



ANALYSIS OF
AGGREGATE REVENUE
REQUIREMENT AND BULK SUPPLY
PRICE PROPOSAL OF GRIDCO FOR
FY 2024-25

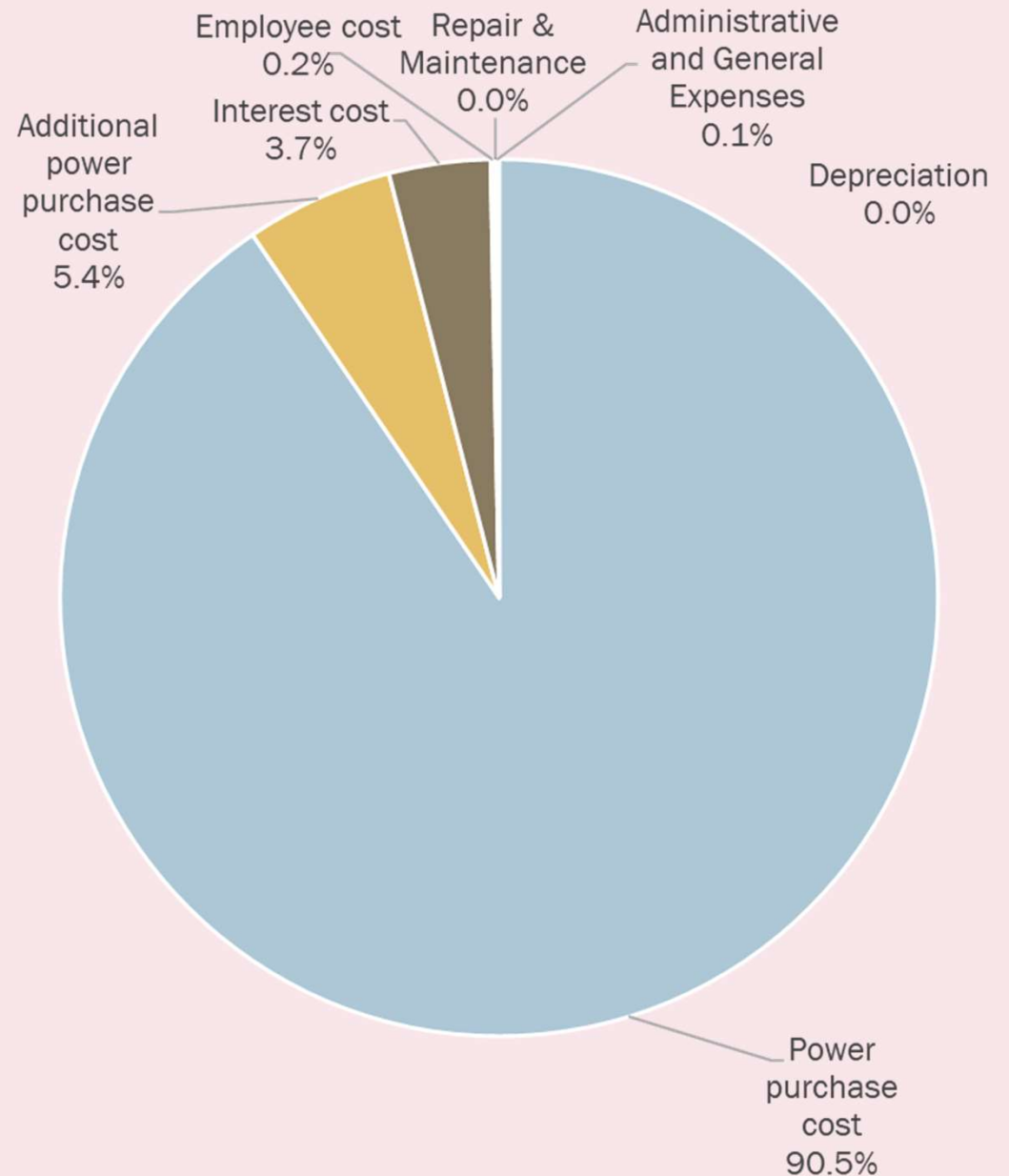
By

World Institute of Sustainable Energy, Pune
(Consumer Counsel)
31 January, 2024

Proposed Revenue Requirement FY 2024-25 (Rs. Crore)



Particulars	Amount (Rs Crore)
Power purchase cost	12639.14
Additional power purchase cost	760.99
Interest & Finance cost	521.55
Employee cost	22.3
Repair & Maintenance	0.98
Administrative and General Expenses	17.19
Depreciation	2.47
ARR	13,964.62
Less Revenue from Emergency sales	52.22
Net ARR	13,912.40



Projection of Energy Requirement FY 2024-25 (MU)



DISCOM Utilities	OERC approval of energy requirement during FY 23-24	Actual from April' 2023 to Sept' 2023	Revised Projection for FY 2023-24	GRIDCO's projection based on energy projection given by DISCOM for FY 2024-25
TPCODL	11256	6298	10860	11469
TPNODL	7508	3845	7701	8172
TPSODL	4920	2298	4591	4917
TPWODL	13286	5836	11346	11704
TOTAL DISCOMs	36970	18278	34498	36263
NALCO & IMFA	70	128	129	70
TOTAL SALE	37040	18406	34627	36333

- FY 2024-25: Projected Energy sale is LESSER than approved sale of FY 2023-24 (by 707MU).
- Proposed energy sale in FY 2024-25 is 4.93% higher as compared to revised sale in FY 2023-24. The projection for FY 2024-25 may be reviewed with DISCOM submission.
- TPSODL projected highest increase in sale in FY 24-25 of 7.1%, followed by TPNODL (6.12%) w.r.t. revised sale of FY 2023-24. TPWODL sale may be reviewed considering TPA sale.

Energy Requirement and Availability (MU)



AGENCