act of the Reliance Infrastructure Ltd (RIL) managed 3 (three) Distribution Companies (WESCO, NESCO & SOUTHCO) due to poor performance vide Order Dated 04.03.2015 in Case No. 55 of 2013.
37. The management and control of these distribution companies along with all the assets, interests, liabilities and rights were vested with the Office of Chairman, GRIDCO in his capacity as the Administrator of these three distribution companies u/s 20 (d) of the Act vide Order Dated 04.03.2015 in Case No. 55 of 2013. It will be under the supervision and control of the Principal Secretary, Department of Energy, Government of Odisha
38. At present, the administration of the said 3 Discoms is vested with the overall control of the Chairman, GRIDCO. It is submitted that the above mentioned three distribution companies (WESCO Utility, NESCO Utility & SOUTHCO Utility) have been functioning under the Office of the Chairman, GRIDCO-cum-Administrator, Discoms as per the stipulations issued by Hon'ble Commission from time to time.
39. It is also pertinent to mention that GRIDCO has filed a Petition before the Hon'ble OERC on 29th October 2019 for recovery of the outstanding dues (as on 4th March 2015) amounting to Rs. 4,234.09 Crore payable by the erstwhile 3 RIL managed Discoms (WESCO/NESCO & SOUTHCO) / M/s. RIL, the majority Stakeholder in the 3 Discoms to GRIDCO. The matter has been registered as Case No. 63 of 2019 before the Hon'ble OERC. In this matter, Hon'ble OERC vide its Interim Order dated 17th November 2020, directed the parties to file their replies/ counters and scheduled the next date of hearing on 15th December 2020.
40. It is humbly submitted that although these distribution utilities are under the control of the Office of Chairman, GRIDCO but the business relationship between GRIDCO and distribution companies continues to be the same as it was earlier prior to the revocation of license whereby such utilities continue to function as independent entities.
41. Similarly the License of Central Electricity Supply Company of Orissa Ltd. (the "CESCO"), the fourth Discom of the State was revoked by the Hon'ble Commission with effect from 1st April 2005 u/s 19 of the Act. An Administrator was appointed u/s 20(1)(d) of the Act vide Commission's Order dated 2nd April 2005 which was subsequently revised vide Commission's Order dated 18th April 2005. Later, a Scheme called the Central Electricity Supply Utility of Orissa (Operation and Management) Scheme, 2006 (the "Scheme") u/s 22 (1) of the Act for operation and management of the Utility wherein 'Utility' means the utility of CESCO, operated by the Chief Executive Officer & Administrator appointed vide Commission's order dated 18th April 2005. The utility of CESCO was renamed as the Central Electricity Supply Utility of Orissa (the "CESU") under this Scheme. The Scheme came into force from 8th September 2006. Since then, the term of the Scheme has been periodically extended with the latest extension being upto 22nd September 2019.

42. The utility of CESU was privatised with effect from 1st June 2020 and the utility was vested with TP Central Odisha Distribution Limited. As per the Act, a clean opening Balance Sheet has been given to the successor entity. All the liabilities payable by the Erstwhile CESU to GRIDCO against bulk power purchase cost, except Rs. 300 Crore, has been lying in the residual utility with no mechanism to service.
43. It is further understood that the other 3 Discoms are under the process of sale by the Hon'ble OERC and the sale process will be complete within this financial year. Similarly, the major part of payables from these utilities to GRIDCO will be remained with the residual entities with no mechanism for collection. It may be brought to notice that the GRIDCO has taken loans from commercial banks to fund the receivable gaps. GRIDCO will have to service the principal as well as the interest cost on these loans.

Chapter V- Impact of sale of utilities of revoked licenses on GRIDCO

44. The Petitioner submits that with sale of utilities of revoked licensees under Section 20 of the Electricity Act 2003, the private players will be given clean balance sheet. There will be negative impact on the financial health of GRIDCO. The outstanding from all the four distribution companies in the books of GRIDCO is Rs 6019 Cr. as on 31st March 2020. Against this amount, GRIDCO will receive only 51% of quoted value for share capital by the bidders in cash and balance amount equivalent to 49% in form of share. The quoted value of share capital of the distribution companies will be reserve price mentioned in the bid document plus premium to be quoted by the bidders. As the 51% of the reserve price is only Rs.561 crores, the financial health of GRIDCO will be negatively impacted.
45. However, there is a provision in the tender process that committed recovery of arrear by the successful bidder which will be 1st utilised towards the liability of the utilities on priority and balance to be pass on to GRIDCO. The recovery of these arrear amount and dividends by GRIDCO will certainly not in the near future and negligible; it will be dependent on the several other factors, such as performance of Discoms, turnaround plan to be implemented by the successful bidders, etc. It will result into a huge burden on the financial Statement of GRIDCO. Such huge write off in case of uncertainty of recovery of outstanding of approximately Rs.5458Cr (Rs.6019Cr – Rs.561Cr) combined with regulatory loss of Rs 6063 Cr upto FY 2020 due to non-cost reflective tariff will result in financial meltdown of the Petitioner.
46. The Petitioner humbly submits that Hon'ble Commission should allow this write off in a planned manner in next five years after the purchase consideration for these distribution companies is identified.

Table 2: Dues from Discoms and Unserviceable liability as on 31 March 2020 (Rs Cr.)

Particulars	CESU/TPCODL	WESCO	NESCO	SOUTHCO	Total
BSP Dues	1119.04	823.36	680.11	742.36	3,364.87
Securitized dues	1,277.18	285.41	294.87	259.98	2,117.44
NTPC Bonds		-	48.91	146.45	195.36
Other dues including Transfer Scheme Receivables	118.85	12.10	6.74	29.91	167.60
Deferred Credit	174.00	-	-	-	174.00
Total	2689.07	1120.87	1030.63	1178.7	6,019.27
GRIDCO share in DISCOM stake sale*	178.5	153	127.50	102.00	561.00
Unserviceable liability	2510.57	967.87	903.13	1076.7	5458.27

*CESU takeover value assumed at final quoted price without reducing Administrative expenses.

WESCO, NESCO & SOUTHCO takeover value assumed at Reserve price of Rs 300 Cr, 250 Cr and Rs 200 Cr respectively for 51% stake

47. In the above backdrop, GRIDCO submits its Aggregate Revenue Requirement (ARR) & Bulk Supply Price (BSP) Application for FY 2021-22 in the following paragraphs before the Hon'ble Commission for kind consideration and approval.

Chapter VI - Energy Requirement for FY 2021-22

48. The Petitioner has projected Demand from Discoms and Emergency backup power to NALCO and IMFA of 27,375.02 MU for FY 2021-22 based on demand projections submitted by Discoms and projections for CGPs done by Petitioner. Transmission losses for FY 2021-22 has been taken at 3% based on Hon'ble OERC approved OPTCL transmission losses. Thus the requirement for FY 2021-22 is 28,221.67 MU.

Energy Demand of Discoms and CGPs

49. The Petitioner submits that it had requested the four Discoms to submit their energy requirement and Simultaneous Maximum Demand (SMD) for FY 2021-22 in order to facilitate preparation of the Aggregate Revenue Requirement (ARR) & Bulk Supply Price (BSP) Application for FY 2021-22.
50. In response, the four Discoms submitted their SMD and energy projection for FY 2021-22 (ED-2).
51. The energy projection (in terms of MUs) shared by Discoms is summarized in the table below.

Table 3: Projection of Demand for FY 2021-22 (MU)

Discom	FY 2021-22 MU
TPCODL	9,194.80
NESCO	5,800.00
SOUTHCO	4,070.26
WESCO	8,249.96
DISCOM TOTAL	27,315.02
NALCO & IMFA	60.00
Total including Emergency Sale & Back-up Power Supply to NALCO & IMFA	27,375.02

52. TPCODL has projected requirement from GRIDCO in FY 2020-21 to grow by 3% over FY 2019-20 actuals. It has further projected requirement from GRIDCO in FY 2021-22 to grow by 9% over FY 2020-21 projected figures. TPCODL has projected sales at consumers level in FY 2021-22 to grow by 11% in Domestic category, 15% in EHT category over FY 2020-21 period.
53. NESCO has projected requirement from GRIDCO in FY 2020-21 to degrow by -7% over FY 2019-20 actuals. It has further projected requirement from GRIDCO in FY 2021-22 to grow by 15% over FY 2020-21 projected figures. NESCO has projected sales at consumers level in FY 2021-22 to grow by 12% in Domestic category, 12% in Large Industry and 16% in General purpose <100KVA category over FY 2020-21 period.
54. SOUTHCO has projected requirement from GRIDCO in FY 2020-21 to grow by 7% over FY 2019-20 actuals. It has further projected requirement from GRIDCO in FY 2021-22 to grow by 9% over FY 2020-21 projected figures. SOUTHCO has projected

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sales at consumers level in FY 2021-22 to grow by 11% in Domestic category, 16% in Large Industry and 15% in Irrigation category over FY 2020-21 period.

55. WESCO has projected requirement from GRIDCO in FY 2020-21 to grow by 6% over FY 2019-20 actuals. It has further projected requirement from GRIDCO in FY 2021-22 to grow by 3% over FY 2020-21 projected figures. WESCO has projected sales at consumers level in FY 2021-22 to grow by 18% in Domestic category, -1% in Large Industry and 9% in Irrigation category over FY 2020-21 period.

Table 4: Historical Actual sales to Discoms (MU)

Discom	2016-17 (Actual)	2017-18 (Actual)	2018-19 (Actual)	2019-20 (Actual)	2020-21 (P)	2021-22 (P)
TPCODL (CESU)	7,996	8,465	8,781	8,160	8,421	9,195
NESCO	5,345	5,464	5,576	5,439	5,050	5,800
SOUTHCO	3,272	3,488	3,654	3,504	3,737	4,070
WESCO	6,922	7,163	7,455	7,512	8,000	8,250
DISCOM TOTAL	23,537	24,582	25,468	24,616	25,208	27,315
IMFA	6	8	8	9	6	20
NALCO		26	54	36	57	40
Total including Emergency Sale	23,543	24,616	25,531	24,661	25,271	27,375
YoY Sales growth	2%	5%	4%	-3%	2%	8%

56. The sales to Discoms for Apr-Sep 2019 against Apr-Sep 2020 is summarized below.

Table 5: 6 month sales to Discoms (MU)

Discom	Apr-Sep 2019	Apr-Sep 2020	Growth
TPCODL (CESU)	4,582	4,622	1%
NESCO	3,029	2,539	-16%
SOUTHCO	1,890	1,861	-2%
WESCO	4,067	3,721	-9%
DISCOM TOTAL	13,568	12,744	-6%
IMFA	4	3	-25%
NALCO	28	29	4%
Total including Emergency Sale	13,600	12,776	-6%

57. The Petitioner submits that historically growth in sales (during last 4 years) to Discoms have been below 6%. However, the energy sales for FY 2021-22 has been forecasted to grow at the rate of 8% over FY 2020-21 sales projections. The reasons as explained by Discoms are given below:
- Due to Covid-19, energy sales to Discoms in Apr-Sep 2020 have fallen by 6%.
 - The Petitioner submits that FY 2020-21 is an aberration year as the country was in a State of lockdown resulting in lower sales for Industrial and Commercial categories for first six months.

- c. With the country opening up from lockdown, pent up demand of goods will result in higher economic activity leading to higher Industrial and Commercial energy sales. Thus it is envisaged that, sales will go back to normal levels in following months of FY 2020-21 and in FY 2021-22.
- d. Due to the decrease in demand from Discoms FY 2020-21, the sales numbers are on lower side, therefore the projected energy demand is estimated to increase in FY 2021-22 due to the revival of the economy, resulting into a 8% increase.
58. The Petitioner request Hon'ble Commission to approve 27,375 MU sales to ased on projections by Discoms and Emergency Power to NALCO & IMFA for FY 2021-22.

Simultaneous Maximum Demand (SMD) of Discoms

59. The Petitioner submits that SMD recorded for APR-Sep 2020 was 4139 MVA against SMD of 4337 MVA recorded in FY 2019-20. SMD decreased in Apr-Sep 2020 due to reduction in Industrial and commercial load in the system. SMD in Oct 2020-Mar 2021 is expected to grow to 4292 MVA against first 6 months of the year.
60. With the economy opening up, industrial demand will also increase. SMD for FY 2021-22 is expected to reach 4978 MVA. Discom wise SMD projection for FY 2021-22 are presented below:

Table 6: SMD for FY 2021-22 (MVA/month)

DISCOM Utility	SMD (MVA per month) recorded during FY 2019-20	OERC Approval for 2020-21 (MVA per month)	SMD (MVA per month) recorded during FY 2020-21 (Apr.'20 to Sept'20)	SMD (MVA per month) projected during FY 2020-21 (Oct.'20 to Mar'21)	Discoms' Projection of SMD for FY 2021-22 (MVA per month)
TPCODL	1,590	1670	1,532	1,660	1,946
NESCO	1,015	1130	981	1,050	1,100
WESCO	1,239	1300	1,235	1,413	1,488
SOUTHCO	614	680	595	592	700
State SMD	4,337	4,780	4,139	4,687	4,978

Transmission losses

61. The Petitioner submits that the transmission losses of OPTCL as approved by the Hon'ble Commission for FY 2020-21 is 3%. The same has been taken by the Petitioner to project Intra State transmission losses for FY 2021-22. Petitioner would request the Hon'ble Commission to approve the losses submitted by the Petitioner herein or revised approved losses based on ARR order of OPTCL for FY 2021-22.

Energy Requirement by GRIDCO

62. The Petitioner submits that its energy requirement based on the projected demand and estimated transmission loss as given below:

Table 7: Energy Requirement by GRIDCO for FY 2021-22 (MU)

Sl. No.	Particulars	Projection for FY 2021-22 (MU)
1	Energy Demand of Discoms	27,375.02
2	Transmission Loss @ 3%	846.65
3	Energy Required to be purchased by GRIDCO to meet the power demand of Discoms & CGPs	28,221.67

Chapter VII - Capacity planning and Justification for Fixed Charges

64. Under Orissa Electricity Reforms Act 1995, GRIDCO is required to plan energy requirement in the State to meet power Demand. GRIDCO had planned energy requirement in the state based on demand projections of 17th EPS released on March 2007. As per 17th EPS, demand of the state was estimated to grow to 10074 MW by FY 2021-22 . Considering this, the Petitioner had signed PPAs with various NTPC stations, OPGC plants and IPPs to the tune of 3232 MW. The Prices in the exchange were also attractive above Rs 7/kWh during 2007-08 and surplus power, if any, in future could have been sold at attractive prices. To meet the deficit power from the exchange would have been a proposition of costly power procurement for the state requirement.
65. But with fall in GDP growth in the country, Energy demand did not grow as envisaged and resulting in some surplus capacity across almost all the states. With falling prices in the Exchange, margin of surplus power also diminished. To reduce surplus power, the Petitioner took proactive step and deallocated capacity from high cost NTPC Barh-II and Nabinagar plants. With upcoming capacity addition from low cost NTPC plants of North Karanpura and Darlipali, the Petitioner will be able to provide energy security to the state till FY 2024-25.
66. GRIDCO had committed PPAs in order to meet the demand projections. Once the Capacity has been tied up and PPAs have been signed, GRIDCO is contractually bound to service the Fixed Charges based on Availability of the stations and not based on Energy Drawn. Hon'ble Commission in its previous orders had taken the same view by allowing the fixed cost of high cost plants without approving any generations from high cost plants. Taking the same view, various SERC have also approved fixed cost of plants with high variable cost with low PLFs. Thus, Hon'ble Commission is requested not to disallow any fixed charge under various long term PPAs to keep the sector sustainable and to ensure reliable power supply arrangement for present and futures demand of the state.

Justification for Capacity Addition and Fixed charges

67. In the previous tariff/ ARR orders, the Hon'ble Commission has disallowed the fixed charges for the generating stations from whom power has not been drawn during the year. The Petitioner humbly submits that it is against the basic principle of signing long term Power Purchase Agreement (also encouraged by National Tariff Policy under clause 5.5). It is also not allowing the Petitioner to fulfil its obligation as envisaged under the Orissa Electricity Reforms Act 1995.
68. Section 13 of Orissa Electricity Reforms Act 1995, requires GRIDCO to plan and coordinate energy requirement in the State in coordination with Generating companies, State Government, CEA etc. It is the responsibility of the GRIDCO to meet the power purchase requirement of the State.

69. Assuming the presence of the private players in four distribution companies in the State and the applicability of the uniform retail supply tariff in the State, GRIDCO has been playing a significant role in the Odisha power sector on overall planning and energy security for the state. Hence, the financial sustainability of GRIDCO needs to be ensured by the Hon'ble Commission.
70. As a part of its function and duties, GRIDCO planned to tie up for additional generation capacity based on the 17th Electric Power Survey (EPS) Report published by the Electric Power Committee under the Central Electricity Authority on 30th March 2007.
71. EPS Report published by the Electric Power Committee is an authentic and robust reference document for all State Government besides the Union Govt. and other stakeholders for advance planning for their growth.
72. The projection of 17th EPS Report is given below. The electricity demand projection was based on several assumption, such as achieving higher energy consumption, 24X7 power supply, wiping of the energy deficit, GDP growth at the rate of 8% to 10%, etc.

Table 8: 17th EPS Demand Projections v/s Actual Demand (MW)

Particulars (MW)	2010-11	2011-12	2016-17	2021-22
Projected Peak demand as per 17 th EPS	4,020	4,459	6,330	10,074
Actual SMD*	3,347	3,581	4,105	4,337**

*PF assumed as 0.95.

**Actual SMD of FY 2019-20 on conservative basis.

73. Accordingly, based on 17th Electric Power Survey Report, planning for capacity addition was done by the State Government and GRIDCO to meet its future growth in demand.
74. In order to meet the growing demand of power, the capacity planning has to be done well ahead of time for timely addition of capacity into the energy mix. The power plants cannot be set up overnight to mitigate shortfall in availability of power.
75. GRIDCO entered into various long term Power Purchase Agreements (PPAs) with various Public sector (ISGS stations) and Private sector generators (such as IPPs) to cater the peak demand of the State. PPAs were signed with cheaper source NTPC plants under State allocation and PPAs and PPAs with IPPs were signed under State share of concessional power.

Table 9: PPAs executed post 2007

S.No	Name of the Generator	GRIDCO Share (MW)	GRIDCO share (MU)	Date of PPA executed
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1	TSTPS-II	200	1,396	20.01.2007
2	FSTPS-III	86	599	27.12.2010
3	Darlipali	800	5,585	27.12.2010
4	KBUNL	30	203	27.12.2010
5	OPGC Stage II	990	6911	04.01.2011 & 24.01.2019
6	GMR	262	1,844	04.01.2011
7	JITPL	144	1,007	05.01.2011
8	Vedanta	720	5,039	19.12.2012
Total		3232	22584	

76. At that point of time, it was very important to make long term power tie ups and provide energy security to consumers of the State. The average power purchase rates in power exchange was Rs 7.57 in FY 2007-08 and Rs 7.49 in FY 2008-09. The revenue from the sale of surplus power at such rate has been passed on the consumers. Therefore, it was necessary to execute the above mentioned power purchase agreements and avoid the purchase of power from short term market at a higher rate.
77. The objective of the entire business planning was to provide reliable power at lower cost to the consumers of the State.
78. As seen from the table below, the State would have been in power deficit from FY 2020-21 to FY 2029-30 if GRIDCO had not signed up PPA with NTPC for Darlipali-I, Barh-I, North Karanpura etc. before 2010. The Petitioner has analyzed historical SMD of last 10 years and projected SMD by growing SMD of FY 2019-20 by historical growth observed. Availability has been forecasted based on actual plant CoD and projected phasing out of old plants. (SMD and Plant wise availability is attached as ED-3)

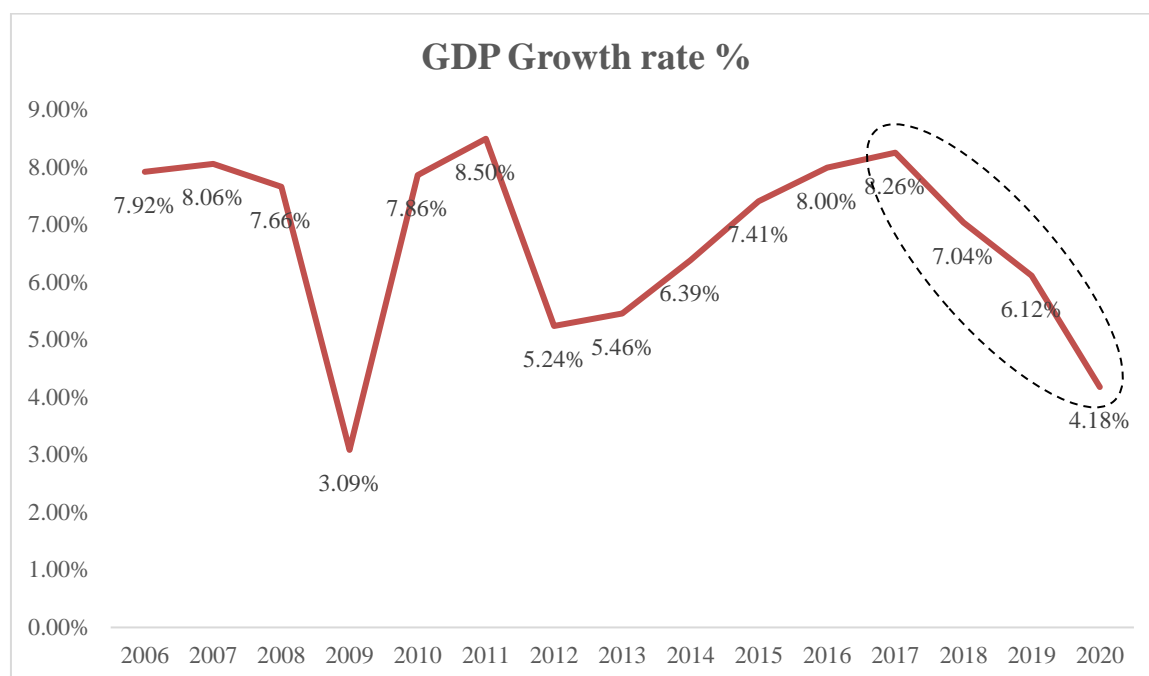
Table 10: Projected Availability and SMD (MW)

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Projected SMD	4379	4507	4722	4963	5323	5490	5649	5767	5993	6119
Projected Availability without Darlipali-I, Barh-I, North Karanpura	4123	3898	3951	4206	4210	3985	3989	3690	3695	3725
Surplus(+)/ Deficit(-)	-256	-609	-771	-757	-1113	-1505	-1660	-2077	-2298	-2394
Projected Availability including Darlipali-I, Barh-I, North Karanpura	4431	5050	5267	5522	5526	5301	5305	5006	5011	5041

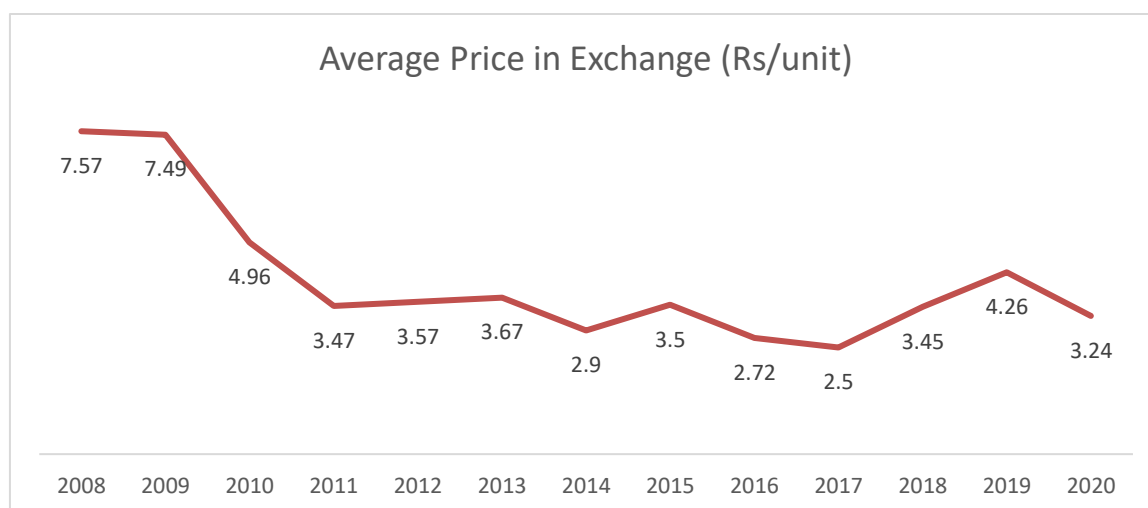
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Surplus(+)/ Deficit(-)	53	542	545	559	203	-189	-344	-761	-982	-1078
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79. The Petitioner would have to buy expensive power in the absence of these PPAs. With these PPA the Petitioner is able to comfortably meet State peak demand and maintain energy security of the State and provide competitive power to its consumers till FY 2024-25.
80. It is pertinent to mention that the gestation period of thermal and hydro plants are normally five years and in some cases due to various uncontrollable factors it takes more than 10 years. In order to ensure the energy security for the state in long term basis the planning and actions are taken well in advance. The marginal surplus in intermittent year(s) is a natural outcome if reliability and energy security to be ensured. It is not feasible to exactly match the demand and availability in a given time.
81. It is also submitted that the Petitioner will have to further add peak generation capacity to meet its peak demand post FY 2024-25 to avoid energy deficit situation in the State.
82. The Petitioner humbly submits that it is largely dependent on hydro stations to meet its demand requirements. At present the total capacity of PPAs with hydro stations is 2,426 MW vis-à-vis total tied up capacity of 8,989 MW. The Hydro Power Stations of OHPC are Multi-Purpose Projects intended to fulfil manifold objectives such as; (i) Drinking Water, (ii) Irrigation, (iii) Flood Control and (iv) Power Generation. As per the Government of Odisha Letter No.1430 dated 19th February 2010, Power Generation comes 4th (fourth) in order of priority after fulfilling the requirement of water for the purposes of Drinking, Irrigation and Flood Control. Therefore, generation of hydropower is not directly related to the grid demand but is dependent upon other factors like requirement of water for Drinking, Irrigation and Flood Control. Generation of power from other hydro stations is usually dependent on uncontrollable factors like annual rainfall, reservoir levels etc. Considering these factors, the generation profile of hydro stations may be considered to be volatile. GRIDCO has to maintain some surplus dispatchable capacity (thermal) to meet the peak demand. This is required to ensure reliability of supply of power to meet the peak energy requirements of the Discoms.
83. The Petitioner currently is in some surplus due to high growth forecast in 17th EPS. As seen from chart below, the GDP growth has been consistently falling from FY 2016-17 and below 8-10% as estimated in EPS. With falling GDP rate, the demand of electricity also did not increase as envisaged in the 17th EPS resulting in some surplus power currently.



84. The prices in the exchange have also fallen consistently over the past few years resulting in limited margin to sell power in exchange.



85. It is humbly reiterated that Fixed Charge is based on capacity commitments and not on the basis of energy drawn. It has been explained above that GRIDCO had committed PPAs with CPSUs and IPPs in order to meet the demand projections. Once the Capacity has been tied up and PPAs have been signed, GRIDCO is contractually bound to service the Fixed Charges based on Availability of the stations. It may also be noted that the fixed charges are required to be paid even if it is not allowed by the Hon'ble Commission. Therefore the Fixed Charges which is payable by GRIDCO to generating stations based on Availability of the tied-up Capacities must be entirely recovered from DISCOMs through BSP. If there is any excess amount generated from sale of surplus power and such amount is not appropriated to fund any other expense like regulatory assets or interest charges etc, then such excess amount from trading of power may be adjusted from the Fixed Charge recoverable from DISCOMS through BSP.

86. The Petitioner further submits that GoI has set a target to achieve 450 GW Renewable energy installed capacity by 2030. To achieve these targets, GoI has mandated Bulk suppliers and Discoms to achieve yearly Renewable energy targets.
87. Hon'ble Commission has mandated the Petitioner to purchase 11% of its power from renewable energy with 5.5% from Solar and Non-solar each. The Petitioner submits that it is projected to have renewable energy tied up capacity of 1156 MW by end of FY 2020-21 and 1479.15 MW by end of 2021-22 in line with Hon'ble Commission directive to meet RPO trajectory.
88. The Petitioner submits that mandated renewable energy capacity addition is not in line with increase in State demand which is resulting in surplus energy in the State from past many years. Further addition in solar energy is also not assisting the Petitioner in meeting its peak demand due to mismatch in generation period of solar energy and period of peak demand in the State.
89. Notwithstanding anything mentioned above, the Petitioner is consistently making efforts to reduce its surplus capacity and provide relief to the consumers of the fixed cost inspite of being bound by various legal covenants to purchase power from the entitled sources:
- a. GRIDCO has been relieved from procuring the committed 166 MW of costly power from the NTPC Barh-II Station through de-allocation of State share with the initiative of the Govt. of Odisha and re allocation of the same in favour of the State of Bihar w.e.f. 19th February 2019.
 - b. Persistent efforts by the State Government and GRIDCO resulted in deallocation of Odisha share of 155 MW of costly thermal power from Nabi Nagar Thermal Power Station of NTPC and re-allocation of the same in favour of Uttar Pradesh w.e.f. 7th January 2016.
 - c. GRIDCO is also in discussion with GoO and GoI to further deallocate its share from high variable cost Barh-I and KBUNL power plants resulting in saving in fixed costs.
90. The abovementioned efforts show the Petitioners intention to optimally manage energy requirement and cost of purchasing power while providing energy security in the State.
91. The Petitioner also submit that various SERCs have allowed fixed cost of plants even with dismal PLFs due to high prices of gas, unavailability of coal etc. The following table highlights that all the other Regulatory Commission such as UPERC, MPERC, and RERC are allowing the fixed charges for the stranded generating assets.

Table 11: Indicative list of plants with high variable cost and approved fixed cost

State	Plant Name	Capacity (MW)	PLF %	Energy Purchase (MU)	Fixed Charge Amount	Variable Charges Amount
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					(INR Cr)	t (INR Cr)
Uttar Pradesh	NTPC (Auraiya GPS)	213	9%	59.98	126.06	29.29
Uttar Pradesh	NTPC (Anta GPS)	91	20%	15.47	64.34	11.26
Uttar Pradesh	IPP Bajaj Energy (BEPL Khambhakhera)	90	9%	77.99	123.24	29.32
Uttar Pradesh	IPP Bajaj Energy (BEPL Barkhera)	90	11%	62.65	121.95	23.65
Uttar Pradesh	IPP Bajaj Energy (BEPL Maqsoodapur)	90	12%	58.65	122.39	22.33
Madhya Pradesh	NTPC (Kawas GPP)	140	11%	564.98	86.91	155.37
Madhya Pradesh	NTPC (Gandhar GPP)	117	4%	692.98	89.92	148.99
Madhya Pradesh	NTPC (Solapur STPS, Unit 1)	311.98	4%	-	180.82	-
Madhya Pradesh	IPP (Jaypee Bina Power)	350	18%	-	504.75	-
Madhya Pradesh	Satpura Phase III	420	34%	1,429.3 4	407.73	370.20
Rajasthan	NTPC (Anta GTPS)	83	3%	30.00	43.00	12.45
Rajasthan	NTPC (Auriya GTPS)	61	7%	28.00	28.00	11.20
Rajasthan	NTPC (Dadri GPS)	77	22%	116.00	31.00	48.84
Rajasthan	State Owned (KaTPP 2)	600	44%	1,196.0 0	635.00	324.12
Rajasthan	CTPP Unit 5	660	51%	2,281.0 0	725.00	485.85

92. It may also be noted that in the judgment of Hon'ble APTEL in Appeal No. 255 of 2014 in the matter of Damodar Valley corporation versus Jharkhand State Electricity Regulatory Commission, regarding disallowance of Power purchase cost, Hon'ble APTEL held that fixed charges needed to be paid and approved even if power is not scheduled. The relevant extract of the order is submitted below:

“As regards the Appellant’s allegation that the State Commission erred in disallowing the actual power purchase cost for FY 2013-14 which is incurred by the Appellant and not allowed in the projected power purchase cost for FYs 2014-15 and 2015-16, after careful examination of this issue, we find that the Appellant has arranged on long term basis the power required under its command area from the generating units of the Central Sector as well as other generating stations and it has to determine fixed cost as per the long term PPAs for power procurement irrespective of whether the Appellant schedules the power made by these generating stations or not. Looking into this merit, we are inclined to accept the same particularly, in light of the Central Commission’s Regulations which State that if the utility has been able to declare the capacity to the level as prescribed in the Regulations, the consumers have to bear the fixed charges even if they are not scheduling the power and this is in light of the fact that Appellant has tied up long term PPAs for sourcing its power requirement. Hence, we direct the State Commission to consider entire fixed cost of power purchase as determined by the Central Commission

vide its different Orders from the generating stations of CPSUs and other IPPs for meeting the power obligations of the Appellant. ”

“As regards the power purchase cost is concerned, the State Commission is hereby directed to re-determine the same keeping in view the fixed charges of the power purchase cost as approved by the Central Commission and incurred by the Appellant duly audited, should be reconsidered subject to the prudent check as advised above. Hence the present Appeal filed by the Appellant has been allowed partly on the only issue regarding the consideration of power purchase cost. ”

93. The Petitioner humbly submits that all types of planning to meet future demand including for transmission and generation capacity is done on the basis of capacity in MW terms and not in energy or MU terms. The Fixed Charge arising out of such tie ups is to be paid on the basis of availability factor of such tied-up capacity and not in terms of scheduled energy.
94. Considering the above facts, it is humbly submitted that since capacity planning being a long-term in nature and is a statutory obligation on GRIDCO, Hon'ble Commission is requested not to disallow fixed charge under various long term PPAs to keep the sector sustainable. The Petitioner humbly request Hon'ble Commission to approve the fixed charges as payable by GRIDCO to the generating stations for the all existing and new stations to be recovered from Discoms through BSP.

Chapter VIII – Power Availability form Generating Stations

95. To meet the State Requirement of 28,221.67 MU, GRIDCO has sufficient Availability from diversified sources of Thermal, Hydro, Renewables stations both from within the State and outside the State. Such diversified sources helps the Petitioner to meet Peak Capacity and maintain Grid stability with increasing Renewable Penetration. The Petitioner estimated purchase of 35,290.03 MU from various stations in FY 2021-22 considering the Generation plan shared by stations, Normative PLF, Synchronization issues etc. The estimated station wise energy availability for FY 2021-22 is as follows:

State Hydro sources

96. Odisha Hydro Power Corporation (OHPC), a wholly owned Undertaking of the Government of Odisha, owns & operates six Hydro Power Stations namely, Hirakud, Chiplitima, Rengali, Upper Kolab, Balimela and Upper Indravati Hydro Electric Project (UIHEP). These Hydro Power Stations are Multi-Purpose Projects intended to fulfil manifold objectives such as; (i) Drinking Water, (ii) Irrigation, (iii) Flood Control and (iv) Power Generation. As per the Government of Odisha Letter No.1430 dated 19.02.2010 (ED-4), Power Generation comes 4th (fourth) in order of priority after fulfilling the requirement of water for the purposes of Drinking, Irrigation and Flood Control. Therefore, generation of hydropower is not directly related to the grid demand but is dependent upon other factors like requirement of water for Drinking, Irrigation and Flood Control.
97. In addition to the above six Nos. of Hydro Electric Power Stations, Machhkund Hydro Electric Project is a Joint Scheme of the Government of Andhra Pradesh and the Government of Odisha as per the Inter-State Supplementary Agreement signed in the year 1978 between both the State Governments.
98. Annual Rainfall is a natural phenomenon and has a direct bearing on the Reservoir levels of Hydro Power Plants and affects the quantum of hydro power generation in any given year. However, with the State Power Demand steadily rising, there is every likelihood that the State may have to face shortage of hydro power in its Power Purchase Mix during the ensuing summer months of FY 2021-22.
99. As per the directives of Hon'ble Commission vide Order dated 20th March 2010 relating to the ARR of OHPC for FY 2010-11, Hydro Generating Units of Burla and Chiplitima are taken as separate Hydro Stations / Entities with effect from 1st April 2010. The Design Energy of Burla and Chiplitima as approved by the Hon'ble Commission are 684 MU and 490 MU, respectively. Considering 5 MW power supply from Hirakud Hydro Electric Project (HHEP) to Chhattisgarh State Electricity Board (CSEB), 16.60 MU of energy is deducted from the supply of power from Hirakud Power Station (HPS) to Chhattisgarh State.
100. The Petitioner has forecasted generation from OHPC plants considering their design energy, State share and 1% Loss i.e. 0.50% towards Transformation Loss & 0.50% towards Auxiliary Consumption Loss.

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101. Details of projected drawal of energy from the OHPC Stations for the ensuing FY 2021-22 is indicated in the Table below for kind approval of the Hon'ble Commission:

Table 12: Power purchase projections of State Hydro stations (Rs Cr.)

Station	Design Energy (Including loss)	GRIDCO Share	Actual Drawal during FY 2019-20 (After Loss)	OERC Approval for FY 2019-20 (After Loss)	Actual Drawal during (April'20 to Sept.'20)	Generation Programme submitted by OHPC for FY 2021-22	Projection for FY 2021-22
	(MU)	(%)	(MU)				
HHEP	684.00	100*	502.23	677.16	360.33	542.00	660.56
CHEP	490.00	100	228.67	485.10	182.84	232.00	485.10
Rengali	525.00	100	647.71	519.75	654.61	713.00	519.75
Upper Kolab	832.00	100	813.04	823.68	477.66	766.00	823.68
Balimela	1,183.00	100	1,482.02	1,171.17	919.94	1,312.00	1,171.17
Sub-Total	3,714.00	100	3,673.66	3,676.86	2,595.38	3,565.00	3,660.26
Upper Indravati	1,962.00	100	2,188.21	1,942.38	1,045.09	2,066.00	1,942.38
Machhkund	525.00	50%	306.55	262.50	144.33	-	259.87
Total	6,201.00		6,168.42	5,881.74	3,784.80	5,631.00	5,862.51

Note: *There is 5 MW allocation from Hirakud HPS i.e. 16.60 MU in favour of CSEB

102. The Petitioner requests the Hon'ble Commission to approve projections of State hydro plants as submitted by the Petitioner.

IB Thermal Power Station of OPGC

103. Orissa Power Generation Corporation (OPGC) owns IB Thermal Power Station at Banharpalli in Dist. Jharsuguda with an existing installed capacity of 2x210 MW (Unit-I & II) from which GRIDCO is entitled to draw 100% power and expansion project (Unit-III & IV) of OPGC having installed capacity of 1320 MW (2x660 MW) with GRIDCO share of 75%. A Supplementary PPA was executed between OPGC and GRIDCO on 24th January 2019 and is being filed as Case No. 67 of 2019 before Hon'ble Commission for statutory approval.
104. In compliance to the request of GRIDCO, OPGC has submitted the Generation plan of Unit I&II for Financial Year 2021-22 vide email message dated 14th October 2020 (ED-5). As per the said Generation Plan, Net Drawal from OPGC during FY 2021-22 is estimated to be 2,726 MU at a PLF of 81.88 %. The Generator has mentioned that there shall be planned outage due to Minor and Medium Annual Over Hauling (AOH) during April, 2021 and August, 2021 period during FY 2021-22 for 24 and 30 days respectively. The Petitioner has considered the same plan shared by OPGC for projection of generation from unit I & II.

105. For Unit III & IV, OPGC has projected gross Generation Plan of 8107.501 MU as Station Generation during FY 2021-22 vide e-mail dated 14.10.2020. The net export to GRIDCO have been projected to be 7583.28 MU towards entitlement at PLF% of 70.11% and Auxiliary Energy Consumption of 6.30%, which comes out to 5687.46 MU at 75% contracted capacity of GRIDCO. While GRIDCO has projected generation from OPGC Unit III & IV based on norms set in the OERC Tariff Regulations (for Unit above 600 MW) with Auxiliary Energy Consumption of 6.25% and PLF % as submitted by OPGC of 70.11%. Based on this Generation from OPGC III & IV has been forecasted as 5700.21 MU. The Petitioner request the Hon'ble Commission to approve the same.
106. Details of projected drawal of energy from the OPGC Stations for the ensuing FY 2021-22 is indicated in the Table below for kind approval of the Hon'ble Commission. The Petitioner requests the Hon'ble Commission to approve the same.

Table 13: Power purchase cost from OPGC stations (MU)

Station	Installed Capacity	Aux Consumption	PLF	Gross Generation	Aux Consumption	Energy Sent Out (ESO)
Unit	(MW)	(%)	(%)	(MU)	(MU)	(MU)
Unit I & II	420	9.50	81.88 %	3012.378	286.176	2726.34
Unit III & IV	1320 (75% share)	6.25	70.11 %	6,080.22	380.01	5,700.21

107. The Petitioner submits that the generation estimated by OPGC and GRIDCO shall be modified based on approval of ARR petition of OPGC for FY 2021-22 by Hon'ble Commission.

Talcher Thermal Power Station (TTPS)

108. 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 3287.68 MU by GRIDCO considering PLF of 91.16% and Auxiliary Consumption of 10.50% (attached as ED-6). The Petitioner request Hon'ble Commission to approve the same.

Table 14: Power purchase cost of TTPS (MU)

Name of Thermal Station	Installed Capacity	Auxiliary Consumption	PLF	Gross Generation	Auxiliary Consumption	Energy Sent Out (ESO)
Unit	(MW)	(%)	(%)	(MU)	(MU)	(MU)
TTPS	460.00	10.50	91.16	3673	385.71	3287.68

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

109. GRIDCO respectfully submits that with coming up of OPGC Unit # 3 & 4, NTPC-Darlipalli (800 MW), NTPC-North Karanpura, Renewable capacity addition and Barh-1 there would not be any power requirement from CGP sources during the ensuing FY 2021-22 on regular basis. However, procurement of power from CGPs and Co-Generation Plants may be resorted as per the Order dated 09.04.2019 of the Hon'ble OERC in Case No.62 of 2017. GRIDCO may resort to source power from CGPs provided the economics of power procurement works out in favour of GRIDCO and also depending on the power supply and demand situation of the State and also in exigency/force majeure conditions justifying such procurement. CGP power is not a firm source of power since the CGPs are essentially meant for the captive consumption and hence, GRIDCO cannot propose procurement of a definite quantum of power from the CGPs. Further it is submitted that drawal of firm power from the generators with whom they have signed PPAs, has to be sourced in order to economise the procurement cost, otherwise the liability of payment of fixed cost remains with GRIDCO irrespective of any energy drawal. As directed by Hon'ble Commission in Tariff order for FY 2020-21, GRIDCO will try to purchase power from captive sources based on requirement and MoD principles.

Renewable Energy Sources

110. It is submitted that the Hon'ble OERC has mandated GRIDCO to meet the Renewable Energy (both solar and non-Solar) Purchase Obligation (RPO) for the years from 2011-12 to 2015-16 in terms of Para 3 (I) of the Hon'ble Commission's Order dated 30th September 2010 in Case No. 59 of 2010. Thereafter, the RPO has further been revised for the years from 2015-16 to 2019-20 vide Clause 4.2 of the Odisha Gazette Notification dated 10.09.2015 (ED-7). As per the above Gazette Notification dated 10.09.2015, the same RPO target is to be continued till further revision in this regard and hence for FY 2021-22 also, GRIDCO has considered to purchase renewable energy @ 11.00% RPO (consisting of 5.50% Solar target & 5.50% Non-Solar target) of the total projected energy requirement in the State for sale through the Discoms (27315 MU) and Emergency & Back-up Power Sale (60 MU) to Long term Customers like NALCO & IMFA, which is in line with the provisions of RPO (5.50% solar RPO & 5.50% Non-Solar RPO). The relevant Paragraph along with the Table from the afore-said Gazette Notification dated 10th September 2015 is reproduced below:

“Every Obligated Entity shall at least purchase source-wise energy from Renewable sources as indicated in the table below:

Table 15: OERC Approval for Annual Renewable purchase Obligation (RPO) (%)

<i>Year-wise Target</i>	<i>Solar Source (%)</i>	<i>Non Solar Sources (%)</i>	<i>Total (%)</i>
<i>2015-16</i>	<i>0.50</i>	<i>2.50</i>	<i>3.00</i>
<i>2016-17</i>	<i>1.50</i>	<i>3.00</i>	<i>4.50</i>
<i>2017-18</i>	<i>3.00</i>	<i>4.50</i>	<i>7.50</i>
<i>2018-19</i>	<i>4.50</i>	<i>5.00</i>	<i>9.50</i>

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2019-20	5.50	5.50	11.00
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111. The Petitioner submits that proposed procurement of Solar & Non-Solar energy by GRIDCO for FY 2021- 22 is indicated below:

Table 16: Proposed Procurement of Renewable Energy during FY 2021- 22

Particulars	RPO Target (On Proposed Sale of 27375 MU to Discoms & to NALCO & IMFA)		Renewable Energy proposed by GRIDCO for FY 2021-22
	Percentage (%)	Quantum (MU)	Quantum (MU)
A. Solar Energy	5.50	1,505.63	1479.00
B. Non-Solar Energy (Bio Mass, SHEP & Wind)	5.50	1,505.63	1565.61
Total	11.00	3011.25	3044.61

Solar Energy

112. The Petitioner submits that it is estimated to purchase 1479.00 MU from Solar energy in FY 2021-22 from the following stations:
113. 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, Government of India (13 MU);
114. 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' in Phase-1 of Jawaharlal Nehru National Solar Mission (JNNSM) where Solar capacity bundled with equal capacity of thermal capacity from the unallocated quota of the NTPC Coal Based Stations is available to GRIDCO (34 MU), and;
115. 10 MW Solar capacity from NTPC as per the PPA executed with them on 26.04.2011 to procure Solar power from each of the 5 MW Dadri Solar PV project at U.P. & 5 MW Faridabad Solar PV Project at Haryana (17 MU);
116. 8 MU will be made available to GRIDCO from the 5 MW Solar PV Project developed by M/s Alex Green Energy Ltd. under OREDA State Scheme at Patnagarh, Bolangir District;
117. 42 MU will be made available to GRIDCO from the 25 MW SPV Project developed by M/s. ACME Odisha Solar Power Private Ltd. at Bolangir District under OREDA State Scheme, Phase-2;

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118. 70 MW Solar Capacity is allocated to GRIDCO through SECI under Viable Gap Funding (VGF) Scheme under JNNSM Phase-II. Around 116 MU will be made available to GRIDCO during FY 2021-22;
119. From the 270 MW Solar power allocated to GRIDCO through SECI VGF Scheme under JNNSM Phase-II, Batch – IV, around 450 MU power is expected to be available to GRIDCO during FY 2021-22;
120. From the 4 MW Rooftop project by GEDCOL in the 177 nos. of non-residential Govt. buildings implemented in twin-city of Cuttack & Bhubaneswar under net-metering Regulation, it is expected to get around 6 MU Solar Energy during the FY 2021-22.
121. From the 75 MW Solar PV project developed by M/s Aditya Birla Renewables Limited, selected under GRIDCO e-bidding Scheme as per the Ministry of Power, Government of India Resolution dated 03.08.2017, it is expected to get around 120 MU Solar Energy during the ensuing FY 2021-22.
122. Around 480 MU from the 300 MW Solar Power being procured through SECI under ISTS-connected Solar power Projects Scheme which is expected to be available by October 2020.
123. From the 200 MW Solar power allocated to GRIDCO through SECI under ISTS-connected Solar power Projects Scheme, around 187 MU power is expected to be available during FY 2021-22 (from July 2021 onwards) after its CoD in June 2021.
124. 5 MU solar power is expected to be made available to GRIDCO from the upcoming 8 MW Solar PV Project developed by GEDCOL in 5 nos. of location (3 nos. of OPTCL sub-stations, at Mukhiguda Power House & GEDCOL Manamunda Solar Project premises) in the un-utilized surplus land.
125. The Petitioner submits that total renewables purchase is summarized as below:

Table 17: Proposed Drawl of Solar Power during FY 2021-22

Sl. No.	Solar RE Sources	Energy Proposed for FY 2021-22 (MU)
1.	8 Nos. of Solar PV projects of 1 MW each under RPSSGP	13.00
2.	20 MW from NVVN through 'New Projects scheme' under JNNSM, Phase-1	34.00
3.	10 MW through NTPC from 5 MW Solar PV project at Dadri& Faridabad	17.00
4.	5 MW from M/s Alex Green Energy Ltd. through OREDA State Scheme	8.00
5.	25 MW from M/s. ACME Odisha Solar Power Private Limited	42.00
6.	70MW through Solar Energy Corporation of India (SECI) under JNNSM, Phase –II, Batch-I	116.00

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7.	270MW through Solar Energy Corporation of India (SECI) VGF Scheme under JNNISM, Phase –II, Batch-IV	450.00
8.	4 MW through Rooftop PV project implemented by GEDCOL in BBSR & Cuttack	6.00
9.	75 MW from M/s Aditya Birla Renewables Ltd. procured through GRIDCO e-bidding process	120.00
10.	300 MW Solar power through SECI under ISTS-Connected Solar Power projects scheme	480.00
11.	200 MW Solar power through SECI under ISTS-Connected Solar Power projects scheme for 10 months i.e. from July 2021 to March 2022	187.00
12.	8 MW from GEDCOL implemented in un-utilized surplus land	5.00
13	Under MNRE RTS-II Scheme implemented by OREDA	1
	Total	1479.00

Non Solar***Small / Mini Hydro Electric Projects***

126. It is submitted that 24 MW SHEP power from Lower Baitarani SHEP by M/s Baitarani Power Projects Pvt. Ltd. is made available to GRIDCO from August-2020. It is expected that, 18 MW Saptadhara SHEP by M/s Sri Avantika Power Projects Pvt Ltd. shall be commissioned by Mar 2021 and 09 MW Bargarh Head Regulator SHEP by M/s Kakatiya Industries Pvt. Ltd. shall be commissioned by June-2021. GRIDCO also has executed PPA with M/s OPGC on dated 30.05.2020 to procure all the power from 650 kW (2 x 325 kW) Biribati Mini Hydel Project located across Taladanda Canal at Cuttack & 500 kW (2 x 250 kW) Kendupatna Mini Hydel Project located across Kendrapada Canal at Salepur, Cuttack. Considering energy procurement of 299.66 MU of power during FY 2019-20 from Small / Mini Hydro Projects, drawal of 203.13 MU during the first six months of FY 2020-21 and the present availability of Water, GRIDCO proposes to draw around 470.35 MU of Energy from Meenakshi, Samal, Lower Baitarani, Saptadhara, Bargarh Head Regulator Small Hydro Power Project & 2 nos. of Mini Hydel Project during FY 2021-22 as given below:

Table 18: Proposed Drawal from the SHE Projects in FY 2021-22

Sl. No.	Name of the SHEPs	Installed Capacity	Energy drawal during FY 2019-20	Energy drawal during the 1st six months of FY 2020-21	Proposed Energy procurement for FY 2021-22
		(MW)	(MU)	(MU)	(MU)
1.	Meenakshi Small Hydro	37	216.68	135.32	200.00
2.	SAMAL Small Hydro	20	82.97	44.61	80.00

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3.	Lower Baitarani Small Hydro	24	---	23.20	150
4.	Saptadhara Small Hydro	18	---	---	20.00
5.	Bargarh Head Regulator Small Hydro	09	---	---	8.00
6.	Biribati & Kendupatna MHPs by OPGC	1.15	---		0.35
	Total excluding Mangdechhu	109.15	299.66	203.13	458.35

Generation from Large hydro Mangdechhu is expected to be 355.59 MU and will be included in RPO compliance

127. The Petitioner further submits that it is projected to purchase 355.59 MU (342.26 MU after Transmission loss) from Mangdechhu in FY 2021-22. Post GoI Notification dated 8th March 2019 to include new hydro plants under Renewable energy, the Petitioner has included energy purchased from Mangdechhu under Renewable energy. Detailed calculation of energy procurement from Mangdechhu is presented in the later sections.

Biomass

128. It is submitted that the 20 MW Biomass Power Plant of M/s. Shalivahan Green Energy Ltd., Hyderabad located at Nimidha, Dhenkanal was out of operation since January, 2013 and was re-synchronized on 29th May 2015. The power generated from the Plant is again re-scheduled in favour of GRIDCO with effect from 1st June 2015.
129. It is submitted that during the 1st 6 months of generation in FY 2020-21, M/s. Shalivahan Green Energy Ltd. (SGEL) has exported 24.10 MU (April 2020 to September 2020). By making pro-rata approximation, GRIDCO proposes to draw around 80 MU of renewable energy from the Biomass Power Plant of M/s. SGEL during FY 2021-22 as given in the Table below:

Table 19: Proposed Procurement of Biomass Energy for FY 2021-22 (MU)

Sl. No.	Name of the Bio-Mass Plant	Proposed Energy procurement for FY 2021- 22
1.	M/s. Shalivahan Green Energy Ltd.	80.00
	Total	80.00

Wind Projects

130. The Petitioner submits that it has executed Power Sale Agreement (PSA) with PTC India Ltd. on dated 20.07.2107 to avail 50 MW “Wind Power” through “ISTS Connected Wind Power Projects Scheme” of MNRE, Govt. of India where CTU Charges and Losses are waived off for lifetime of the Wind Power Plant. It is submitted that 50 MW of Wind Power has been allocated to GRIDCO from M/s. Ostro Kutch Wind Pvt. Ltd. located in Kutch District of Gujarat at the applicable tariff of 353 Paise per kWh, out of which 346 Paise per kWh will be to the account of the Wind Energy Developer and 7 Paise per kWh is the Trading Margin to M/s.PTC India Ltd.
131. GRIDCO has signed Power Sale Agreement with SECI on dated 24.11.2017 for availing 100 MW Wind power under the “ISTS Connected Wind Power Projects Scheme, Phase-II” of MNRE, Govt. of India where CTU Charges and Losses are waived off for lifetime of the Wind Power Plant, at the applicable tariff of 272 Paise per kWh, out of which 7 Paise per kWh is the SECI margin.
132. GRIDCO has executed PSA with SECI on dated 23.03.2018 to avail 50 MW Wind Power under the “ISTS Connected Wind Power Projects Scheme, Phase-III” of MNRE, Govt. of India with waiver of CTU Charges and Losses for lifetime. The applicable tariff for Wind power in Phase-III is 252 Paise per kWh, out of which 7 Paise per kWh is towards the margin of SECI.
133. GRIDCO has executed PSA with SECI on dated 15.06.2018 to avail 100 MW Wind Power under the “ISTS Connected Wind Power Projects Scheme, Phase-IV” of MNRE, Govt. of India with waiver of CTU Charges and Losses for lifetime. The applicable tariff for Wind power in Phase-IV is 259 Paise per kWh, out of which 252 Paise per kWh will be to the account of the Wind Power Developer and 7 Paise per kWh is towards the margin of SECI.
134. GRIDCO has executed PSA with SECI on dated 22.08.2019 to avail 50 MW Wind Power under the “ISTS Connected Wind Power Projects Scheme, Phase-VI” of MNRE, Govt. of India with waiver of CTU Charges and Losses for lifetime. The applicable tariff for Wind power in Phase-VI is 290 Paise per kWh, out of which 283 Paise per kWh will be to the account of the Wind Power Developer and 7 Paise per kWh is towards the margin of SECI.
135. Under the MNRE ISTS – connected Wind Power Project Schemes phase- I,II, III, IV & VI, GRIDCO has entered into PSA with PTC India Limited (for 50 MW) & SECI (for 300 MW) to procure total 350 MW Wind power towards fulfilling the non-solar RPO as detailed below :

Table 20: PSA with SECI

Sl. No.	MNRE connected Scheme	ISTS – Wind	Capacity allocated to GRIDCO (MW)	Applicable Tariff (Rs / kWh)	Date of PSA
1	Phase - I		50	3.53	20.07.2017
2	Phase - II		100	2.72	24.11.2017

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3	Phase - III	50	2.52	23.03.2018
4	Phase - IV	53	2.59	15.06.2018
5	Phase - VI	50	2.90	22.08.2019

136. At present GRIDCO is availing the Wind capacity of 50 MW & 100 Wind Power under Phase-I & Phase-II respectively and another 47 MW out of the contracted capacity of 100 MW under Phase-IV, totalling to 197 MW wind power. By the end of FY 2020 -21, 50 MW Wind capacity under Phase-III & balance 53 MW from Phase-IV will be available to GRIDCO. 50 MW Wind Power under ISTS-connected Wind scheme Phase-VI is expected to be available in August 2021 (FY 2021-22).
137. Considering energy procurement of 317.85 MU of wind power during FY 2019-20, drawal of 233.02 MU during the first six months of FY 2020-21 (April 2020 – September 2020), GRIDCO proposes to draw around 685 MU of Wind power from PTC & SECI, from the allocated 350 MW Wind Capacity in FY 2021- 22.

Table 21: Proposed Procurement of Wind Energy for FY 2021-22 (MU)

Plant Name	Proposed Energy procurement for FY 2021- 22 (MU)
MNRE ISTS connected Wind Power Projects Scheme Batch -I through PTC	150.00
MNRE ISTS connected Wind Power Projects Scheme Batch -II through SECI	300.00
MNRE ISTS connected Wind Power Scheme Phase -IV through SECI	145.00
MNRE ISTS connected Wind Power Scheme Batch -III through SECI	30.00
MNRE ISTS connected Wind Power Projects Scheme Batch -IV through SECI	30.00
MNRE ISTS-connected Wind Power Projects Scheme Batch -VI through SECI	30.00
Total	685

138. Estimated power projections from Non-solar and solar is summarized as below and request Hon'ble Commission to approve the same:

Table 22: Power procurement from Renewable Sources (MU)

Sl. No.	Renewable Energy Sources	Energy Proposed for FY 2021-22 (MU)
A.	NON-SOLAR	
1	Meenaskhi Small Hydro Power Project	200.00
2	SAMAL Barrage Small Hydro Power Project	80.00
3	Lower Baitarani Small Hydro Power Project	150
4	Saptadhara Small Hydro Power Project	20.00
5	Bargarh Head Regulator Small Hydro Power Project	8.00

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6	Biribati & Kendupatna MHPs by OPGC	0.35
A.	Sub-Total	458.35
B.	M/s. Shalivahana Green Energy Ltd. – (Biomass Energy)	80.00
C.	Wind Energy through PTC India Ltd. & SECI	685.00
D.	Grand Total of Non Solar (A+B+C)	1223.35
E	SOLAR RE Sources	1479.00
F	Total (E+F) (NON-SOLAR & SOLAR)	2702.35

Generation from Large hydro Mangdechhu is expected to be 355.59 MU and will be included in RPO compliance

Independent Power Plants (IPPs)

139. The Petitioner submits that it is entitled of power from five Independent Power Plants (IPPs) in the state. However, out of these five stations, two are yet to come. M/s. Ind-Barath Utkal Energy Ltd has become NPS and has been taken to NCLT for resolution process while M/s. NBVL is having difficulties with evacuation system. The three IPPs from which GRIDCO is currently entitled of power are namely M/s. Vedanta Ltd, M/s. GKEL and M/s JITPL. However, JITPL (2 X600 MW) has challenged the MOU with Government of Odisha and Power Purchase Agreement with GRIDCO before the Hon'ble High Court of Odisha in Writ Petition No. 18150 of 2018. Based on an Interim Stay order dated 16.05.2019, JITPL is not supplying power to the State since 22nd May 2019. Summary of PPAs with IPPs is presented below:

Table 23: Summary of PPA from IPPs

Sl. No.	Name of IPP	Location of the project	Installed capacity (MW)	Odisha share Ex-Bus (MW)	Odisha share Ex-Bus (MU)	Date of Commercial Operation
1.	M/s. Vedanta Ltd	Burkhamunda, Jharsuguda	1X600 (3X 600): Converted CGP w.e.f.1 st April,2015)	30% of Total Energy Sent Out from the plant or injection from Unit#2 whichever is higher	5039	# 1: 30-03-2011 # 2: 10-11-2010 # 3: 19-08-2011 # 4: 26-04-2012
2.	M/s. GMR Kamalanga Energy Ltd., Bengaluru	Kamalanga, Dhenkanal	3x350 (1,050)	247	1844	# 1: 30-04-2013 # 2: 12-11-2013 # 3: 25-03-2014
3.	M/s. Jindal Thermal Power Ltd	Derang, Angul	2X600	144(**)	1007	# 1: 19-04-2015

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						# 2: 12-02-2015
4.	M/s. Ind-Barath Utkal Energy Ltd		1X339.5	37.08	-	#1:20-7-2016
5.	M/s. NBVL	Kharagprasad, Dhenkanal	1X60	6.55	-	-
	TOTAL		3249.5		7890	

Note: N.B:1) (*) From Vedanta Ltd, State entitlement is per Para 35(c) of OERC order 27-01-2016 in Case No.21 of 2015 i.e. 25% +5% (instead of 7% due to de-allocation of coal blocks)

2) (**) State Entitlement from JITPL is 14%/12% based on allocation/non-allocation of coal blocks within the State. As JITPL is having linkage coal supply against Unit #1(600MW) only for 72MW of generation as per FSA, thus 12% from #1 and #2 have been shown.

140. It is pertinent to mention that actual supply of power from IPPs is varying from the State's entitlement. Due to this reason, there have been a difference in units supplied from IPPs approved by the Hon'ble Commission and the actual supply as given below:

Table 24: Actual vs Approved Power Purchase from IPPs (MU)

IPPs	FY 2016-17		FY 2017-18		FY 2018-19		FY 2019-20		Actual
	OERC	ACTUAL	OERC	ACTUAL	OERC	ACTUAL	OERC	ACTUAL	(Avg.)
M/s. Vedanta Ltd.	5039.45	3246.85	5039.45	970.89	5039.45	902.09	5039.45	747.84	1466.92
M/s GMR Kamalanga Ltd.	1720.03	1371.87	1517.10	1487.50	1842.19	1702.44	2167.28	1814.75	1594.14
M/s Jindal India Thermal Power Ltd.	1007.89	319.25	503.95	250.64	1007.89	261.14	1010.57	11.95	210.75
M/s. Nava Bharat Ventures Ltd.	48.79	-	-	-	-	-	-	-	-
M/s. Ind Barath Energy (Utkal) Ltd.	218.00	-	-	-	-	-	-	-	-
Total	8034.16	4937.97	7060.50	2709.03	7889.53	2865.67	8217.30	2574.54	3271.80

141. As can be seen from above, the Hon'ble Commission is approving excess units to be supplied from IPPs in compare to the actuals, the Petitioner is negatively impacted. Due to the allowance of excess power from cheaper sources, the Hon'ble Commission is disallowing the power to be supplied at a higher rate from NTPC plants.

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142. Such deviation in projections results in lower BSP and Petitioner has to borrow from the market to pay for costly power. Interest on loans have also been disapproved by the Hon'ble Commission resulting in double blow to the Petitioner. The Petitioner would therefore request Hon'ble Commission to approve energy availability from IPPs based on realistic levels and as submitted by the Petitioner.
143. In this context, the Petitioner submits that it had requested the IPPs to submit their generation plan and tentative tariff proposal for FY 2021-22 vide email dated 05.10.2020. In response, except M/s .JITPL, other two IPPs have furnished their tentative generation plan to GRIDCO. Copy of the said Generation Plans of GKEL dated 22.10.2020 and M/s. Vedanta Ltd dated 24.10.2020 are attached herewith as (ED-8).
144. As per generation plan submitted by M/s. Vedanta Ltd for FY 2021-22, it shall supply 2956 MU of power from Unit # 2 (600 MW) i.e. IPP Unit. The legitimate entitlement of power for the State at normative generation works out to be 5039 MU of power as per the Hon'ble Commission's order dated 27th January 2016 in Case No.21 of 2015.
145. Therefore, there shall be shortfall to the tune of 2083 MU of power from IPP of Vedanta during FY 2021-22. Further, no reasons of such low supply has been cited by Vedanta. In order to avoid over projection of power availability, Petitioner has taken generation projection as submitted by Vedanta. Further, Hon'ble Commission is requested to direct Vedanta to supply full entitlement of power to the State.
146. The Petitioner submits that for GKEL, it has considered generation based on normative entitlement of GKEL at 85% PLF and 5.75 % auxiliary energy consumption which works out to be 1844 MU equivalent to State entitlement.
147. JITPL is yet to commence supply of power to the State and has challenged the PPA and MoU before the Hon'ble Odisha High Court and PPA approval order dated 4th June 2019 in Case No.1/2017 before APTEL.
148. GRIDCO has filed Case No. 28 of 2020 under Section 142 for non-payment of compensation towards non-supply of power to GRIDCO. Actions are being taken for vacating stay order of Hon'ble High Court and GRIDCO will take all-out effort to procure State entitlement of power of 1007 MU from JITPL during FY 2021-22. Petitioner has thus not forecasted generation from JITPL for FY 2021-22 considering pending litigation.
149. However, the above proposal of GRIDCO is without prejudice to the various on-going cases in different legal forums and subject to prudent decision by the Hon'ble Commission.
150. The summary of power generation projections from IPP is as follows:

Table 25: Power availability from IPPs for FY 2021-22 (MU)

IPP	Energy Availability
Vedanta Limited	2956
GMR Kamalanga Energy Ltd.	1844

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JITPL	-
Total IPP	4,800

151. It may be noted that the Petitioner submits that actual drawal for Apr-Sept 2020 is as follows:

Table 26: Actual Power Procurement from IPPs Apr-Sept 2020 (MU)

Month	Vedanta	GKEL	JITPL
Apr-20	165.09	154.82	0
May-20	270.08	154.52	0
Jun-20	243.26	143.52	0
Jul-20	301.55	74.91	0
Aug-20	220.72	174.87	0
Sep-20	280.70	172.29	0
Total	1481.40	874.93	0

Power Purchase from Central Generating Stations

152. The Petitioner submits that the State has been allocated shares in the NTPC stations located in the Eastern Region as well as from the Chukha, Tala and Mangdechhu Hydro Electric Projects in Bhutan and Teesta Hydro Electric Project in Sikkim. The entitlement from these stations is based on share allocation made by the CEA/MoP from time to time.
153. The estimation of energy drawal for FY 2021-22 from Central Thermal Generating Stations has been shown by GRIDCO in this Application by considering the relevant allocated share of GRIDCO, Plant Availability Factor, Plant load factor, Auxiliary Consumption as per the CERC Tariff Regulations and the Central Sector Transmission Loss, as per the CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020.
154. The present percentage (%) of share allocation from NTPC Stations in favour of Odisha as derived from the Regional Energy Account (REA) of Eastern Regional Power Committee (ERPC) for the month of September, 2020 is enclosed as ED-9 for kind appreciation.
155. Earlier Inter-state transmission losses were calculated based on the injection loss and withdrawal loss data. From 1st November, 2020 losses will be calculated at all India level as per CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020. With limited data, the Petitioner has forecasted transmission losses based on data available from 1st November 2020 as summarized as below. The Petitioner has considered such average transmission losses of 3 week period of 3.59% for projection of Inter State Transmission Loss for FY 2021-22 and would request Hon'ble Commission to approve the same. The weekly transmission losses are attached as (ED-10)

Table 27: Calculation of Transmission losses for FY 2021-22

Period	Transmission loss (%)
02-11-2020 to 08-11-2020	3.54%
09-11-2020 to 15-11-2020	3.57%
16-11-2020 to 22-11-2020	3.66%
Average	3.59%

156. The details of entitled power procurement from each of the Central Thermal Generating Stations (CGSs) during FY 2021-22 is summarized below:

Table 28: Projected Power Procurement from NTPC-ER Stations for FY 2021-22

Central Thermal Stations	Installed Capacity (MW)	GRIDCO Share (%)	Aux. Cons. (%)	PAF/PLF considered	Ex-bus Availability (MU)	GRIDCO Proposal for procurement after the 3.59% C.S. Trans. Loss (MU)
TSTPS Stg.-I	1000	32.34%	7.05%	85.00%	2,238.27	2,157.92
TSTPS Stg.-II	2000	10.00%	6.25%	85.00%	1,396.13	1,346.00
FSTPS-I&II	1600	14.18%	6.78%	55.00%	191.06	184.20
FSTPS-III	500	17.15%	6.25%	55.00%	387.32	373.42
KhSTPS-I	840	15.77%	9.00%	55.00%	193.60	186.65
KhSTPS-II	1500	2.62%	6.25%	55.00%	177.51	171.14
DSTPS	800	58.82%	6.25%	70.00%	2705.13	2608.02
TOTAL	8240				7289.02	7027.34

157. The Petitioner submits that normative availability for central thermal plants mentioned above is 85% as per CERC norms. The Petitioner submits that it has to pay fixed charges based on actual availability declared by the generator or at 85% normative capacity whichever is lower. Normative Plant availability factor has been considered as 85% for TSTPS-I, TSTPS-II, FSTPS-I&II, FSTPS-III, KhSTPS-I, KhSTPS-II. Normative Plant availability factor for DSTPS is considered at 70% considering issues with synchronization in initial years and fixed charges been reduced to 70% from 85% (Fixed charges/85%*70%)

158. For calculating variable cost, the Petitioner has taken PLF of 85% for plants which have low variable cost but for plants which have higher variable cost, the Petitioner has considered 55% PLF considering minimum technical requirement to run a plant. For DSTPS PLF is considered at 70% considering Synchronization issues.

159. The Petitioner submits that it has estimated energy availability of FSTPS I & II and FSTPS III with operational period of 3 and 4 months respectively in FY 2021-22 considering useful life of plant ending in FY 2021-22. The Petitioner is planning not source any power beyond the useful life of the asset and convey the same to NTPC. In case the Petitioner has to source power beyond its useful life, the Petitioner would request Hon'ble Commission to approve both additional fixed cost and variable cost as a Pass Through in the next ARR petition.

Power purchase from new Central generating stations

160. The Petitioner submits that in FY 2021-22, North Karanpura unit 1, Barh-I and Darlipali unit 2 are expected to become operational.

161. The Petitioner estimates that plants will be operational on the following dates:

Table 29: CoD of New plants expected in FY 2021-22

Plant	Estimated CoD
North Karanpura unit 1	1/12/2021
Barh-1 unit 1	1/04/2021
Darlipali unit 2	1/11/2021

162. Petitioner submits that normative PAF approved by CERC is 85% for these plants but based on historical assessment it is estimated that new plants are able to achieve PAF of ~70% due to initial synchronization challenges. Therefore PAF has been considered at 70% for these stations and fixed charges has been accordingly been reduced. (Fixed charges/85%*70%)

163. To calculate variable charges, PLF for North karanpura and Darlipali is taken at 70% while PLF for Barh-I is taken at 55% considering higher variable cost and minimum technical requirement to run a plant. The Petitioner request the Hon'ble Commission to approve the same.

Table 30: Projected Power Procurement from new stations in FY 2021-22

Central Thermal Stations	Installed Capacity (MW)	GRIDCO Share (%)	Aux. Cons. (%)	PLF considered	Ex-bus Availability (MU)	GRIDCO Proposal for procurement after the 3.59% C.S. Trans. Loss (MU)
North karanpura	660	20.00%	6.25%	70.00%	252.95	243.86
Barh-1	660	21.11%	6.25%	55.00%	1,888.05	606.73
Darlipali unit 2	800	58.82%	6.25%	70.00%	1,127.14	1,086.67
Total	2120				3,268.14	1,937.26

Central Hydro Stations

164. **Chukha Hydro Electric Project (HEP):** The Petitioner submits that it has a share of 15.19% from ER allocation of 270 MW. GRIDCO proposes to draw 255 MU during FY 2021-22 considering the last 6 years' average drawal i.e. from FY 2014-15 to FY 2019-20 and Central Transmission Loss of 3.59% as calculated in Para 155 of this petition. The Petitioner submits that detailed calculation of power generation from Chukha is as below:

Table 31: Proposed Drawal from Chukha HEP for FY 2021-22

Financial Year	Drawal (MU)
2014-15	247.41
2015-16	272.39
2016-17	312.17
2017-18	263.90
2018-19	223.86
2019-20	269.90
Total drawal for the last 6 years	1589.63
Average drawal for the last 6 years	264.94
Proposal after deducting Central Transmission Loss @ 3.59%	255.43

165. **Tala Hydro Electric Project (HEP):** The Petitioner submits that it has a share of 4.25% from installed capacity of 1020 MW. GRIDCO proposes to draw 260 MU during FY 2021-22 considering the last 6 years' average drawal i.e. from FY 2014-15 to FY 2019-20 and Central Transmission Loss of 3.59% as calculated in Para 155 of this petition. The Petitioner submits that detailed calculation of power generation from Tala is as below:

Table 32: Proposed Drawal from Tala HEP for FY 2021-22

Financial Year	Drawal (MU)
2014-15	139.33
2015-16	139.61
2016-17	140.57
2017-18	122.81
2018-19	230.77
2019-20	125.71
Total drawal for the last 6 years	898.80
Average drawal for the last 6 years	149.80
Proposal after deducting Central Transmission Loss @ 3.59%	144.42

166. **Mangdechhu Hydro Electric Project (HEP):** The Petitioner submits that it has a share of 10.97% equivalent to share of 79.01 MW. GRIDCO projects normative energy of 266.91 MU during FY 2021-22 considering 40% PLF and Central Transmission Loss of 3.59% as calculated in Para 155 of this petition. Further in FY 2019-20, GoI gave renewable status to new large hydro stations and thus consider energy purchased from Mangdechhu as renewable energy.
167. Petitioner further submits that actual gross energy purchased from Mangdechhu from FY Oct-Sep 2020 is 355.59 MU which is higher than normative calculations. The Petitioner has considered actual generation in Oct-Sep 2020 for projection of energy availability in FY 2021-22. Thus the Petitioner plans to draw 342.26 MU considering Central Transmission Loss of 3.59% as calculated in Para 155 of this petition.
168. The Petitioner thus has considered generation from Mangdechhu under Non-Solar compliance and would request Hon'ble Commission to approve the same.

- 169. Teesta-V Hydro Electric Project (HEP):** The Petitioner submits that the Annual Design Energy of Teesta-V HEP (Installed Capacity: 510 MW) situated in Sikkim is 2572.67 MU. After factoring for 12% free energy to the Home State, Sikkim & 1.20% towards Auxiliary Consumption, the Annual Saleable Energy of the project is estimated as 2236.78 MU. Considering the share of GRIDCO as 23.40% of the saleable energy, GRIDCO proposes to draw 504.22 MU during FY 2021-22 considering Central Transmission Loss of 3.59% as calculated in Para 155 of this petition.

Table 33: Proposed Drawal from Teesta HEP for FY 2021-22

Particulars	MU
Design Energy	2572.67
Annual saleable Energy available considering 1.20% Auxiliary energy consumption and 12% free energy for home State	2236.78
GRIDCO Share (%)	23.40%
Availability	523.41
Proposal After deducting Central Transmission Loss @ 3.59%	504.22

Power Banking

170. Apart from availability of energy from various entitled sources, GRIDCO also sources power through need-based power banking arrangement with different Generators / Utilities to mutual benefit. Under the arrangement, the surplus energy of a Utility is banked with the Utility having power deficit. The arrangement is a cashless transaction which helps a lot to a cash-deficit Utility like GRIDCO. The process benefits the Deficit Utility to meet its power requirement through Power Banking Arrangement without any cash outgo and when the Utility becomes surplus in power, it returns the power along with some premium as agreed mutually.
171. It is submitted that with coming up of new stations, there may not be any need by GRIDCO to procure any power under Power Banking Arrangement during FY 2021-22.
172. However, the above assumption does not preclude procurement or supply of Power through Power Banking under exigency / force majeure conditions or to meet peak demand.

Summary of power availability from different stations

173. The Petitioner submits that summary of energy availability from different sources is summarized below:

Table 34: Summary of Power Availability for FY 2021-22

Station Name	Energy Available (MU)
HHEP	660.56
CHEP	485.10
Balimela	1,171.17
Rengali	519.75

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Station Name	Energy Available (MU)
Upper Kolab	823.68
OHPC(Old)	3,660.26
Indravati	1,942.38
Machkund	259.88
Total State hydro availability	5,862.52
OPGC - 1 & 2	2,726.34
OPGC - 3 & 4	5,700.21
TTPS	3,287.68
Sub-Total State Thermal	11,714.22
Renewables (Mangdechhu separately shown)	2,702.35
CGPs	-
Co-generation Plants	-
M/s. Vedanta Ltd.	2,956.00
M/s. GMR Kamalanga Energy Ltd.	1,844.00
JITPL (IPP)	-
Total IPP	4,800.00
Total State availability	25,079.09
FSTPS-I&II	184.20
FSTPS-III	373.42
KhSTPS Stg.-I	186.65
KhSTPS Stg.-II	171.14
TSTPS Stg.-I	2,157.92
TSTPS Stg.-II	1,346.00
Darlipali unit 1	2,608.02
Darlipali unit 2 – New	1,086.67
Barh-1 – New	606.73
North karanpura – New	243.86
Total Central Thermal Availability	8,964.61
Chukha	255.43
Tala	144.42
Teesta	504.22
Mangdechhu	342.26
Total Central Hydro Availability	1,246.33
Total EREB	10,210.94
Total Availability at State periphery	35,290.03

Chapter IX- Power Procurement Costs

174. Considering the Power Availability of 35,290.03 MU, the Petitioner has forecasted plant wise Power Purchase Cost based on Tarif approved by Hon'ble OERC, CERC. The Petitioner has also relied on Tariff Petitions of Central stations whose Tariff Petition is pending with Hon'ble CERC. Cost from Renewable sources is determined based on Cost determined by Hon'ble OERC and in competitive bidding. Transmission charges have been forecasted based on CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020
175. Thus the Gross Power Purchase cost comes out to Rs 10,788.19 Cr for 35,290.03 MU of Power resulting in per unit cost of 305.70 paise/unit. To arrive at net cost Regulated Power purchase, the Petitioner has reduced Variable cost of surplus power of Rs 1519.24 Cr. to arrive at Cost of Regulated power of Rs 9268.96 Cr. The Plant wise Power Purchase cost is as follows:

OHPC

176. The Petitioner submits that it has projected power purchase cost from OHPC based on Tariff approved by Hon'ble Commission in FY 2020-21.
177. Petitioner submits that SLDC charges have been forecasted based on Hon'ble Commission's orders which could be subject to change based on OHPC ARR order of FY 2021-22.
178. It is submitted that as per the Odisha Gazette Notification dated 01.10.2010 and amendment made in Rule-23-A(f) of Odisha Irrigation Rules, the licence fees for drawal or allocation of water shall be enhanced @ 10% per annum w.e.f. 1st day of April. Thus water cess has been calculated based on Rs 0.154 per unit.
179. Electricity duty has been forecasted at the rate of 55 paise per unit.
180. Accordingly, the power purchase cost from OHPC plants is summarized below:

Table 35: Power purchase cost of OHPC plants for FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	ED on Aux. Consumption (Rs. Cr.)	Water Cess Paid to Govt. (Rs. Cr.)	SLDC Charges (SOC & MOC) (Rs. Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
HHEP	660.56	43.80	43.80	0.36	1.02	0.18	89.16	134.97
CHEP	485.10	18.12	18.12	0.27	0.75	0.04	37.29	76.88
Rengali	519.75	33.61	33.61	0.29	0.80	0.16	68.47	131.75
Upper Kolab	823.68	33.15	33.15	0.45	1.27	0.21	68.23	82.83

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Balimela	1171.17	38.62	38.62	0.64	1.80	0.26	79.95	68.26
Sub-Total	3660.26	167.30	167.30	2.01	5.64	0.86	343.10	93.74
Upper Indravati	1942.38	89.49	89.49	1.07	2.99	0.34	183.38	94.41
Total	5602.64	256.78	256.78	3.08	8.63	1.20	526.48	93.97

Machhkund

181. The Petitioner submits that as per the original Inter-State Agreement, 1945 signed between the two States, Machhkund Hydro Electric Project (MHEP) is a joint scheme of Government of Andhra Pradesh and Government of Odisha with 70% and 30% share respectively with option of Government of Odisha to draw an additional 20% power.
182. On 23rd October 2020, an inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO for acquiring additional 20% share of the Joint Scheme by OHPC from APGENCO on payment of Rs 27.42 Crores towards present depreciated cost of the Project. The revised agreement is attached as ED-11
183. The Petitioner submits that the Power purchase cost of Machhkund is derived from Payment of 20% share of Present Depreciated Project Cost of MHEP (Jt.) by OHPC and O&M Expenditure for FY 2021-22 applying the escalation factor. 50% share of the total audited O&M Expenses of Rs. 64.48768 Crs. for the FY 2019-20 has been escalated twice @ 5.72 % per year to arrive at Rs. 36.038 Crs towards the share of Govt. of Odisha / OHPC for FY 2021-22 payable to State of Andhra Pradesh / APGENCO. The additional 20% share of the present depreciated cost of MHEP (Jt.) Scheme amounting to Rs 27.42 Crores shall be paid to the State of Andhra Pradesh / APGENCO by the State of Odisha / OHPC within a very short time. So, the total expected annual expenditure towards 50% power purchase cost from MHEP is calculated to be Rs. 63.4580 Crores for FY 2021-22. The cost per unit is Rs 2.442 considering drawal of 50% share of saleable design energy of Machhkund i.e. 259.875 MU. Petitioner request Hon'ble Commission to approve the same. Auditor's Certificate and Final Bill for share of O&M expenditure is attached as ED-12.

Table 36: Power purchase cost of Machhkund for FY 2021-22

Particulars	2021-22
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Design Energy of MHEP for Generation (MU)	525
Normative Auxiliary Energy Consumption (AUX) (%)	1%
Normative Auxiliary Energy Consumption (AUX) (MU)	5.25
Saleable Design Energy for sharing between Andhra Pradesh & Odisha (MU)	519.75
(50%) Saleable Design Energy Share of Odisha (MU)	259.875
Drawal of Total Share of Odisha Energy by GRIDCO (MU)	259.875

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O&M Escalation factor @ 5.72 % for two years over the O&M Bill of MHEP for FY 2019-20.	1.1177
	(Rs. Cr.)
Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2019-20	64.49
50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2019-20)	32.24
1. Payment of 20% share of Present Depreciated Project Cost of MHEP (Jt.) by OHPC	27.42
2. O&M Expenditure for FY 2021-22 applying the escalation factor	36.04
Total Expected Expenditure during the FY 2021-22	63.46
Tariff (Rs/Kwh)	2.44
<i>OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs2.442 /kWh during the FY 2021-22 to make payment of O&M cost to APGENCO and recover the own expenditure of Rs 27.42 Cr. as per the new Agreement.</i>	

Odisha Power Generation Corporation Limited

184. The Petitioner submits that power purchase of OPGC I&II has been estimated based on tariff approved by Hon'ble Commission. The Annual Fixed Charges as approved in the Tariff Order dated 22nd April.2020 in Case No.69/2019 of OPGC have been considered provisionally along with Energy Charge Rate (ECR) of 153.91 Paise/kWh fixed in the said order. Hon'ble Commission had allowed Year End charges of Rs. 60.58 Crores for FY: 2020-21 amounting to Rs 0.22/kWh and the same has been used to forecast for FY 2021-22.

185. Recently, Hon'ble Commission has passed final order dated 28.10.2020 in Case No. 43 of 2017 in the matter of GCV of coal utilised by OPGC Stage I wherein , it has been directed to work out GCV of coal as follows:

***14.** XXX This is because the measurement of GCV on total moisture basis at power station end is the practice generally followed by the industry and it determines the volume of coal the power station requires to generate a particular quantity of energy.*

*GCV of coal as delivered to the power station (total moisture basis)
= $GCV \times (1-TM) / (1-IM)$*

Where:

GCV = Gross Calorific value of coal as billed by coal supplier.

TM = Total moisture as per CIMFR report.

IM = Inherent moisture as per CIMFR report.

The above formula should form the basis of calculation of GCV of coal on “as delivered basis” for computation of energy charge. The above formula shall take care of total moisture in calculation of GCV which is the prevalent industry practice. “

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186. It is to be noted here that , OPGC has been claiming the ECR of 153.91 Paise/kWh fixed by Hon'ble Commission in its tariff order for FY:2020-21 and has not provided actual monthly data in respect of "As billed" GCV of Coal , IM%, TM% as per CIMFR Report, actual landed cost of coal and oil, GCV of coal and oil for first six months of FY:2020-21. GRIDCO therefore has derived the ECR to be 147.60 Paise/kwh for FY: 2021-22 considering the aforesaid parameters from Table-10 and Table-11 of OPGC Tariff order dated 22.04.2020 and average GCV of 3250 KCal/kg (average of G13 grade i.e. 3101-3400 Kcal/kg).

Table 37: Energy charge calculation of OPGC-I&II (Rs Cr.)

Sl.No.	Description	Unit	As per Tariff Order dated 22.04.2020	As proposed by GRIDCO
1	Gross Station Heat Rate (Kcal/KWh)	GHR (Kcal/KWh)	2500	2500
2	Specific fuel oil consumption	SFC (ml/kWh)	3.5	3.5
3	Landed price of Oil	LPSFi(Rs/ml)	0.05	0.05
4	GCV of Oil	CVSF(kCal/ml)	10	10
5	Landed price of Coal	LPPF (Rupees/kg)	1.552	1.552
6	GCV of Coal	CVPF(kCal/Kg)	3100	3250
7	Normative AEC%	AUX(%)	9.5	9.5
8	Energy Charge Rate(ECR)	ECR(Paise/KWh)	153.91	147.60

187. Petitioner submits that tariff for OPGC III & IV is yet to be determined.. OPGC has not yet submitted tariff application in respect of its Unit #3 and #4 for FY: 2021-22. Further, vide email message dated 14th October 2020, OPGC has informed to consider the provisional tariff of Rs.3.09/kWh towards cost of power to be procured during FY: 2021-22. Pending tariff submission, GRIDCO has proposed to forecast cost based on provisional tariff of Rs 3.09/kWh.
188. Year End charges have been forecasted based on pro-rating actual Year End charges of Rs 16.86 Cr as admitted by the Petitioner for Apr-Sep 2020.

Table 38: Year End charges for Apr-Sep 2020 (Rs Cr.)

Item	Claim of OPGC	Acceptance by GRIDCO	Remark
Electricity Duty	12.00	8.39	ED shall be payable to OPGC limiting to normative AEC% @ 6.25% or actual whichever is lower.
Water Charges and Water Cess	9.60	7.18	Water Cess is to be reimbursed by GRIDCO and Water Charges are a part of tariff to be considered by the Commission during tariff determination. OPGC has been

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			requested to provide segregated amount of Water Cess and Charges.
SOC and MOC Charges	0.42	0.38	Paid by GRIDCO
DSM Charges	0.91	0.91	Paid by GRIDCO
Total	22.93	16.86	

189. Total power purchase cost from OPGC is summarized below:

Table 39: Power purchase cost from OPGC for FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
OPGC I&II	2,726.34	248.97	402.41	60.58	711.36	260.92
OPGC III&IV	5,700.21	988.99	773.52	33.72	1,796.22	313.92
Total	8,426.55	1,237.96	1,175.93	94.30	2,507.58	297.58

Talcher Thermal Power Station (TTPS)

190. Petitioner submits that CERC notified CERC Tariff Regulations 2019 which came in force from 1st April 2019 for the control period 2019-24. Pursuant to these Regulations NTPC has filed tariff application with CERC. Order of CERC on tariff application is pending as CERC is non-functional based on orders of Hon'ble Supreme court.
191. Petitioner submits that it has relied on submission of NTPC in its tariff petition filed with CERC for tariff period FY 2019-24 to arrive at fixed cost for FY 2021-22. Petitioner further submits that it is relying on actual data of NTPC bills to arrive at energy charges based on 6 months actuals. Thus, the Petitioner requests Hon'ble Commission to approve power purchase cost of TTPS based actual 6 months energy charge bills and on petition filed by NTPC with CERC or based on final order of CERC once it becomes operational again.
192. Petitioner submits that it has estimated Year End charges for FY 2021-22 by prorating actual Apr-Sep 2020 Year End charges. Petitioner requests Hon'ble Commission to approve the same.

Table 40: Power Purchase Cost of TTPS (Rs Cr.)

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
TTPS	3,287.68	407.47	616.38	29.37	1,053.23	320.36

Central Thermal stations

193. Petitioner submits that CERC notified CERC Tariff Regulations 2019 which came in force from 1st April 2019 for the control period 2019-24. Pursuant to these Regulations NTPC has filed tariff applications with CERC for its central plants. Order of CERC on tariff application is pending as CERC is non-functional based on orders of Hon'ble Supreme court.
194. Petitioner submits that it has relied on submission of NTPC in its tariff petition filed with CERC for tariff period FY 2019-24 to arrive at fixed cost for FY 2021-22. Petitioner further submits that it is relying on actual data of NTPC bills to arrive at energy charges based on 6 months actuals. Thus the Petitioner request Hon'ble Commission to approve power purchase cost of central stations based actual 6 months energy charge bills and on petition filed by NTPC with CERC or based on final order of CERC once it becomes operational again.
195. Petitioner submits that it has estimated Year End charges for FY 2021-22 by prorating actual Apr-Sep 2020 Year End charges. Petitioner request Hon'ble Commission to approve the same.

Table 41: Summary of Power purchase cost from NTPC plants for FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
FSTPS	184.20	37.05	52.91	0.15	90.10	489.16
FSTPS III	373.42	99.72	104.49	0.50	204.71	548.21
KHSTPS	186.65	38.02	42.55	0.08	80.65	432.10
KHSTPS-II	171.14	29.82	36.85	0.02	66.69	389.70
TSTPS	2,157.92	298.77	450.97	12.76	762.51	353.35
TSTPS(St-II)	1,346.00	117.81	278.24	4.30	400.35	297.43
DSTPS	2,608.02	537.56	280.01	10.76	828.32	317.61
Total	7,027.34	1,158.75	1,246.02	28.57	2,433.34	346.27

196. The Petitioner request the Hon'ble Commission to approve both the fixed cost and variable cost as submitted by the Petitioner.
197. Hon'ble Commission did not allow fixed cost of FSTPS I&II, FSTPS III, KhTPS I, KhTPS II in its ARR order for FY 2020-21. Based on the justification given in the earlier section of the petition, the fixed charges for all the tied up PPAs must be allowed by the Hon'ble Commission.

198. The Petitioner submits that irrespective of the drawal by GRIDCO from the Central Generating Stations, it is mandatory to pay the Fixed Charge of a Central Generating Station as per the allocated share according to the Plant Availability Factor. In case of Normative Plant Availability of 85%, GRIDCO is bound to pay the full Fixed Cost as per its Share Allocation from the respective Station. Hon'ble Commission in its previous tariff orders had explicitly approved fixed cost from these station in spite of nil or some power procurement from these stations. Quote from previous tariff order for FY 2019-20 is below:

“No energy is considered for State drawal. Full fixed cost is allowed”

199. Summary of OERC approved power procurement and cost is presented below for Hon'ble Commission's reference.

Table 42: Approved Power procurement and Cost by OERC in various ARR orders

Year	OERC Approved	FSTPS-I & II	FSTPS-III	KhTPS-I	KhTPS-II
2017-18	Power Approved (MU)	679.09	-	880.76	270.61
	Fixed cost Approved (Rs Cr.)	121.68	95.20	91.98	30.28
2018-19	Power Approved (MU)	-	-	854.37	271.69
	Fixed cost Approved (Rs Cr.)	131.91	90.52	95.65	30.29
2019-20	Power Approved (MU)	1549.02	-	-	269.22
	Fixed cost Approved (Rs Cr.)	131.91	90.52	95.65	30.29
2020-21	Power Approved (MU)	-	-	-	-
	Fixed cost Approved (Rs Cr.)	-	-	-	-

200. As seen from above table, Hon'ble Commission has allowed Fixed cost from FTSPS and KhTPS till FY 2019-20 even though it has not allowed power procurement based on MoD principles. It is only in FY 2020-21 that the Commission has gone against its previous judgements and disallowed fixed cost of FSTPS and KhTPS plants. Petitioner submits that such contradiction in Hon'ble Commission's orders creates regulatory uncertainty in the sector.
201. The Petitioner thus request Hon'ble Commission to approve fixed cost of FSTPS and KhTPS for FY 2021-22 in line with its previous years orders before FY 2020-21, approval of fixed cost of other high cost plants by other SERCs and based on APTEL judgment.

Central new thermal stations

202. The Petitioner humbly submits that it has forecasted cost of generation from new plants based on provisional tariff submitted by NTPC (ED-13) as is summarized below:

Table 43: Per unit cost of new plants (Rs/kWh)

Plant	FC/unit	VC/unit
North karanpura	2.30	1.32
Barh-I	1.95	2.48

203. Petitioner submits that it has relied on submission of NTPC in its tariff petition filed with CERC for Darlipali to arrive at fixed cost for FY 2021-22. Petitioner further submits that it is relying on actual data of NTPC Darlipali unit 1 bills to arrive at energy charges based on 6 months actuals. Thus the Petitioner request Hon'ble Commission to approve power purchase cost of Darlipali based actual 6 months energy charge bills and on petition filed by NTPC with CERC or based on final order of CERC once it becomes operational again.
204. The Petitioner submits that it has estimated variable cost by multiplying VC/unit with expected generation. It has estimated Fixed charge by multiplying FC/unit with generation at 70% PAF instead of 85% as per CERC norms due to synchronization issues in the first year. Resulting in lower fixed cost due to lower availability assumed.
205. Petitioner submits that it has estimated Year End charges of new plants based on forecast of Year End charges of DSTPS-1 considering it being a new plant. Estimating Year End charges of new plants based on Year End charges of the older plants were projected to be per unit higher than DSTPS-1, this to be prudent, the Petitioner has considered DSTPS-1 as a base to project Year End charges of other new plants.
206. The Summary of cost of generation from new plants is as below:

Table 44: Power purchase cost of upcoming plants in FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
Darlipali unit 2	1,086.67	223.98	116.67	4.48	345.13	317.61
Barh-1	606.73	183.75	156.07	2.50	342.32	564.21
North karanpura	243.86	68.44	33.39	1.01	102.84	421.71
Total	1,937.26	476.17	306.13	7.99	790.30	407.94

Central Hydro stations

207. Petitioner submits that it has considered 240.16 P/U (including Trading Margin @4 P/U) as the rate for Chukha power based on the Office Memorandum of the Ministry of External Affairs, Government of India. Copies of the necessary Office Memorandum of Ministry of External Affairs, Govt. of India Dated 8th March 2018 along with the PTC letter No. C/PTC/Chukha/7388 dtd.13th March 2018 to this effect, are enclosed as (ED-14), respectively.
208. Petitioner submits that it has considered 216 P/U as the Rate for Tala power based on Bills served to GRIDCO. Copies of the PTC letter No. C/PTC/Tala/14169 dated 9th December 2016, are enclosed as (ED-15).
209. Petitioner submits that has considered 419 P/U as the rate for Mangdechhu Power. Copies of the protocol to the Agreement between the Govt. of the Republic of India & the Royal Govt. of Bhutan regarding Mangdechhu HEP dtd.23rd April 2019 & the Power Sale Agreement executed between PTC & GRIDCO dtd. 30 August 2019 are enclosed herewith (ED-16).
210. Summary of estimated cost of power generation from Chukha, Tala, Mangdechhu is as below:

Table 45: Summary of Central station power purchase cost for FY 2021-22

Plant Name	Energy (MU)	Rate P/U	Total projected energy cost (Rs Cr)
Chukha	255.43	249.10	63.63
Tala	144.42	224.04	32.36
Mangdechhu	342.26	434.60	148.74
Total	742.11		244.73

211. Petitioner submits that CERC notified CERC Tariff Regulations 2019 which came in force from 1st April 2019 for the control period 2019-24. Pursuant to these Regulations NHPC has filed tariff applications with CERC for its central hydro plants. Order of CERC on tariff application is pending as CERC is non-functional based on orders of Hon'ble Supreme court.
212. Petitioner submits that it has relied on submission of NHPC in its tariff petition filed with CERC to arrive at fixed cost for FY 2021-22. Thus the Petitioner request Hon'ble Commission to approve power purchase cost of Teesta-V based on petition filed by NHPC with CERC or based on final order of CERC once it becomes operational again.
213. Petitioner submits that it has relied on submission of NHPC in its tariff petition filed with CERC to arrive at tariff for FY 2021-22. Petitioner further submits that relying on actual data of NTPC bills would not have been appropriate methodology considering the tariff set was for previous control period . Thus the Petitioner request Hon'ble Commission to approve power purchase cost of Teesta based on petition filed by NHPC with CERC or based on final order of CERC once it becomes operational again.

Table 46: Power purchase cost of Teesta V

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
Teesta V	504.22	43.42	43.42	-	86.85	172.24

Independent Power Producers***M/s. Vedanta Ltd.***

214. Hon'ble Commission in its order dated 26th February 2018 and 29th June 2018 disposed of the MYT Petition filed by Vedanta Ltd for the period FY 2010-11 to FY 2013-14 - Case No. 38 of 2016 and for FY 2014-19 - Case No.95 of 2013, respectively. Accordingly, the Hon'ble Commission in the ARR Order of GRIDCO for FY 2020-21 has fixed a provisional average tariff of 251.29 Paise/kWh (i.e. 4200 MU at 263.63 Paise/kWh (i.e. Fixed Charge: 95.11P/kWh + ECR: 168.52 P/kWh) and 840 MU at ECR of 168.52 Paise/kWh towards procurement of power by GRIDCO from the said IPP.
215. Hon'ble Commission vide recent Gazette Notification dated 26th August 2020 notified OERC (Terms and Conditions) of Determination of Tariff Regulations, 2020 effective from dated 26th August 2020, have fixed GCV of Coal to be considered on "As Received" basis. Relevant Regulation 3(ff) is as mentioned below:

3(ff).GCV as Received means the GCV of coal as measured at the unloading point of the thermal generating station through collection, preparation and testing of samples from the loaded wagons, trucks, ropeways, Merry-Go Round (MGR), belt conveyors and ships in accordance with the IS 436 (Part-1/ Section 1)- 1964;

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Provided that the measurement of coal shall be carried out through sampling by third party to be appointed by the generating companies in accordance with the guidelines, if any, issued by the Central Government/Commission;

Provided further that samples of coal shall be collected either manually or through hydraulic auger or through any other method considered suitable keeping in view the safety of personnel and equipment;

Provided also that the generating companies may adopt any advance technology for collection, preparation and testing of samples for measurement of GCV in a fair and transparent manner; Provided that GCV of as Received coal shall be found out by taking GCV of coal on as billed basis and allowing an adjustment for total moisture as the formula given as under:

$$GCV X (1-TM) / (1-IM)$$

Where: GCV = Gross Calorific Value of Coal

TM = Total Moisture

IM Inherent Moisture

216. Therefore, it is anticipated that there shall be reduction in ECR claim of Vedanta based on aforesaid formula. Considering the “As Billed” GCV data provided by Vedanta in Form -15 format along with energy bills for the month of June, 2020 to October, 2020 the weighted average ECR works out to be 152.46 Paise /Unit. Therefore, GRIDCO proposes ECR of 152.46 Paise/Unit for procurement of power from Vedanta during FY: 2021-22.

Table 47: Energy charge rate (ECR) of Vedanta IPP from June-Oct 2020

Month	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
LPPF (Rs. /kg)	1.966	1.968	2.008	2.068	2.184
CVPF (in kCal /kg)	3,489	3,421	3,387	3,440	3,549
GHR (in kCal /kwh)	2375	2375	2375	2375	2375
SFC (in ml/kWh)	1	1	1	1	1
CVSF (in kCal/ml)	9.85	9.85	9.85	9.85	9.85
LPSFi (in Rs. /Lit.)	0.0372	0.03998	0.03824	0.0398	0.038119
AUX (in %age)	6	6	6	6	6
ECR (in Paise/kWh)	1.457	1.490	1.532	1.555	1.589
Average(in Paise/kWh)					152.460

217. Petitioner submits that it has estimated Year End charges for FY 2021-22 by prorating actual Apr-Jun 2020 Year End charges of Rs 2.38 Cr. Petitioner request Hon'ble Commission to approve the same.

Table 48: Power purchase cost of Vedanta IPP for FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
Vedanta	2,956.00	280.38	450.67	9.53	740.58	250.53

GMR Kamalanga Energy Ltd.

218. The Petitioner submits that CERC vide its order dated 29th June 2018 in Petition No.61/GT/2016 had passed the final tariff order for the control period 2014-19 in respect of procurement of contracted capacity of 262.5MW of power by GRIDCO from GKEL (ED-17). The Annual Fixed Charges (AFC) fixed by CERC in Petition No. 61/GT/2016 in respect of GKEL for the control period 2014- 19 in the said order is below. The Petitioner has considered same as fixed charge for FY 2021-22.

Table 49: Fixed charge for GMR for FY 2021-22 (Rs Cr.)

Item	2014-15	2015-16	2016-17	2017-18	2018-19
AFC	1,228.89	1,255.99	1,272.95	1,280.79	1,258.96
GRIDCO's Share of AFC	307.22	314.00	318.24	320.20	314.74

219. The Petitioner submits that the average of actual monthly Energy Charge Rate (ECR) for the period April-20 to Sept-20 based on use of Linkage coal and SHAKTI coal by GKEL, has been worked out to be 166.11 Paise/kWh and the same has been used as energy charge for FY 2021-22.

Table 50: Power purchase cost of GMR IPP for FY 2021-22

Name of the Power Stations	Energy (MU)	Fixed charges (Rs. Cr.)	Variable charges (Rs. Cr.)	Year End charges (Rs Cr.)	Total Projected Cost (Rs. Cr.)	Unit Rate (including reimbursement charges) (P/U)
GMR	1,844.00	314.74	306.31	-	621.05	336.79

Jindal India Thermal Power Ltd.

220. Petitioner submits that in view of no supply of power by JITPL since May-2019 onwards in view of on-going cases before different forum of law, GRIDCO has not proposed any quantum of power to be procured from JITPL during FY 2021-22. However, the above proposal of GRIDCO is without prejudice to the various on-going cases in different legal forums and subject to prudent decision by the Hon'ble Commission. As per the Para 13(ii) of the Hon'ble Commission's Order dated 04.06.2019 in case no. 1/2017 and 64/2017 in the matter of incorporation of compensation clause in the PPA, a compensation provision in the PPA in case of default of M/s. JITPL to supply the GRIDCO share of power should be incorporated. The compensation should be equal to the variable cost of the Central Thermal Generating Station approved by the Commission for power purchase of GRIDCO and situated at the margin of the merit order dispatch for that year. It is submitted that by taking plea of various court cases JITPL has been denying to pay the compensation amount claimed in line with the above Order of the Hon'ble Commission by GRIDCO for short supply by JITPL.

Renewable Energy***Solar Energy***

221. As stated above, GRIDCO is hopeful to procure 1479.00 MU of Solar energy against the Solar Power Obligation (SPO) of 1470.70 MU @ 5.50 % of the projected State Energy Consumption of 26,739.96 MU for FY 2021-22.
222. The Petitioner submits that the approved Rates of Solar Energy for FY 2020-21 have been proposed for power from 5 MW Faridabad SPV Project (8.50 MU @ 935 P/U for Rs.7.9475 Crore), the rate of Power from for 5 MW Dadri SPV Project has been taken as 1294 P/U (8.50 MU @ 1294 P/U for an amount of Rs.10.999 Crore) and is taken as the Projected Rate for FY 2021-22.
223. Apart from this, GRIDCO also proposes to procure 13 MU from 8 Nos. of 1 MW SPV Projects @ 628 P/U under RPSSGP Scheme, 34 MU @ 1065 P/U through NVVN Ltd. under the New Project Scheme, 8 MU Solar Power @ 700 P/U from M/s Alex Green Energy Pvt. Ltd. and 42 MU of Solar Power @ 728 P/U from M/s ACME Odisha Solar Power Pvt. Ltd. under OREDA State Scheme. Also 116 MU of Solar Power through Solar Energy Corporation of India Ltd. (SECI) under JNNSM, Phase-II, Batch-1 @ 550 P/U at a cost of Rs.63.80 Crore is proposed to be procured. Besides, 450 MU of Solar Power has been taken as the proposed procurement through SECI VGF Scheme under JNNSM, Phase-IV @ 450 P/U at a cost of Rs.202.50 Crore during FY 2021-22.
224. Similarly, 120 MU of Solar Power @ 306 P/U from M/s Aditya Birla Renewables Ltd. under GRIDCO e- bidding scheme as per MoP, GoI Resolution dated 03.08.2017 and 500 MU & 250 MU of Solar Power @ 260 P/U and @ 265 P/U respectively being procured through SECI under ISTS- connected Solar power projects Tranche-I & III scheme have been proposed.

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225. The 8 MW upcoming solar PV project being implemented by GEDCOL in 5 nos. of different locations (3 nos. of OPTCL sub-stations viz. Baripada, Jayanagar & New Bolangir, OHPC Mukhiguda Power House & GEDCOL Manamunda Solar plant premises) in the un-utilized surplus land, for which LoI has been placed by GEDCOL on the successful bidder M/s SunSource Energy Pvt. Ltd. The project is expected to be commissioned by October 2021. 5.6 MU energy export has been considered from November 2021 to March 2022 in FY 2021 – 22. The mutual agreed tariff by GEDCOL & GRIDCO is Rs. 2.84 / kWh taking into account the discovered EPC cost of Rs. 33.805 crores and infusion of Rs. 19.05 crore from the 13th Finance Commission grant as equity with no return.
226. Accordingly, the estimated procurement of 1479.00 MU of Solar Power during FY 2021-22 will be made at around Rs 581.71 Crore at an Average Proposed Rate of 392.31 P/U.
227. The details of projected procurement and cost of Solar Power by GRIDCO for FY 2021 - 22 is given in the Table below:

Table 51: Proposed Procurement & Cost of Solar Power during FY 2021-22

Sl. No.	Solar RE Sources	Energy Proposed for FY 2021-22 (MU)	OERC Approved Rates for FY 2020-21 (P/U)	Proposed Rates for FY 2021-22 (P/U)	Estimated Total Cost for FY 2021-22 (Rs. Cr.)
1	8 Nos. of Solar PV projects of 1MW each under RPSSGP*	13	628	628	8.16
2	20 MW through NVVN under 'New Projects scheme' under JNNSM, Ph-I	34	1272	1065	36.21
3	10 MW through NTPC from 5 MW Solar PV projects at Dadri & Faridabad	17	1039	8.50 MU @1294 P/U 8.50 MU @935 P/U	18.95
4	5 MW from M/s Alex Green Energy Ltd. through OREDA State scheme	8	700	700	5.60
5.	25 MW from ACME Odisha Solar Power Private Ltd.	42	728	728	30.58
6.	70MW through Solar Energy Corporation of India (SECI) under JNNSM, Phase –II, Batch-I	116	550	550	63.80
7.	270MW through SECI under JNNSM, Phase –II, Batch-IV	450	450	450	202.50

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8.	4 MW solar power through GEDCOL Rooftop PV project is a deemed purchase through CESU under Net metering Regulation	28	-----		3.41
9.	75 MW from M/s. Aditya Birla Renewables Ltd. under GRIDCO e-bidding.	120	300	306	36.72
10.	300 MW through SECI under ISTS – Connected Solar Power Projects Scheme	480		260	124.80
11.	200 MW through SECI under ISTS – Connected Solar Power Projects Scheme	187		265	49.56
12.	8 MW from GEDCOL implemented in un-utilized surplus land	5	-----	284	1.42
	Total	1479.00		393.31	581.71

Non-Solar Renewable Energy**Small / Mini Hydro (SHEP)**

228. The Petitioner proposes to procure 458.35 MU of energy from Small Hydro Electric Project (SHEP).
229. In case of M/s. Meenakshi Power Limited (M/s. MPL), the Rate of Procurement for 200 MU of power, has been fixed at 364 Paise per Unit (P/U) and with the PTC trading margin of 4 Paise per kWh, the Rate of power procurement is proposed as 368 P/U. Taking into the above Rates as the proposed Rate of Power Procurement, procurement from M/s. Meenakshi Power Limited comes to 368 Paise per Unit for 100% power supplied to GRIDCO. The Cost of power from M/s. Meenakshi Power Ltd. is proposed as Rs. 73.60 Crore.
230. In case of M/s. OPCL, it is submitted that the tariff applicable for purchase of 80 MU of power from M/s. OPCL is 371 Paise per Unit which includes the PTC Trading Margin of 4 Paise per Unit (367 P/U+4 P/U). The Cost of power from M/s. OPCL is proposed as Rs.29.68 Crore.
231. In case of M/s. BPPPL, It is submitted that GRIDCO shall procure 150 MU of energy from M/s. Baitarani Power Projects Pvt. Ltd. at the cost of 507 P/kWh as per the rate specified by Hon'ble Commission for the 3rd Control period and in accordance with the PPA executed with the developer on 18.12.2015. Accordingly it is proposed that, the Cost of procurement power from M/s. Baitarani Power Projects Pvt. Ltd. is Rs.76.05 Crore.

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232. Further it is submitted that, GRIDCO shall procure 20 MU Energy from Saptadhara SHEP of M/s Sri Avantika Power Projects Pvt. Ltd. at a cost of 426 P/kWh as per the PPA dated 29.10.2014. The Cost of power from M/s. SAPPPL is proposed as Rs. 8.52 Crore.
233. GRIDCO is proposing to procure 8 MU Energy from Bargarh Head Regulator SHEP of M/s Kakatiya Industries Pvt. Ltd. at a cost of 426 P/kWh as per the PPA dated 02.12.2015. The Cost of power from M/s. KIPL is proposed as Rs.3.41 Crore.
234. As per the order dated 05.01.2019 of Hon'ble OERC in case No. 35/ 2018, the tariff for procurement of power from 2 nos. of Mini Hydel Projects (Biribati & Kendupatna MHP) has been fixed at Rs. 3.91 /kWh. Taking into account the past generation data, 0.35 MU export has been considered for FY 2021 -22 @ Rs. 3.91 /kWh, totalling to 0.014 Crore.
235. The Petitioner request Hon'ble Commission to approve cost of Rs 191.39 Cr to purchase 458.35 MU at average price of 417 P/U.

Bio-Mass Energy

236. The Petitioner submits that M/s. Shalivahan Green Energy Ltd. is injecting its total generation to the State Grid since its CoD from December 2011. Hence, GRIDCO projects to procure around 80 MU of Bio-mass energy @ 60 % PLF @ 708 P/U for an amount of Rs. 56.64 Crore during FY 2021-22, which is the applicable tariff rate for FY 2021-22 specified by Hon'ble OERC in order dated 01.10.2020 in Case No.12/2019.
237. Thus, the total Biomass Energy of 80 MU is proposed to be procured at a cost of Rs. 56.64 Crore @ 708 P/U during FY 2021-22.

Wind Energy

238. Petitioner submits that 350 MW Wind power is expected to be made available to GRIDCO during FY 2021-22, 50 MW in Phase-I through M/s PTC India Ltd. @353 P/U, 100 MW @272 P/U in Phase-II, 50 MW @ 252 P/U in Phase-III, 100 MW @ 259 P/U in Phase-IV and another 50 MW @ 290 P/U in Phase-VI all through SECI MNRE ISTS-connected Wind Power Project Schemes. In view of this, GRIDCO is hopeful to procure around 685 MU of Wind Energy @ 286.33 P/U for an amount of Rs. 196.14 Crore from the above Projects, as detailed below:

Table 52: Proposed Procurement & Cost of Wind Energy for FY 2021-22

Sl No.	Scheme Name	Proposed Energy as per maximum range in the PSA (MU)	Rate (Rs./kWh)	Estimated cost (Crore)
1	MNRE ISTS-Connected Wind Power Scheme through PTC, Phase-I	150	3.53	52.95

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2	MNRE ISTS-Connected Wind Power Scheme through SECI, Phase-II	300	2.72	81.60
3	MNRE ISTS-Connected Wind Power Scheme through SECI, Phase-III	30	2.52	7.56
4	MNRE ISTS-Connected Wind Power Scheme through SECI, Phase-IV	100	2.59	45.12
5	MNRE ISTS-Connected Wind Power Scheme through SECI, Phase-VI	30	2.90	8.70
Total Wind Energy		685	2.8633	196.14

239. The Petitioner submits that Power purchase cost from renewable energy for FY 2021-22 is summarized as below and would request Hon'ble Commission to approve the same:

Table 53: Proposed Procurement & Cost of Renewable Energy for FY 2021-22

Sl. No.	Renewable Energy Sources	Energy Proposed for FY 2021-22 (MU)	Proposed Rate (P/U)	Estimated Total Cost (Rs. Crore)
A.	NON-SOLAR			
a.1	Meenakshi Small Hydro	200	368.00	73.60
a.2	SAMAL Small Hydro	80	371.00	29.68
a.3	Lower Baitarani Small Hydro	150	507.00	76.05
a.4	Saptadhara Small Hydro	20	426.00	8.52
a.5	Bargarh Head Regulator Small Hydro	8	426.00	3.41
a.6	2 nos. of OPGC Mini Hydel Projects	0.35	391.00	0.14
a.	Total SHEP	458.35	417.57	191.39
b.1	Shalivahana Green Energy Ltd.	80	708.00	56.64
b	Total Biomass	80	708.00	56.64
c.1	Wind through PTC, Phase-I	150	353	52.95
c.2	Wind through SECI, Phase-II	300	272	81.60
c.3	Wind through SECI, Phase-III	30	252	7.56
c.4	Wind through SECI, Phase-IV	53	259	45.33
c.5	Wind through SECI, Phase-VI	30	290	8.70
c.	Total Wind	685	286.33	196.14
A.	Total (a+b+c)	1223.35	363.08	444.17
B.	SOLAR RE SOURCES	1479	392.31	581.71
C.	Total (A+B) (NON-SOLAR & SOLAR)	2,702.35	379.63	1,025.88

Inter State Transmission System (ISTS) Charges

240. Transmission Charges of PGCIL & other Inter State Transmission System are being determined by applying the norms and principles as laid down by the Hon'ble CERC from time to time. CERC has published CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 (Sharing Regulations 2020) vide notification dtd: 04.05.2020. According to the aforesaid Sharing Regulations 2020 specified above, the Inter State Transmission System charges are proposed to be divided into four parts:
- National Component (NC)
 - Regional Component (RC)
 - Transformer Component (TC)
 - AC system component (ACC)
241. As per this new Sharing Regulations, 2020, sharing of Transmission Charges for DICs shall be based on Ex-post calculation and on monthly basis. Slabbing has been completely removed. Therefore, the OERC Technical format TRT-12 need to be modified in line with the New Regulations.
242. Basing on the All-India Monthly Transmission Charges (MTC) for the Quarter 2019-20 Q2 and 2020-21 Q2, the MTC for 2021-22 has been estimated to be 3426.31 Cr. This MTC has been segregated to different components (ED-18). Taking these components as base, the Transmission Charges of Odisha has been calculated month-wise, taking into consideration of the LTAs of the upcoming Generators of Barh, Darlipali and North Karanpura. The total Transmission Charges for Odisha for 2021-22 comes out to be 699.19 Cr. The energy drawal by GRIDCO from Central Sector Generators has been calculated on LTA basis and monthly basis and it is estimated as 17,542.59 MU.
243. Since the calculations are to be made on all India basis & sufficient data are not available, as well as the billing in new regulation is not yet started, it is extremely difficult to find the exact amount of MTC / exact quantity of LTA, under the New Regulations. Therefore, certain assumptions are taken to arrive at the end results. These assumptions are specified in the ED-18
244. As per Cl.(10) of Sharing Regulations 2020, the Transmission Loss for ISTS shall be calculated on All India average basis for each week. The Loss for the last Three weeks are declared by POSOCO as 3.54%, 3.57% and 3.66%. Considered the average figure of 3.59% as CTU loss, the per unit PGCIL Transmission Charge including loss works out to be 41.34 P/U. As the transmission charges are levied as capacity charges, if the scheduling of power will be lesser, the average per unit PGCIL Transmission charges will increase. The same is tabulated below:

Table 54: Transmission charges for FY 2021-22 (Rs Cr.)

Particulars	FY 2021-22
Net amount payable by GRIDCO towards Transmission Charges	699.19
GRIDCO	Page 69

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

Energy Drawal by GRIDCO before Central Sector Loss (MU)	17542.59
PGCIL Transmission Charge (Paise/Unit)	39.86
Average All India Central Sector Transmission Loss (%)	3.59%
PGCIL Transmission Charge including loss (Paise/Unit)	41.34

245. Since the calculations are made on all India basis & with limited data, it is extremely difficult to project the exact amount of MTC / exact quantity of LTA under the new Regulations. Therefore, certain assumptions are taken to arrive at the projections for FY 2021-22. These assumptions are specified in the Annexure-2.

POSOCO Fees and Charges

246. The Petitioner submits that as per CERC (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations 2019, the RLDC fees and charges shall comprise Regional Load Despatch Centre fees to be recovered by POSOCO towards registration for commencement of Grid access and scheduling and annual charges to be collected in the form of annual LDC charges from the users. The RLDC charges shall be collected equally (1/3rd of Monthly Charges) from the following users as indicated below:

- Distribution Licensees & Buyers
- Generating Stations & Sellers
- Transmission Licensees

247. The Petitioner has forecasted POSOCO charges for FY 2021-22 by prorating actual expenses for Apr-Sep 2020. Thus the Petitioner proposes for Rs 1.79 Cr. as expenses for POSOCO charges.

Table 55: Projected ERLDC Fees and Charges of POSOCO for FY 2021-22

Particulars	GRIDCO's Projection for FY 2021-22
Net amount payable by GRIDCO towards POSOCO Charges (Cr.)	1.79
Energy drawal by GRIDCO before Central Sector Loss(MU)	17,543
ERLDC Fees and Charges(P/U)	0.102
Weighted Average Central Sector Transmission Loss(%)	3.59%
ERLDC Fees and Charges including loss (P/U)	0.106

Summary of Power Purchase Cost

248. The Petitioner submits that power purchase cost for FY 2021-22 is summarized as below:

Table 56: Summary of Power Purchase Cost for FY 2021-22

Station Name	Energy Available (MU)	FC (Rs Cr)	VC (Rs Cr.)	Year End charges (Rs Cr.)	Total Cost (Rs Cr.)	Per unit P/U
HHEP	660.56	43.80	43.80	1.56	89.16	134.97
CHEP	485.10	18.12	18.12	1.06	37.29	76.88
Balimela	1,171.17	38.62	38.62	2.71	79.95	68.26
Rengali	519.75	33.61	33.61	1.25	68.47	131.74
Upper Kolab	823.68	33.15	33.15	1.93	68.23	82.83
OHPC(Old)	3,660.26	167.30	167.30	8.51	343.10	93.74
Indravati	1,942.38	89.49	89.49	4.40	183.38	94.41
Machkund	259.88	-	63.46	-	63.46	244.20
Total State hydro availability	5,862.52	256.78	320.25	12.91	589.94	100.63
OPGC - 1 & 2	2,726.34	248.97	402.41	60.58	711.36	260.92
OPGC - 3 & 4	5,700.21	988.99	773.52	33.72	1,796.22	313.92
TTPS	3,287.68	407.47	616.38	29.37	1,053.23	320.36
Sub-Total State Thermal	11,714.23	1,645.43	1,792.31	123.67	3,560.81	303.97
Renewables	2,702.35	-	1,025.88	-	1,025.88	379.62
CGPs	-	-	-	-	-	-
Co-generation Plants	-	-	-	-	-	-
M/s. GMR Kamalanga Energy Ltd.	1,844.00	314.74	306.31	-	621.05	336.79
M/s. Vedanta Ltd.	2,956.00	280.38	450.67	9.53	740.58	250.53
JITPL (IPP)						
Total IPP	4,800.00	595.12	756.98	9.53	1,361.62	283.67
Total State availability	25,079.10	2,497.33	3,895.42	146.11	6,538.25	260.71
FSTPS-I&II	184.20	37.05	52.91	0.15	90.10	489.16

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

FSTPS-III	373.42	99.72	104.49	0.50	204.71	548.21
KhSTPS Stg.-I	186.65	38.02	42.55	0.08	80.65	432.10
KhSTPS Stg.-II	171.14	29.82	36.85	0.02	66.69	389.70
TSTPS Stg.-I	2,157.92	298.77	450.97	12.76	762.51	353.35
TSTPS Stg.-II	1,346.00	117.81	278.24	4.30	400.35	297.43
Darlipali unit 1	2,608.02	537.56	280.01	10.76	828.32	317.61
Darlipali unit 2 - New	1,086.67	223.98	116.67	4.48	345.13	317.61
Barh-1 - New	606.73	183.75	156.07	2.50	342.32	564.21
North karanpura - New	243.86	68.44	33.39	1.01	102.84	421.71
Total Central Thermal Availabilit y	8,964.61	1,634.92	1,552.15	36.56	3,223.63	359.60
Chukha	255.43	-	63.63	-	63.63	249.10
Tala	144.42	-	32.36	-	32.36	224.04
Teesta	504.22	43.42	43.42	-	86.85	172.24
Mangdech hu	342.26	-	148.74	-	148.74	434.60
Total Central Hydro Availabilit y	1,246.33	86.85	244.73	-	331.58	266.04
Total EREB	10,210.94	1,721.77	1,796.88	36.56	3,555.21	348.18
Total Availabilit y	35,290.03	4,175.67	5,735.71	182.67	10,094.05	286.03
PGCIL Charges		699.19			699.19	
SOC & MOC Charges		1.79			1.79	
GRAND Total	35,290.03	4,876.66	5,735.71	182.67	10,795.03	305.89

Net Power purchase cost post sale of surplus power

249. The Petitioner submits that against demand of 28,221.67 MU, it has availability of 35,290.03 MU resulting in surplus energy of 7,068.36 MU. The Petitioner plans to sell all the surplus power which has variable cost below real time rate in the exchange. Given the minimum technical requirement to run a plant at 55%, Petitioner will also have to source power from station which have variable charges above Rs 2.13/kWh assumed. Petitioner will try to maximize its prices of power in trading. With the demand of Power coming to normal level post opening up of economy, it is expected that prices in Exchanges will also Improve, resulting in better margin on sale of surplus power. Details of stations with surplus power is as follows:

Table 57: Cost of surplus power (Rs Cr.)

Plant	Energy Available (MU)	Price in Exchange (P/U)*	Variable cost (P/U)	Variable cost of surplus power (Rs Cr.)
NTPC(TTPS)	2,042.30	213.12	187.48	382.90
TSTPS(St-II)	1,346.00	213.12	199.29	268.25
TSTPS	2,157.92	213.12	201.48	434.78
KHSTPS-II	171.14	213.12	207.59	35.53
KHSTPS	186.65	213.12	219.78	41.02
Barh-1	606.73	213.12	248.00	150.47
FSTPS	184.20	213.12	276.92	51.01
FSTPS III	373.42	213.12	269.78	100.74
Total	7,068.36	213	207	1,464.70

* The average RTC price in DAM of IEX till Oct'20 is 252.12 p/ kWh. However, the net receivable is around 213.12 p/ kWh (252.12 - 39.0) , where 39.0 p/ kWh comprises the injection charges, exchange charges, etc.

250. As evident from the above table in the present power market situation, GRIDCO can earn about 6 paise average margin per unit from sale of surplus power, estimated net revenue to be Rs.42 Crores. The petitioner humbly submit that the trading in real time basis shall be optimised based on the net realisation per unit of sale , the availability including the forced scheduling power by the Load despatcher as per minimum technical requirement / Grid requirement etc and impacts, if any due change in the regulations.

251. The Petitioner submits that Power Purchase Cost for regulated power (excluding the VC of the surplus power) to be recovered from Discoms is as follows:

Table 58: Power Purchase cost for Sale of regulated power (Rs Cr.)

Plant	Energy Available (MU)
Power purchase cost	10,795.03
(Less) Variable cost of surplus power	1,464.70
Power purchase cost for regulated power	9,330.34

Chapter X - Proposed pass through cost in the ARR & BSP application for FY 2021-22

252. The Petitioner submits that the uncontrollable cost of STU chargers, SGECL Arrears, additional power purchase cost of NTPC plants etc have been paid by GRIDCO but is not reflected in tariffs approved by Hon'ble Commission. Thus the following Pass Through Costs are being submitted for consideration in tariff petition for FY 2021-22. The Petitioner would request the Hon'ble Commission to approve the same.

Charges paid for STU charges of other states for Renewable Energy procurement

253. The Petitioner submits that it has paid Rs 5.08 Cr in Apr-Sep 2020 for STU charges for sourcing the Renewable Energy from outside the State which was not approved in the respective year's ARR order. Based on conservative assessment of bills, the Petitioner estimates that actual Pass Through expenses for FY 2020-21 will be 1.5 times of Apr-Sep 2020 Pass Through expenses. Thus the STU charges for RE Pass Through expenses is estimated to be 7.63 Cr for FY 2020-21. The Petitioner request the Hon'ble Commission to approve the same.

Table 59: Pass Through STU Charges (Rs Cr.)

Particulars	2020-21
STU Charges paid towards sourcing of Renewable Energy from Outside the State	7.63

254. The details of actual expenses are attached in ED-19.

SGEL arrear payment

255. The Petitioner submits that in the Tariff order dated 01.10.2020 in Case No. 12/2019, Hon'ble OERC has revised the applicable tariff for 20 MW biomass based project of M/s SGEL from FY 2016-17 onwards. Based on the order GRIDCO has paid Rs 14.70 Cr to SGEL for year wise tariff revision. The Petitioner request the Hon'ble Commission to approve the same. Details are attached in ED-20.

Table 60: Pass Through SGEL Charges (Rs Cr.)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Tariff revision of SGEL	1.10	1.84	3.96	5.46	2.34	14.71

Payment to Central hydro stations

256. The Petitioner submits that it has paid Rs. 10.34 Cr in Apr-Sep 2020 towards Deferred Tax liability to Teesta-V station. Based on historical assessment of bills, the Petitioner estimates that actual Pass Through expenses for FY 2020-21 will be 1.5 times of Apr-Sep 2020 Pass Through expenses. Thus the Teesta-V Pass Through expenses is estimated to be 15.51 Cr for full year FY 2020-21. The Petitioner would request Hon'ble Commission to accept the same.

Table 61: Central Hydro Pass Through Charges (Rs Cr.)

Plant	Year	Amount (Rs Cr)	Remarks
Teesta V	2021-22	15.51	Deferred Tax liability for FY-2019-20

NTPC Stations

257. The Petitioner submits that additional power purchase cost amounting to Rs 477.73 Cr over and above approved by Hon'ble Commission based on actuals bills received till September 2020 is Rs 477.73. Petitioner submits that based on conservative assessment it is observed that actual cost Pass through for full year for NTPC plants is around 1.5 times of actual 6 months actual Pass through bills received. Thus the petitioner has forecasted Pass through expenses of NTPC plants for full year of FY 2020-21 as 1.5 times of actuals Apr-Sep 2020 Pass through expenses i.e Rs 716.60 Cr. The Petitioner request the Hon'ble Commission to approve the same.

Table 62: NTPC Pass Through Charges (Rs Cr.)

Plant	Approve Power (MU)	Approved cost (Rs Cr.)	Actual Power (MU)	Actual Cost (Rs Cr.)	Differential cost claimed (Rs Cr)	Pass Through for FY 2021-22 (Rs Cr.)
2020-21						
FSTPS-I & II	-	-	200.68	132.74	132.74	199.11
FSTPS-III	-	-	103.84	75.94	75.94	113.91
KHSTPS-I	-	-	130.90	74.25	74.25	111.38
KHSTPS-II	-	-	32.12	12.76	12.76	19.14
TSTPS-I	1,509.01	269.97	559.87	209.62	(60.34)	(90.51)
TSTPS-II	1,360.52	193.93	427.15	126.23	(67.70)	(101.55)
DSTPS	-	-	961.94	310.08	310.08	465.12
Total	2,869.53	463.89	2,416.49	941.63	477.73	716.60

OPGC Station

258. The Petitioner submits that it has paid OPGC towards Water cess, SOC & MOC charges and DSM charges amounting to Rs 15.47 Cr. Based on conservative assessment of bills, the Petitioner estimates that actual Pass Through expenses for FY 2020-21 will be 1.5 times of Apr-Sep 2020 Pass Through expenses. Thus the OPGC Pass Through expenses is estimated to be Rs.23.20 Cr for full year FY 2020-21 and would request Hon'ble Commission to approve the same.

Table 63: OPGC Pass Through Expenses (Rs Cr.)

Particulars	Claimed by OPGC	Accepted by GRIDCO	Claimed for FY 2020-21
ED	10.03	7.25	10.88
Water Cess & Charges	7.19	7.19	10.79
SOC & MOC Charges	0.37	0.32	0.48
DSM Charges	0.71	0.71	1.07
Total	18.29	15.47	23.20

259. The Petitioner submits that total Pass Through of Rs 777.66 Cr. claimed by the Petitioner is summarized as below. The Petitioner submits that any disallowance in Pass Through Cost or delay in approval of cost will result in non payment of charges to generators due to lack of funds with GRIDCO. With non payment of dues, generators like NTPC could regulate power of the Petitioner which would affect quality of power in the State. The Petitioner humbly request Hon'ble Commission to approve the Pass Through Cost as submitted by the Petitioner.

Table 64: Total Pass Through Expenses (Rs Cr.)

Particulars	Amount (Rs Cr.)
STU charges of other states for RE power	7.63
SGEL arrear charges	14.70
Central Hydro	15.51
NTPC	716.60
OPGC	23.20
Total	777.66

Chapter XI - Special appropriation for loan repayment liabilities

260. The Petitioner submits that Petitioner has outstanding loan balance of Rs 6,564.19 Cr as on 31st March 2020 with repayment liability of Rs 1164.97 Cr due in FY 2021-22. Due to non cost reflective BSP, disallowance of Carrying cost on Regulatory assets and huge receivables the loan liability of the Petitioner has increased over the year. The Petitioner proposes to first meet such loan liability from Margin from Sale of surplus power as directed by Hon'ble Commission in its previous orders. AS the trading margin will be very low due to present market condition, the Petitioner request the Hon'ble Commission to create a Separate Mechanism to meet Net Repayment liability post adjustment of Margin.

Special Appropriation

261. The Petitioner submits that Petitioner has outstanding loan balance of Rs 6,564.19 Cr as on 31st March 2020 with repayment liability of Rs 1164.97 Cr due in FY 2021-22. Due to non cost reflective tariffs, disallowance of Carrying cost on Regulatory assets and receivables

262. The Petitioner humbly requests to allow the special appropriation for loan considering the high loan balance in the books of GRIDCO.

263. The Petitioner humbly submits that it was compelled to raise loans in the past for the following reasons:

- a. Non cost reflective BSP in the past years resulting in huge revenue gaps on year on year basis
- b. Non amortisation of regulatory assets by the Hon'ble Commission through feasible mean of amortisation.
- c. Hon'ble Commission has directed to amortize the regulatory assets against the revenue from sale of surplus power. It is pertinent to mention that the revenue from sale of surplus power is inadequate to amortize its regulatory assets;
- d. No carrying cost allowed by the Hon'ble Commission on the unamortised regulatory assets / Revenue Gaps
- e. Outstanding from distribution companies against the bulk supply tariff. In the past distribution companies have not been able to clear their dues towards loans, securitized dues, and BSP dues etc. resulting in GRIDCO taking loans to meet its working capital needs
- f. Loans raised to avail rebate on timely payment for power purchase and reduce late payment surcharge, the benefits were passed on to consumers.
- g. No financial restructuring schemes like the Financial Restructuring Plan (FY 2013) and Ujjwal Discom Assurance Yojana (FY 2015) implemented for the non-distribution companies like GRIDCO or private Discoms in Odisha to restructure financial cost, which was available in other states for restructuring of liabilities. In the above schemes, the liabilities were taken over by Govt whereas in Odisha it remained with GRIDCO.

- h. Delay in pronouncement of orders on True Up petitions filed by the Petitioner
264. The Petitioner has been struggling on account of cash deficit scenario due to the reasons mentioned above. However, it is pertinent to note that despite such an adverse situation, GRIDCO has ensured that there is no interruption in power supply on account of non-payment of power purchase dues. For this, it has to raise loan to meet its cash flow deficit and clear the power purchase dues.
265. It is submitted that the Hon'ble Commission has not allowed repayment of principal to the tune of Rs.1,111.74 Crore in the ARR & BSP for FY 2020-21. In fact, at Para 329 to 331, of the ARR & BSP Order for FY 2020-21, Hon'ble Commission mentioned that proposed repayment of loan principal amounting to Rs.1,111.74 Crore during FY 2020-21 may be met through the following options:
- a. "Power Sector Development Fund" to be created out of the revenue earned from surplus power trading,
 - b. Revenue earned through sale of low cost hydro power over and above design energy of OHPC by way of better management of hydrology at various OHPC Hydro Stations,
 - c. Earnings from UI/ DSM Charges and
 - d. Budgetary Support from Government of Odisha.
266. Hon'ble Commission also noted that
- "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"*
267. It is humbly submitted that the abovementioned sources to meet the loan repayment obligation is not feasible or beyond the control (uncontrollable factor) of the GRIDCO as discussed below:
- a. State Govt. has not made budget provision for the differential amount to pay to Banks/Financial Institutions through GRIDCO.
 - b. UI mechanism is a mechanism for adjustment of over-drawals and under-drawals linked to frequency of the grid. It is a balancing mechanism rather than a revenue earning mechanism. Any amount received by the Petitioner for under-drawal of electricity can never be sufficient for bridging the revenue gap/repayment of loans.

- c. Due to very low prices prevalent in the Power Market in recent times, the margin from sale of surplus power is very thin. Prices have been low due to surplus power situation in the country on the supply side and slow demand growth. The slow demand growth has been further impacted due to Covid-19 pandemic.
- d. Power market has recently experienced an all-time lowest rate of power which is even below the variable charges of the NTPC stations like FSTPS-I (Rs 2.76/kWh), FSTPS-III (Rs 2.69/kWh), KhTPS-I (Rs 2.19/kWh), KhTPS-II (Rs 2.07/kWh). Thus the Petitioner was not able to sell surplus power from these stations. Average rate of power sold in exchange was Rs 2.30 per unit in Apr-Sept 2020 period while this rate was Rs 2.64 per unit in FY 2019-20 period indicating decline in price of power sold in exchange.
- e. Due to limited surplus power historically and low prices in the exchange recently, the Petitioner did not have sufficient revenue from sale of surplus power to meet its repayment liability resulting in huge unmet repayment liability. The repayment liability and revenue from sale of surplus power historically is summarized below:

Table 65: Gap in meeting repayment liability (Rs Cr.)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Repayment Liability	801.01	925.49	1,064.89	1,177.95
Gross Revenue from Trading	90.77	143.23	379.28	577.94
Unamortized repayment Liability	710.24	782.26	685.61	600.01

- f. It may also be noted that Hon'ble Commission has also directed the Petitioner to use the revenue from sale of surplus power to amortise the regulatory assets created in the past. The margins from sale of surplus power cannot be utilised for the issues not resolved in the tariff order by the Hon'ble Commission
- g. It is also humbly submitted to the Hon'ble Commission that margins from sale of surplus power is not correct yardstick to measure amount available to pay for loans. The Hon'ble Commission has also directed to utilize margin from sale of surplus power towards Special appropriation, Amortization of regulatory assets. The margin from such surplus is not enough to meet such huge liability towards such deficiencies.
- h. Hon'ble Commission may kindly consider that GRIDCO has sourced power from OHPC in excess of the Quantum approved by Hon'ble Commission which is proposed to be passed on to consumers in the truing up exercise though there is very little scope available with GRIDCO to draw excess power through better management of Hydrology.

268. In its Revised tariff order for FY 2020-21 dated 23 September 2020, the Hon'ble Commission had deducted the income from surplus trading power of Rs 90.59 Cr from the estimated annual revenue requirement. On the other hand, the Hon'ble Commission in its previous tariff orders has considered income from surplus power trading as part of "Power Sector Development Fund" to meet repayment liabilities. It is humbly submitted that the orders of Hon'ble Commission is requested to consider a uniform long term approach for a regulatory certainty.
269. The Petitioner would request Hon'ble Commission to keep Revenue from trading separate in Power Sector Development Fund to be utilised for repayment of loan liabilities and create a separate mechanism for payment of remaining repayment liabilities. It is also requested that if the margins from sale of power is not positive then the same ought to be allowed to be recovered in the Annual Revenue Requirement.
270. With high Average Cost of Supply-Average Revenue Realized (ACS-ARR) gap for Distribution utilities, GoI introduced schemes like Financial Restructuring Plan in FY 2013 and Ujjwal Discom Assurance Yojana in FY 2015 to refinance/ restructure/ reduce high interest cost loans of Discoms. With power purchase consisting of 80% of total cost, Discoms had taken loans to finance their increasing power purchase cost. GRIDCO being a Bulk supplier is engaged in procurement of power and supplying it to Discoms. GRIDCO had also taken working capital loans to meet its increasing power purchase cost but it was not eligible for such GoI schemes to restructure its high interest cost loans resulting in sustained high interest cost. This should also be kept into consideration while allowing the interest cost and special appropriation amount.
271. The situation will further deteriorate as with the sale of utility of CESU and the ongoing sale of other three Discoms under Section 20 of the Electricity Act 2003. There are concerns and uncertainties on realization of past receivables from Discoms. This will negatively impact the capabilities of GRIDCO to meet the debt service obligation for the short term/ working capital loans.
272. The Petitioner submits that Hon'ble Commission in the ARR & BSP Order for FY 2019-20 dated 29.03.2019 in Case No.73/2018 has dis-allowed the payment of State Government dues (loans and interest thereon), NTPC-GoO bond dues and OHPC securitized dues.
273. Following with the directions, the Petitioner has not claimed repayment towards the payment of State Government dues (loans and interest thereon), NTPC-GoO bond dues and OHPC securitized dues. Petitioner is separately approaching Govt for waiver of interest on Govt loan/ Bonds and conversion of the principal amount into equity. Petitioner shall submit further developments as decided by the Govt. The Petitioner humbly submits that it is claiming repayments and interest charges on loans from Banks, Bond Dues and Inter Corporate Loan in tariff petition for FY 2021-22.
274. The Petitioner requests the Hon'ble Commission to approve special Appropriation of Rs 1,164.97 Cr as these are binding of GRIDCO or any default in repayment will severely impact credit rating of GRIDCO and will result in further increase in borrowing cost.

Table 66: Special Appropriation by GRIDCO (Rs Cr.)

Particulars	Loan Repayment Dues	Interest Dues
State Govt. Loan	120.00	416.18
NTPC-GoO Special Bonds (Rs.1102.87 Crore)	818.81	663.57
Sub-Total (A) (Proposed to be deferred)	938.81	1079.75
Bank Loans& Inter Corporate Loan (OMC)	1164.97	-
OHPC Securitized Dues	-	
Sub-Total (B)	1164.97	
Grand Total (A+B)	2103.78	1079.75

275. The Petitioner submits that against demand of 28,221.67 MU, it has availability of 35,290.03 MU resulting in surplus energy of 7,068.36 MU. The Petitioner plans to sell all the surplus power which has variable cost below real time rate in the exchange. Given the minimum technical requirement to run a plant at 55%, Petitioner will also have to source power from station which have variable charges above Rs 2.13/kWh assumed. Petitioner will try to maximize its revenue from sale of surplus power. With the demand of Power coming to normal level post opening up of economy, it is expected that prices in Exchanges will also Improve, resulting in better margin on sale of surplus power. The Petitioner submits that estimated margin from sale of surplus power to be deducted from repayment liability is as follow:

Table 67: Estimated revenue and margin from Trading (Rs Cr.) for FY 2021-22

Plant	Energy Available (MU)	Variable cost (P/U)	Sale price in exchange (P/U)	Revenue from Trading (Rs Cr.)	Margin on Trading (Rs Cr.)
NTPC(TTPS)	2,042.30	187.48	213.12	435.26	52.36
TSTPS(St-II)	1,346.00	199.29	213.12	286.86	18.61
TSTPS	2,157.92	201.48	213.12	459.90	25.11
KHSTPS-II	171.14	207.59	213.12	36.47	0.95
KHSTPS	186.65	219.78	213.12	39.78	(1.24)
Barh-1	606.73	248.00	213.12	129.31	(21.16)
FSTPS	184.20	276.92	213.12	39.26	(11.75)
FSTPS III	373.42	269.78	213.12	79.58	(21.16)
Total	7,068.36	207.22	213.12	1,506.41	41.71

276. The remaining balance of repayment liabilities post deducting margins from sale of surplus power is as follows:

Table 68: Repayment Liability post Margin from trading (Rs Cr.)

Particulars	Rs Cr
Special Appropriation towards repayment of loans	1,164.97
Margin from Trading	41.71
Remaining repayment balance	1123.26

277. Considering the insufficient trading margin to meet huge repayment liability in FY 2021-22, the Petitioner further proposes to deduct margin earned from sale of surplus power (sale price minus variable charges) from the repayment liability for the year and allow the balance repayment amount in the following manner:
- a. allow as a part of the annual revenue requirement,
 - b. Allow a regulatory surcharge recovery as a percentage of bulk supply tariff, or
 - c. Allow as a regulatory asset with an amortisation in a defined period of 3 to 5 years, as the Hon'ble Commission deems fit as submitted in detail in the next chapter.
278. It is pertinent to note that the above proposal is based on the premise that the Hon'ble Commission will be allowing the entire fixed charges forming part of the power purchase cost for the NTPC generating stations for which the fixed charges are not allowed in the last tariff order.

Chapter XII- Amortization of regulatory assets

279. The Petitioner submits that the Hon'ble Commission has approved the Truing Up amount of Rs. 3,588.02 Crore till FY 2014-15 while approving Tariff Order for the FY 2017-18.
280. Subsequently as per the direction of Hon'ble Commission, GRIDCO has filed its Truing Up application for the FY 2015-16 and FY 2016-17 for Rs.406.66 Cr. and Rs.381.20 Cr respectively for approval by the Hon'ble Commission. Hearing has been completed and the order is awaited.
281. The Petitioner has also filled True Up submission for FY 2017-18 and FY 2018-19. Petitioner will be filing True Up petition for FY 2019-20 with Hon'ble Commission.

Table 69: Gap as per True up (Rs Cr.)

Particulars	Amount (Rs Cr)
Gap approved up to 31.03.2015	(3588.02)
Truing up Gap Submitted for FY 2015-16	(406.66)
Truing up Gap Submitted for FY 2016-17	(381.20)
Truing up Gap submitted for FY 2017-18	(36.47)
Cumulative Truing up Gap submitted up to FY 2017-18	(4412.35)
Truing up Gap calculated for FY 2018-19	(248.56)
Total Cumulative Truing up Gap calculated up to 31.03.2019	(4660.91)
Truing up Gap submitted for FY 2019-20 (to be filed)	(1345.71)
Total Cumulative Truing up Gap calculated up to 31.03.2020	(6006.62)
ARR Gap approved by OERC for FY 2020-21	(250.60)
Total Cumulative Gap calculated up to 2020-21	(6,257.22)

282. The Petitioner submits that such a huge gap is creating financial burden on GRIDCO and there is no appropriate mechanism to amortize such gap. The Hon'ble Commission had directed to amortize such gap by creating a power development fund from revenue from Trading and UI charges.
283. As discussed in the previous section, the margins from revenue from surplus has been proposed by the Hon'ble Commission to be used for all the unfunded liabilities- repayment of loan, disallowed fixed charges, amortisation of regulatory assets.
284. On the other hand, the Petitioner submits that with dwindling prices in the power exchanges due to surplus power in the country due to several factors including the Covid impact, the margins from revenue for surplus power has turn out to be lower amount. It will not be insufficient to amortize Regulatory Assets.

285. Petitioner humbly prays to the Hon'ble Commission to create suitable mechanism to amortize such huge gap. Various SERCs have taken measures like adjustment in tariff, regulatory surcharge imposition etc. to amortize the regulatory assets. The Petitioner prays to the Hon'ble Commission to kindly provide for a similar mechanism to amortize regulatory assets in the BSP order for FY 2021-22. The treatment of amortization of regulatory assets in other States are given below:

Table 70: Amortization of Regulatory assets in various States

Measure	Sr.	Utility	Amount of RA* (INR crore)	Year of recognition of RA	Approved ARR In year of recognition of RA (INR crore)	Liquidation period
Adjustment in tariff	1	BEST	1,062	2013	3,907	FY 13 to FY 16
	2	DNH PDCL	251	2018	2,601 (FY 19)	FY 19
	3	Puducherry ED	248	2013	1,072 (FY 14)	FY 14 to FY 18
Regulatory surcharge imposition	4	R-Infra-D (Adani)	3,377	2013	5,289 (FY 14)	FY 14 to FY 20
	5	Torrent Power	410 (Ahmedabad) 151 (Surat)	2016	4,558 (Ahmedabad) 1,926 (Surat)	FY 17
	6	DNH PDCL	298	Same as 2 above		FY 18 to FY 19
	7	Puducherry ED	Included in 4 above	Same as 3 above		

Chapter XIII- Other cost, RoE and Misc Income

286. The petitioner submits that it has claimed Interest cost based on actuals. As mentioned in the previous sections, due to various uncontrollable factors like non cost reflective tariffs, the Interest cost of the Petitioner has ballooned over the years. The Petitioner has also not been granted carrying cost on the Regulatory assets approved by the Hon'ble Commission.
287. The Petitioner has forecasted Employees cost considering dues towards 7th Pay Commission. The Petitioner has claimed RoE of Rs 92.27 Cr for FY 2021-22 considering RoE of 16% on Equity base of Rs 576.71 Cr.
288. The Petitioner also request the Hon'ble Commission to create a separate mechanism to clear dues and write off post Privatization of Discoms.

Interest & Financial Charges

289. The Petitioner submits that total interest and finance charges for FY 2021-22 is estimated to be Rs 560 Cr based on existing loan liabilities. It also includes guarantee charges of Rs 16.88 Cr based on 0.50% of existing Government guarantee loans. The Petitioner also submits that the interest on loan does not include interest on State Government loans.
290. The Petitioner submits that the Hon'ble Commission, in its tariff order for FY 2020-21, only approved interest of Rs 84.07 against Rs 477.63 claimed by the Petitioner. Such huge disallowance by the Hon'ble Commission is putting severe financial strain of the Petitioner. Excerpts of Hon'ble Commission order is presented below:

OERC order for FY 2020-21

“The commission in earlier orders have observed that there is no need for GRIDCO to borrow further from banks, if it is able to collect the approved revenue from Discoms. The inability of GRIDCO to collect such revenue has landed GRIDCO in a situation of borrowing from banks. The Commission in the tariff order 2017-18 observed that 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 RIDCO 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.”

OERC order for FY 2016-17

“279 The Commission made certain important observations regarding the responsibility of Govt. of Odisha in providing necessary administrative and political support so that necessary climate of compliance on the part of Discoms and the consumers would have been created (para 292 of the tariff order for FY 2015-16). The Govt. departments including municipalities should have acted as model consumers in making prompt payment of their electricity dues. Unfortunately, arrears from various govt. departments have shown upward trend and stands at a huge figure of Rs.350.45 cr. as on 31.03.2015. The track record of pre-paid meter scheme and energy police stations is also quite dismal. In view of the above, the Commission reiterates its concern expressed in the last tariff order and feels that the entire burden of interest should not be passed on to the consumers of the State.

In the meantime it is gathered that GRIDCO has opted to join UDAY Scheme notified by Govt. of India. Govt. of Odisha has recommended the same to Central Government. This proposal is likely to be accepted in the FY 2016-17 which inter alia would lead to substantial reduction in interest liability of Discoms. This will ease interest servicing of GRIDCO. Accordingly, 15% of the amount mentioned above should be borne in all fairness by GRIDCO and Govt.”

291. The Petitioner submits that the reasons to borrow working capital loans predominantly due to non cost reflective BSP, non allowance of carrying cost on regulatory assets, insufficient funds in Discom escrow huge outstanding receivables from Discoms, mandate to supply power to Discoms as “State Designated entity”
292. The Petitioner submits that historically, the Hon’ble Commission has not allowed full ARR as claimed by the Petitioner, resulting in the Petitioner meeting the revenue gap through funding from external sources i.e. working capital loans. Summary of disallowances is presented below. Therefore there is huge regulatory gap pending for recovery as explained in previous chapter..

Table 71: ARR Disallowance by OERC (Rs Cr.)

Year	ARR proposed	ARR Approved	Disallowance
FY 2015-16	9319.80	7049.94	(2,269.86)
FY 2016-17	9235.09	6660.52	(2,574.57)
FY 2017-18	10293.13	6962.97	(3,330.16)
FY 2018-19	9382.98	7374.66	(2,008.32)
FY 2019-20	9134.19	7702.90	(1,431.29)
FY 2020-21	11243.71	8274.38	(2,969.33)

293. It is also humbly submitted to the Hon’ble Commission that with current low interest rate scenario, the Petitioner has borrowed working capital loan to avail rebate from generators and also reduce its late payment surcharge which has high interest penalty. The benefit of rebate on power purchase cost and lower LPS is passed on to end consumers. On the other side, the cost of raising the fund to earn the rebate or save the late payment surcharge is not considered by the Hon’ble Commission. It will be a double jeopardy on GRIDCO. The Petitioner requests Hon’ble Commission to consider such benefits after approving interest on loans availed by the Petitioner

294. Petitioner submits that escrow mechanism had been created to allow recovery of power purchase cost of GRIDCO as a first right over revenue of Discoms. However, insufficient funds in the escrow has made Petitioner borrow from external sources. The Petitioner has also given escrow relaxation (on the direction of Hon'ble Commission) for withdrawal of employee cost and R&M expenses in order to avoid labour unrest. Moreover, Hon'ble Commission has directed for relaxation of salary and R&M to the DISCOM.
295. The Petitioner submits that default on the part of Discoms, in past, in timely payment of dues has exaggerated the cash deficit situation. With regard to regulate supply for old outstanding dues, Hon'ble commission may frame a protocol to regulate supply either part or full regulate and the priority of feeders for regulation etc. In view of the above the Petitioner is unable to recover its dues from Discoms by way of regulating supply.
296. Further, the Petitioner submits that payments to central and State thermal generators are being made on day ahead payment basis as per the directives issued by Ministry of Power in August 2019. As the BSP bills are served after end of the month, day to day funds requirement for making advance payment poses great difficulties for GRIDCO to make advance payment for next day's drawal. GRIDCO has raised borrowings from Bank to meet such mismatch in payment of revenue and expenses and has to avail the required funds from its Secured Over Draft (SOD) Account, which reaches the maximum limit in most of the times during every month.
297. Petitioner further submits that Hon'ble Commission has neither allowed carrying cost on Regulatory assets approved by Hon'ble Commission and subsequent True Up gap as per audited accounts not the actual interest cost incurred by GRIDCO.
298. The Petitioner submits that non-allowance of carrying cost has resulted in huge financial strain on the company. Total Accumulated carrying cost till 30th November 2020 and carrying cost for the year is summarized below. The Petitioner has taken weighted average rate of Interest for FY 2019-20 of 8.60 % (ED-24) to calculate carrying cost for FY 2021-22. The carrying cost for FY 2021-22 is as follows:

Table 72: Carrying Cost (Rs Cr.)

Particulars	Gap (Rs Cr.)	Start date of Carrying Cost	Cumulative Carrying cost upto 30/11/2020 (Rs Cr.)	Carrying cost for FY 2021-22 (Rs Cr.)
Gap approved up to 31.03.2015	(3,588)	31/03/2015	1,750	308
Truing up Gap Submitted for FY 2015-16	(407)	31/03/2016	163	35
Truing up Gap Submitted for FY 2016-17	(381)	31/03/2017	120	33

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Truing up Gap submitted for FY 2017-18	(36)	31/03/2018	8	3
Truing up Gap calculated for FY 2018-19	(249)	31/03/2019	36	21
Truing up Gap submitted for FY 2019-20	(1,346)	31/03/2020	78	116
ARR Gap approved by OERC for FY 2020-21	(250.60)	30/09/2020	3	22
Total gap	(6264)		2,159	528

299. The Petitioner request Hon'ble Commission to approve interest cost as submitted by the Petitioner considering the carrying cost not allowed by the Hon'ble Commission until now.
300. The Petitioner humbly submits that due to above mentioned uncontrollable factors, it has to borrow funds from external sources and also requests to Hon'ble Commission to allow interest cost to further avail rebates and limit the late payment surcharge on power purchase cost.
301. In order to bridge the cash gap due to various uncontrollable reasons, GRIDCO plans to borrow Rs. 2600 Crore during balance six months of FY 2020-21. (Rs 500 Cr has been availed during Nov 2020 and balance 2100 Cr is yet to be borrowed during 2020-21). The Petitioner requests Hon'ble Commission to approve Interest on additional borrowing of Rs 2600 Cr to meet power dues in FY 2021-22.
302. Considering the above, the Petitioner request Hon'ble Commission to approve Interest cost as per actuals:

Table 73: Interest projections for FY 2021-22

SI No	Loan details	Amount (Rs Cr.)
1	Union Bank STL- V	8.10
2	IOB _I - 200_2010-11	0.14
3	Odisha Gramya Bank_II_136cr	0.29
4	Bank of India_III_100 cr	0.23
5	Bank of India_IV_300 cr	4.72
6	Canara_V -100_2015-16	0.30
7	OMC TL-I_II_ & III 1500cr_2012-16	37.70
8	Bank of India_V_500 cr	23.70
9	Union Bank- VIII_300_2016-17	4.63
10	Union Bank- IX_500_2016-17	20.98
11	Canara Bank_VI_200 cr 2016-17	7.24
12	Uco_Bank_300 Cr_2016-17	11.98

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13	Andhra _V - 200cr_2016-17	9.71
14	Odisha GB_III_25cr	1.55
15	IOB _II - 300_2017-18	13.23
16	Odisha Gramya Bank_IV_40 CR	2.30
17	Andhra_ Bank_VI_100CR	4.20
18	Canara Bank_VII_200 CR	11.55
19	Allahabad Bank_V-150 CR	7.58
20	Bank of India_VI_300 cr	16.83
21	Bank of IndiaTL-VII	24.50
22	Bank of IndiaTL-VIII	8.20
23	Odisha Gramya Bank_V_35 CR	2.29
24	Canara Bank_VIII_200 CR	8.95
25	Canara Bank_IX_200 CR	8.95
26	Canara - X	14.32
27	Canara - XI	16.63
28	Andhra_ Bank_VII_200CR	9.98
29	Andhra Bank - VIII	21.15
30	Andhra Bank - IX	33.06
	Sub Total	335.01
31	Add: Interest on Proposed Loan for FY 2020-21	208.00
32	Add: Financial Charges	16.88
	Grand Total (A to O)	559.90

Employee Cost

303. The Petitioner humbly submits that it proposes Rs.18.80 Crore towards Employees Cost in its ARR & BSP Application for FY 2021-22 including the balance arrear amounting to Rs. 0.81 Cr. on account of implementation of the 7th Pay Commission recommendation as furnished in OERC Form “F-9”.
304. GRIDCO prays the Hon’ble Commission for the approval and allowance of the same in the ARR & BSP for FY 2021-22.

Repair & Maintenance (R&M)

305. The Petitioner submits that it has proposed R&M cost for FY 2021-22 as Rs 0.70 Cr. The detail cost is provided in OERC Format F-10 in the annexures. The Petitioner request the Hon’ble Commission to approve the same.

Administrative and General Expenses (A&G Expenses)

306. GRIDCO proposes Rs. 7.33 Crore towards A&G Expenses for approval by the Hon’ble Commission in the ARR & BSP for FY 2021-22. The details are annexed in OERC Format “F-11”.

Depreciation

307. GRIDCO proposes Rs. 1.33 Crore towards the depreciation on fixed assets including vehicle, furniture and office equipment etc.) for approval in the ARR & BSP for FY 2021-22. Depreciation is calculated based on rates approved by Hon'ble Commission and any additional capital expenditure done during the year.
308. The detailed calculation of depreciation is annexed in OERC Form "F-13".
309. Petitioner submits that it is planning to spend Rs 3 Cr in FY 2021-22 on office automation to improve the process with an objective of efficient management of power purchase cost and accounting thereof.
310. Petitioner requests Hon'ble Commission to approve such cost for better power purchase cost management. Such technology will also be leveraged to reduce its working capital requirement, increase rebate and reduce late payment surcharge by efficiently matching due date of payment for cost of power purchase and amount received in escrow account towards sale to Discoms.

Return on Equity

311. The Petitioner submits that it has been acknowledging and obliging the repeated observations of the Hon'ble Commission in all the previous ARR & Tariff Orders with regard to non-admittance of the Return on Equity (RoE).
312. GRIDCO respectfully submits Return on Equity ("RoE") of Rs. 92.27 Cr in ARR & BSP Application for FY 2021-22 based on Equity base of Rs 576.71 Cr and RoE% as 16%.

Other Income/ Miscellaneous Receipts

313. The Petitioner submits that it expects to earn an amount of Rs. 42.90 Crore during FY 2021-22 (at approved BSP @ 7.15 P/U) towards emergency sale of power of 60 MU to long term customers like NALCO (40 MU) and IMFA (20 MU) for meeting their emergency & back-up power requirements as per the MOU signed with them.

Table 74: Historical Revenue from Emergency sales (Rs Cr.)

Particulars	2016-17	2017-18	2018-19	2019-20	2020-21 (6M A)	2021-22 ARR (P)
Revenue from Emergency sales	4.11	19.56	29.71	63.66*	22.26	42.90

**Revenue of Rs 32 Cr pertain to FY 2009 to 2019*

Chapter XIV-Receivables from distribution companies and others**Securitized Dues**

314. The details of the securitized dues payable by the distribution companies to GRIDCO are given below for kind perusal of the Hon'ble Commission. The Petitioner respectfully prays the Hon'ble Commission to issue appropriate directions to the distribution companies to pay such dues to GRIDCO.

Table 75: Outstanding securitized dues payable by Discoms to GRIDCO (Rs Cr.)

Particulars	Unpaid as on 30-09-2020
WESCO	285.41
NESCO	294.87
SOUTHCO	259.98
CESU	1277.19
Total	2117.45

Bond Dues of Rs 400 Cr.

315. The Petitioner submits that apart from securitized dues, the distribution companies have failed to honour the OERC Order dated 29th March 2012 read with corrigendum order dated 30th March 2012 against the bond dues of Rs.308.45 Crore.
316. In the said Order, Hon'ble OERC had directed the erstwhile RIL 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 would stand non-est.
317. The erstwhile R-Infra managed Discoms have paid Rs.62 Crore by 31-10-2014, besides payment of Rs.50 Crore in March 2012. Now the Outstanding Balance against the 2 Discoms as on 31.03.2019 is Rs.195.36 Crore. GRIDCO prays the Hon'ble Commission to prevail upon the said distribution companies to make the payment to GRIDCO at the earliest.

Non-Payment of BSP Dues and Year-end Adjustment Bills by the distribution companies

318. The Petitioner submits that since FY 2011-12, the distribution companies have started defaulting the payment of current BSP Bills in addition to the Year-End Adjustment bills payable to GRIDCO with exception of the FY 2016-17 when these distribution companies were able to clear the BSP Bills in full.
319. GRIDCO prays the Hon'ble Commission to prevail upon the said distribution companies to make the payment to GRIDCO at the earliest. The outstanding BSP & Year End Adjustments dues payable by Discoms are as under:

Table 76: Outstanding Dues relating to Current BSP and Year end Adjustment bills (Rs Cr.)

Particulars	WESCO	NESCO	SOUTHCO	Sub-Total	TPCODL	TOTAL
BSP Bills as on 31.03.2020	685.69	580.95	608.21	1,874.85	847.25	2,722.10
Year-end Adj.Bills-2007-08 to FY 2010-11	137.67	99.16	134.15	370.98	271.79	642.77
Subtotal	823.36	680.11	742.36	2,245.83	1,119.04	3,364.87
BSP of FY 2020-21 (Bills served for April'20 to Sept'2020)	1,131.00	757.20	344.63	2,232.83	1204.76	3,437.59
Less: Payment received including rebate during 01.04.2020 to 13.11.2020	1255.20	741.58	328.23	2,325.01	1169.16	3,494.17
BSP outstanding up to Nov'2020	699.16	695.73	758.76	2,153.65	1,154.64	3,308.29

320. It can be observed that, distribution companies are yet to pay Rs.3308 Crore towards BSP Dues as on 30th November 2020.
321. In order to bridge the gap arising from non- realization of dues from DISCOM Utilities, GRIDCO plans to borrow Rs. 2600 Crore during balance six months of FY 2020-21. (Rs 500 Cr has been availed during Nov 2020 and balance 2100 Cr is yet to be borrowed during 2020-21). The Petitioner requests Hon'ble Commission to approve Interest on additional borrowing of Rs 2600 Cr to meet BSP dues.

Write-off of receivables from Discoms

322. The Petitioner submits that, the receivables of GRIDCO from DISCOMS for sale of power amounts to Rs. 3991 crores as on 30th September 2020 out of which Rs. 2692 crores or 67% of total is due for more than 6 months. Owing to this, GRIDCO has been availing term loans to meet the working capital gap. As of 30th September 2020, the total loans amount stands to Rs.7860 Cr. including interest on principal.
323. With the sale of utility of CESU and the ongoing sale process of other three Discoms under Section 20 of the Electricity Act 2003, there are concerns on realization of past receivables from Discoms. This will have an impact on servicing of short term loans. In view of this, it is submitted that a mechanism be put in place for principal and interest repayment of short term loans availed to bridge the working capital gap arising due to concerns on non-realization of BSP dues from Discoms. Detailed working has been given in Point 42 to 44 above.

Chapter XV - Aggregate Revenue Requirement and BSP for FY 2021-22

324. The Petitioner submits that based on the above submissions it has forecasted Net ARR of Rs. 10,745.42 Cr to be recovered through proposed BSP of 393.39 P/U. The Summary of ARR is as below

Table 77: Aggregate Revenue Requirement for FY 2021-22 (Rs Cr.)

Particulars	Amount
Power purchase cost	9,330.34
Pass Through Power purchase cost	777.66
Interest cost	559.90
Employee cost	18.80
Repair & Maintenance	0.70
Administrative and General Expenses	7.33
Depreciation	1.33
Return on Equity	92.27
ARR	10,788.32
Less Revenue from Emergency sales	42.90
Net ARR	10,745.42
Units to be sold to Discoms Utilities (MU)	27,315.02
Revenue from Discoms at existing tariff	7,846.41
Deficit Revenue at existing Average BSP	(2,899.02)
Proposed Average BSP to recover the Net Aggregate Revenue Requirement (P/U)	393.39

325. The Petitioner humbly prays the Hon'ble Commission to allow proposed Net ARR & BSP of Rs. 10,745.42 Crore and 393.39 P/U.
326. Revenue of Rs. 7,846.41 Crore is estimated to be earned by GRIDCO from sale of proposed energy of 27,315.02 MU to distribution companies during FY 2021-22 against the proposed Net ARR of Rs. 10,745.42 Crore at the existing average BSP of 287.70 P/U for FY 2021-22
327. It will result in Revenue Deficit of Rs. 2,899.02 Crore. In order to make up for the Revenue Deficit, GRIDCO proposes a BSP of 393.39 P/U (Energy Charge Only) for FY 2021-22 for kind approval by the Hon'ble Commission.
328. In addition to BSP, the Petitioner requests Hon'ble Commission to create a separate mechanism to repay loan liability under Special Appropriation of Rs 1164.97 Cr for FY 2021-22 net of any margin earned on trading of surplus power.
329. In addition to BSP, The Petitioner further requests Hon'ble Commission to create separate mechanism through Regulatory surcharge to amortize Regulatory asset of Rs 3588 Cr approved by Hon'ble Commission which has accumulated to Rs 6,257.22 Cr. till FY 2020-21. The Petitioner also request Hon'ble Commission to allow carrying cost on unfunded gap accumulated till now.

Chapter XVI-Proposal for upward revision of Bulk Supply Price

330. The Petitioner submits that, with present Bulk Supply Price structure, it cannot meet its current costs as it results in deficit of Rs. 2,899.02 Crore as shown above.
331. In order to meet this deficit, GRIDCO humbly submits the present ARR & BSP Application for FY 2021-22 before Hon'ble Commission praying for upward revision of Bulk Supply Price to be effected from 1st April, 2021. The proposal is mentioned under the next paragraph "design of Bulk Supply Price to meet the proposed Aggregate Revenue Requirement for FY 2021-22".

Design of Bulk Supply Price to meet the proposed Aggregate Revenue Requirement for FY 2021-22

332. GRIDCO proposes to recover the net revenue requirement of Rs. 10,745.42 Crore through energy charge of 393.39 P/U only as per the Table given below:

Table 78: Proposed Aggregate Revenue Requirement of GRIDCO for FY 2021-22

Sl. No.	COMPONENTS	Proposed ARR & BSP for FY 2021-22
1	Net ARR to be recovered through BSP (Rs Cr.)	10,745.42
2	Units to be sold to Discoms Utilities (MU)	27,315.02
3	Net Revenue to be recovered through sale of 27,315 MU at existing Average BSP of 287.70 P/U	7,846.41
4	Deficit Revenue at existing Average BSP of 287.70 P/U	(2,899.02)
5	Proposed Average BSP to recover the Net Total Aggregate Revenue i.e. (ENERGY CHARGE ONLY) (P/U) [1/2]	393.39

Demand Charge for excess SMD

333. GRIDCO proposes that the demand charges may be levied @ Rs.250/KVA/Month from distribution companies on the excess SMD based on the following conditions:
- When the actual SMDs of Discoms in a month exceeds the permitted monthly SMDs (110% of the approved SMD), the distribution companies will be billed by GRIDCO @ Rs.250/KVA/Month for the excess SMD on provisional basis to take care of monthly variations.
 - However, such charges will be adjusted at the end of the year if the actual annual SMD remains within the permitted annual SMD i.e. 110% of the approved Annual SMD. If not, the demand charges for the excess SMDs over 110% will be levied at the above proposed rate of @Rs.250/KVA/Month.

Fuel Price Adjustment

334. Any excess payment made by GRIDCO towards FPA for a particular / relevant month will be levied on DISCOMs 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 Bulk Supply Price subject to maximum of 25% of the approved Average Bulk Supply Price which will be passed on to consumers in the same next month onwards in 12 months/ in a quarter along with their normal energy bills served to the consumers at a rate which will be arrived at by considering their approved monthly sale quantum to the consumers (approved quantum for the financial year/12 months).

Over Drawal and Year End charges

335. It is submitted that GRIDCO is going to file a review petition against the ARR & BSP Order for FY 2019-20 (Case No.51/2019 before the Hon'ble OERC) wherein GRIDCO has prayed the Hon'ble Commission to address the issue of billing of over-drawal energy by the distribution companies.
336. GRIDCO submits that it presently bills the distribution companies at the corresponding Hon'ble OERC approved applicable BSP Rate(s) in terms of the Hon'ble APTEL Judgement dated 07.05.2018 in Appeal No. 55 of 2015 till Deviation Settlement Mechanism (DSM) Regulation by the Hon'ble Commission (OERC) is pronounced and implemented in the State of Odisha.
337. **GRIDCO also proposes that any excess drawal of energy by a Distribution and Retail Supply License (DISCOM Utilities) during a month over and above the approved energy quantum (Approved MU for FY 2021-22 X No. of days of the relevant month / 365 days) would be payable on provisional basis at the highest OERC approved Power Purchases Rate fixed for a Station for FY 2021-22 (which includes transmission charges and transmission loss) on a monthly basis instead of the normal differential BSP applicable to the respective Discoms subject to final Year End Adjustment (YEA) 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.**

Fuel Price Adjustment

338. Any excess payment made by GRIDCO towards FPA for a particular / relevant month will be levied on DISCOMs 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 Bulk Supply Price subject to maximum of 25% of the approved Average Bulk Supply Price which will be passed on to consumers in the same next month onwards in 12 months/ in a quarter along with their normal energy bills served to the consumers at a rate which will be arrived at by considering their approved monthly sale quantum to the consumers (approved quantum for the financial year/12 months).

Rebate for timely payment

339. In line with the ARR & BSP Order of FY 2020-21, GRIDCO proposes the following rebate for payment of current dues:
- a. For payment of full current month's BSP within 2 working days of raising of BSP invoice (excluding holidays under Negotiable Instruments Act): 2% rebate.
 - b. For payment of part of current BSP within two working days and balance current BSP dues within 30 days of raising of BSP invoice: 2% rebate for payment of bill within two working days and 1% rebate for payment of balance current BSP beyond two working days and within thirty days.
 - c. For payment of full BSP dues within 30 days: 1% rebate
 - d. No rebate shall be paid if full BSP is not paid within thirty days
340. It is pertinent to mention that Hon'ble Commission in the above mentioned order has directed that any payment made within the specified period by Discoms shall be first adjusted against current month's dues raised in the bill.

Escrow Arrangement

341. DISCOMs are approaching GRIDCO to allow escrow relaxation towards employee cost and R&M expenses in each month. Since there is no specific direction in the ARR 202021 to allow escrow relaxation, GRIDCO is facing inconvenience. Keeping in view the overall interest of the Sector, Hon'ble Commission may kindly pass suitable direction as may be deemed necessary without affecting the interest of GRIDCO. Till the Hon'ble Commission decides any change in escrow arrangement, GRIDCO follows the direction issued by the Hon'ble Commission in the BSP order for the FY 2014-15

Surcharges for late payment

342. GRIDCO is also proposing that the surcharge for delayed payment of bulk power supply bills i.e., payment after the periods of 30 days from the date of submission of bills, may be retained at 1.50% per month.

Carry forward of Revenue gap

343. GRIDCO prays that the proposed Annual Revenue Requirement & Bulk Supply Price be made applicable from 1st April 2021. However, in case of a gap between the approved revenue requirements for FY 2021-22 and the revenue realized at the proposed tariff, the Commission may kindly approve to carry forward the gap for adjustment in the future years.

Inclusion of effect of review petition for FY 2020-21

344. GRIDCO respectfully submits that it has filed a Review Petition before the Hon'ble OERC against Hon'ble Commission's ARR & BSP Order for FY 2020-21. GRIDCO prays the Hon'ble Commission to Pass Through the effect including the financial effect of the Review Petition while approving the ARR & BSP for FY 2021-22.

Duty and Taxes

345. 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.

NB: Errors & Omissions (E&OE) expected.

Chapter XVII - Tariff Philosophy

346. The Petitioner in Tariff Petition for FY 2021-22 has proposed to recover Net ARR of Rs 10738.58 Cr through Energy Charges (variable charges) only i.e. 100% of its Revenue as per the present BSP mechanism approved by Hon'ble Commission. On the expenses side 53% of its Power Purchase cost is Variable in nature whereas the recovery mechanism is 100% through variable charges.
347. Such disparity in recovery vs cost not only hinders in long term planning of energy requirement but also affects its financial sustainability during substantial fall in demand.
348. With the CESU being privatized and other remaining Discoms in the process of Privatization, the role of a bulk supplies also increases with power purchase cost accounting for 75-80% of total cost of the Discoms. It is important that for the Bulk Supplier to recover its expenses in the ratio of variability of its cost and ensure financial sustainability. The Petitioner submits that they can make a presentation on the proposal for segregating Bulk Supply tariff into fixed and variable charges

Chapter XVIII-Compliance to directives of Hon'ble Commission

349. The Petitioner submits that it has complied with the following directions of Hon'ble Commission and are as follows:

Table 79: Compliance to Directives

S.No	Directives	Compliance
1	State should draw at least 50% of Machhkund generation every day in a planned and economical manner	<p>The Petitioner submits that State of Odisha is drawing power in radial mode through 132 kV Jayanagar Feeder from Machkund Hydro Electric Project. With regard to the evacuation of power as informed by OPTCL, Odisha Grid System is connected to Machhkund HEP in radial mode at Jayanagar Grid S/S through 132 kV Jayanagar feeder. Jayanagar Grid S/S was earlier connected to Rayagada, Akhusingh, Mohana & Paralakemundi Grid S/Ss of OPTCL Grid Network.</p> <p>The above Grid S/Ss can draw the Odisha share of power from Machhkund HEP on real time basis for which the matching load is required so that Odisha can draw its entitlement share of power. In view of this, in order to increase the load demand in Machkund area, 132/33 kV Podagada S/S was charged on 09.02.2018. In addition to that four no. of 33 kV feeders namely Podagada, Koraput Medical Feeder, Dasmantpur, Kakariguma are to be emanated from Podagada Substation. The said work is to be executed by OPTCL under ODSSP Scheme. Further, OPTCL informed that out of four 33 kV feeders two have already been charged & the other two feeders will be charged shortly. As a result of which the peak load demand of Podagada substation will be increased & Odisha can draw its entitlement of 50% of Machkund Power. OPTCL informed that it is under process to connect Patangi S/S. or proposed Lamtapur S/s. with Podagada S/s. through 132 kV link so</p>

S.No	Directives	Compliance
		<p>that more load can be put on Machkund supply & Odisha can draw its share of power from Machkund Hydro Electric Project</p> <p>However, constant efforts are being made by GRIDCO & SLDC within the transmission constraints to draw and adjust the Odisha share of power on daily as well as monthly basis so as to enable Odisha to draw its entitlement from Machhkund Hydro Electric Project.</p>
2	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 Commission	<p>GRIDCO may resort to source power from CGPs provided the economics of power procurement works out in favour of GRIDCO and also depending on the power supply and demand situation of the State and also in exigency/force majeure conditions justifying such procurement. CGP power is not a firm source of power since the CGPs are essentially meant for the captive consumption and hence, GRIDCO cannot propose procurement of a definite quantum of power from the CGPs. Further it is submitted that drawal of firm power from the generators with whom PPAs are signed. The Petitioner has purchased 524 MU in FY 2019-20 and 227 MU in Apr-Sep 2020 reflecting Petitioner's intent to purchase available low cost power from CGPs.</p>

S.No	Directives	Compliance
3	To purchase the available surplus power from CGPs and Co-generation plants at a negotiable price for trading purposes after meeting the State demand subject to commercial viability	The Petitioner submits that prices in the exchange currently is very low due to sub-due Power Market which has been the case for last couple of years with almost no possibility of improvement in the near future. In the COVID periods prevailing in the country due to surplus availability of power with corresponding lower energy demand, Power market has experienced with trading at all time comparatively lowest rate of Power, even below the Variable Charges of High costs NTPC ER stations. Average rate of power sold in exchange was Rs 2.30 per unit in Apr-Sept 2020 period while this rate was Rs 2.64 per unit in FY 2019-20 period indicating decline in price of power sold in exchange. Thus the Petitioner submits that purchasing power from CGPs and selling in exchange would not be viable and create unnecessary burden on the consumers of the State.
4	To be proactive for commissioning of proposed renewable energy projects in scheduled time. GRIDCO should also make efforts to encourage renewable power producers and facilitate them for setting up of renewable power plants in our State	The Petitioner submits that it is able to meet RPO obligation set by Hon'ble Commission for FY 2021-22 inspite of State being in power surplus. It is submitted that the share of Renewable Energy is picking up in the State and GRIDCO is committed to harness such energy as and when available in the most feasible manner. The disallowance of the fixed charges of the existing PPAs by the Hon'ble Commission would be discouraging to the object of addition of RE power in the surplus scenario.
5	Hon'ble Commission direct that when these IPPs will be in operation, GRIDCO should avail State share power from them at variable cost for State consumption by reducing the schedule of high cost power	The Petitioner submits that variable cost of IPPs is less than variable cost of other stations like NTPC and Petitioner tries to fulfil its demand by purchasing power from IPPs first to reduce power purchase cost of Discoms. Petitioner also submits that it has forecasted to purchase full energy as shared by IPPs in their generation plan for FY 2021-22.

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

S.No	Directives	Compliance
6	Commission considers 3053 MU to be purchased by GRIDCO from the IPP of M/s. Vedanta Limited during FY 2020-21 for State consumption. However, GRIDCO must have to purchase power from the IPP of M/s. Vedanta Limited to the extent of generation from the available linkage coal	As per generation plan submitted by M/s. Vedanta Ltd for FY 2021-22, it shall supply 2956 MU of power from Unit # 2 (600 MW) i.e. IPP Unit. The legitimate entitlement of power for the State at normative generation works out to be 5039 MU of power as per the Hon'ble Commission's order dated 27.01.2016 in Case No.21 of 2015. Therefore, there shall be shortfall to the tune of 2084 MU of power from IPP of Vedanta during FY 2021-22. Further, no reasons of such low supply has been cited by Vedanta. In order to avoid over projection of power availability, Petitioner has taken generation projection as submitted by Vedanta. Further, Hon'ble Commission is requested to direct Vedanta to supply full entitlement of power to the State.
7	To take up the matter with State Government and pursue the cases related to M/s. JITPL at different judicial forum and secure compliance of law through all the available options and make endeavour to purchase full quantum of energy towards State share from this IPP during FY 2020-21 as this energy will be available at the variable cost only	JITPL is yet to commence supply of power to the State and has challenged the PPA and MoU before the Hon'ble Odisha High Court in WP(C)18150/2017 and the PPA approval order dated 04.06.2019 in Case No.1/2017 before APTEL. GRIDCO has filed Case No. 28 of 2020 under Section 142 for non-payment of compensation towards non-supply of power to GRIDCO. Actions are being taken for vacating stay order of Hon'ble High Court and GRIDCO will take all-out effort to resume procurement of State entitlement of power from JITPL during FY 2021-22. Further, Hon'ble Commission is requested to direct JITPL to supply full entitlement of power to the State.

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

S.No	Directives	Compliance
8	To utilize Rs.30 Cr. (allowed in FY 2019-20) towards purchase of additional quantum of renewable energy during the ensuing FY 2020-21 to meet the RPO shortfall	The Petitioner submits that short term power procurement through Green-Term Ahead Market is available from August 2020 and GRIDCO is exploring to procure Green power through this. Also GRIDCO is exploring to participate in tenders for RE procurement through bilateral transactions. The Petitioner further submits that it will meet its RPO trajectory for FY 2021-22 if the full ARR is allowed by the Hon'ble Commission.
9	GRIDCO should take up with the State Government to whom Central allocation of power has been made for payment of fixed cost of those stations for non drawal of high cost power. The estimated extra fixed charge for those stations would be Rs. 348.37 Crore for FY 2020-21	The Petitioner submits that it has been pursuing with central Govt through State government to de-allocate plants with higher variable charges. The Petitioner has already given up its share of Barh-II and Nabinagar Stage II. The Petitioner submits that Government of Odisha has communicated to give up its share of KBUNL and Barh-I. Further useful life of 25 years of FSTPS-I & II and KhTPS – I is about to end in FY 2021-22, the Petitioner does not plan to take power post 25 years of PPA and discussing legal remedies to avoid fixed charges. Till the time the Petitioner legally resolved the exit of PPA, petitioner has to pay fixed charges, thus, Petitioner request Hon'ble Commission to approve fixed cost of FSTPS-I&II and KhTPS-I as paid by the Petitioner.

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

S.No	Directives	Compliance
10	To follow the merit order dispatch principle while purchasing power for State consumption. Any major deviation in real time power purchase should be intimated to the Commission. The Commission shall review the quantum and cost of power purchase based on merit order during performance review of GRIDCO. Accordingly, GRIDCO shall furnish the relevant data during the review of its performance along with the justification and rationales in case of any deviation from merit order dispatch principle. The Commission shall also consider the same along with other expenses during truing up exercise	Petitioner submits that it is following Merit order dispatch principles on real time basis to source power from different stations based on variable cost in the day ahead scheduling and intra-day operations. It has tried to back down stations which have high variable cost upto minimum technical requirement to run a plant as forced scheduled by the load despatch centers.
11	GRIDCO to file the truing up application for the FY 2018-19 by June 2020 along with justification for deviation in cost of power purchase and other expenditures and also details of revenue earnings from sale of power through trading, UI and other sources of income. The said information are also to be furnished for the FY 2015-16 to 2017-18 for which GRIDCO has already filed the truing up applications	Petitioner submits that it has filed true up petition for FY 2018-19 on 29 October 2020 with details of sale of power through trading, UI and other sources of income as directed by the Hon'ble Commission.
12	Commission directed GRIDCO to collect the BSP arrear from the DISCOM Utilities, proactively	Petitioner submits that it is collecting BSP arrears from Discoms but still Rs 3308 Cr is pending with Discoms. Petitioner request Hon'ble Commission to direct Discoms to clear BSP dues at the earliest. Petitioner also request Hon'ble Commission that a mechanism be put in place for principal and interest repayment of short term loans availed to bridge the working capital gap arising due to concerns on non-realization of BSP dues from Discoms. Discoms collectively have paid more than 100% bill of FY 2019-20 , however, during current FY 2020-21, the payments has been defaulted due to impact of Covid-19

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

S.No	Directives	Compliance
13	The Commission therefore directs that GRIDCO should continue to procure power from CGPs and IPPs of the State and market the surplus power in order to reduce the accumulated loss. To overcome the deficit situation GRIDCO is further directed to make all out effort for collection from Discoms its current dues and also arrear dues finalized in the securitization order dt.01.12.2008 of the Commission to avoid borrowings.	CGP power is not a firm source of power since the CGPs are essentially meant for the captive consumption and hence, GRIDCO cannot propose procurement of a definite quantum of power from the CGPs. Petitioner also submits that it has forecasted to purchase full energy as shared by IPPs in their generation plan for FY 2021-22. Petitioner also request Hon'ble Commission that a mechanism be put in place for principal and interest repayment of short term loans availed to bridge the working capital gap arising due to concerns on non-realization of BSP dues from Discoms.
14	Commission reiterated on Outstanding Balance against the two DISCOM Utilities as on 31.03.2019 to the tune of Rs.195.36 Crore of Rs. 400 Crore NTPC Bond dues and directs both GRIDCO and Discoms to comply the order dtd.29.03.2012 in case No.107 of 2011	The Petitioner submits that outstanding balance is still pending with Discoms. But the Discoms are timely paying their current monthly dues through escrow and after paying monthly dues to GRIDCO there is no surplus left in the escrow. GRIDCO is regularly also auditing their escrow account with independent auditor. Govt of Odisha and GRIDCO are regularly monitoring performance of Discoms. As and when sufficient amount will be available in the escrow, GRIDCO will collect payment towards bond dues. However as per the advice of the auditor we have created a provision of balance amount.
15	Commission has directed both GRIDCO and Discoms to file a reply before the Commission regarding action plan taken for liquidation of Outstanding Dues relating to Current BSP and Year End Adjustment bills of Discoms payable to GRIDCO by 31.07.2020	The Petitioner submits that the Discoms are timely paying their current monthly dues through escrow and after paying monthly dues to GRIDCO there is no surplus left in the escrow. GRIDCO is regularly also auditing their escrow account with independent auditor. Govt of Odisha and GRIDCO are regularly monitoring performance of Discoms.

S.No	Directives	Compliance
16	Commission directs GRIDCO for trading of the available surplus power on prudent commercial principles in the market after meeting the State requirement and adjust the revenue earnings from trading and UI sources towards meeting the above gap and past losses. In case the above gap of Rs. 660.15 Crore is not met from the trading and the UI accounts, the balance amount shall be treated as regulatory asset to be amortized by the Commission at future date.	<p>The Petitioner submits that earning of any surplus Revenue from Power Trading has not been up to the mark because of the very low prices prevalent in the present sub-dued Power Market which has been the case for last couple of years with almost no possibility of improvement in the near future. In the COVID periods prevailing in the country due to surplus availability of power with corresponding lower energy demand, Power market has experienced with trading at all time comparatively lowest rate of Power, even below the Variable Charges of High costs NTPC ER stations. Average rate of power sold in exchange was Rs 2.30 per unit in Apr-Sept 2020 period while this rate was Rs 2.64 per unit in FY 2019-20 period indicating decline in price of power sold in exchange. Thus, the proposition established and directions issued by Hon'ble Commission in this context for generating surplus to meet the financial obligation shall not be materialized.</p> <p>The Petitioner proposes to Hon'ble Commission to create a separate mechanism for amortization of regulatory assets rather from revenue earned from trading. The Petitioner proposes to pass revenue from trading to Discoms thereby lowering their power purchase cost and would humbly request Hon'ble Commission to approve separate mechanism for amortization either from tariff adjustment or imposition of regulatory surcharge.</p>
17	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	The Petitioner submits that the Discoms are timely paying their current monthly dues through escrow and after paying monthly dues to GRIDCO there is no surplus left in the escrow. GRIDCO is regularly also auditing their escrow account with independent auditor. Govt of Odisha and GRIDCO are regularly monitoring performance of Discoms.

GRIDCO ARR AND BSP DETERMINATION FOR FY 2021-22

S.No	Directives	Compliance
		<p>GRIDCO could resort to power regulation as a last resort only considering inconvenience to the State consumers and economy and to mandate to supply quality power in the State.</p> <p>However Hon'ble Commission may frame a power regulation protocol for imposing part or full regulation or priority of feeders for imposing the regulation etc.</p>
19	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, on this account shall be considered in the truing up exercise	The Petitioner submits that payment to IPPs is made on the basis of tariff determined by Hon'ble Commission and Hon'ble CERC. The Petitioner request Hon'ble Commission that any change in tariff to be allowed as Pass Through expenses.
20	In case of any variation in ECR of ER NTPC Stations during 2020-21 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 2021-22	Petitioner submits that it has submitted variation in ECR of NTPC station for FY 2019-20 and FY 2020-21 as a Pass Through expenses in the current tariff petition for FY 2021-22 as per the direction of the Hon'ble Commission.
21	No documents has been submitted by GRIDCO in respect of the price of power purchase of 125 MU from M/s. Aditya Birla Renewables Limited under GRIDCO e-bidding and 208 MU through SECI under ISTS-Connected Solar Power Projects Scheme though GRIDCO is expected to purchase power from these two sources during the FY 2020-21	<p>PPA with M/s ABREL dated 28/12/2018 is confirming the applicable tariff along with provisional SGD pass through. GRIDCO submitted details vide letter Sr. GM-PP118/2018/308 dated 23/03/2020 to Hon'ble OERC. The copy of PPA and Letter is attached as ED-21 & ED-22</p> <p>The PSA dated 21/08/2018 with SECI confirms the applicable tariff of Rs 2.61 per kWh towards availing 300 MW of solar power through SECI under ISTS connected Solar power scheme. The copy of PSA is attached as ED-23</p>

Chapter XIX - Prayer

350. In view of the submissions made in the afore-mentioned paragraphs, GRIDCO humbly prays before the Hon'ble Commission to consider the ARR & BSP Application for FY 2021-22 on record and approve the ARR & BSP as proposed in the Application and kindly accept the following prayer;

- a. Consider allowing all the uncontrollable reasonable costs as proposed in the petition above and accordingly, approve the ARR and Bulk Supply Price (BSP) for FY 2021-22 and make the same effective from 1st April 2021;
- b. Allow carry forward of the unrecovered additional costs for recovery in the future BSP or pass through of the same in the truing-up exercise;
- c. Consider to pass the Order on the Truing-up Petition of GRIDCO filed based on the Audited Accounts of GRIDCO for & up to the FY 2015-16 to FY 2018-19 along with amortisation plan;
- d. Approve the fixed charges as payable by GRIDCO to the generating stations for the all existing and new stations to be recovered from DISCOMs through BSP, wherever PPA is tied up on overall long term energy planning of the state even if energy is not scheduled in any year from stations based on MoD principles and change in demand trend of the state;
- e. The Petitioner respectfully prays the Hon'ble Commission to issue appropriate directions to the distribution companies/ Licensees to pay all outstanding dues to GRIDCO as detailed in Chapter XIV. OR

Allow a suitable mechanism to recover the shortfall towards Discoms' receivable arising out of sale of utilities of CESU, and the ongoing sale of WESCO, NESCO and SOUTHCO, which amounts to Rs.6019 Cr. as on 31st March 2020, in a planned manner in next five years after the purchase consideration for these distribution companies is adjusted;

- f. Create a separate regulatory surcharge to amortize regulatory assets accumulated till FY 2019-20 after accounting for revenue from sale of surplus power and allow carrying cost in regulatory assets accumulated till FY 2020-21. Such mechanism of regulatory Gap recovery need to meet at least the servicing of Special appropriation (repayment of principal);
- g. Inclusion of effect of Review Petition of GRIDCO in the ARR & BSP for FY 2020-21. GRIDCO respectfully submits that it has filed a Review Petition before the Hon'ble OERC against Hon'ble Commission's ARR & BSP Order for FY 2020-21. GRIDCO prays the Hon'ble Commission to pass through the effect including the financial effect of the Review Petition while approving the ARR & BSP for FY 2021-22;

- h. Allow recovery of the additional cost/s due to over-drawal of energy, fuel price adjustment / fuel surcharge adjustment etc. or on account of any other statutory increase/s, significant rise in the fuel cost, Electricity Duty/ Water Cess levied by the Government of Odisha and any other Statutory levy/ Duty/ Tax/ Cess / Toll etc. etc. if any, be passed on to GRIDCO on account of the OERC / CERC / Tribunal / Court Orders etc. or the like, as surcharge during the year on quarterly basis;
- i. To pass such Order which are necessary to meet the above prayers and allow GRIDCO to amend / modify the application as necessary and further submissions if any during the course of hearing;

for which, GRIDCO, as is duty bound, shall ever pray.

**BY THE APPLICANT
THROUGH**

**Bhubaneswar
November 30, 2020**

**Chief General Manager (PP)
GRIDCO Limited**

**BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION
BHUBANESWAR**

Case No.....
Filing No.....

IN THE MATTER OF An Application for approval of Aggregate Revenue Requirement (ARR) and determination of Bulk Supply Price (BSP) for the Financial Year 2021-22 under Section 86 (1) (a) & (b) and all other applicable provisions of the Electricity Act, 2003 read with relevant provisions of OERC (Conduct of Business) Regulations, 2004, and other related Rules and Regulations.

AND

IN THE MATTER OF: GRIDCO Ltd., Janpath, BhubaneswarApplicant

Affidavit verifying the Application

I, Shri Prashant Kumar Das, aged about 57 years, S/o Dhuli Bhusan Das, Chief General Manager (Power Purchase), GRIDCO do hereby solemnly affirm and say as follows:

I am the Chief General Manager (Power Purchase) of GRIDCO Ltd., the Applicant in the above matter and am duly authorised to make this affidavit on its behalf.

The Statements made in the foregoing Paragraphs of this ARR & BSP Application herein are based on information and I believe them to be true.

Bhubaneswar

November 30, 2020

DEPONENT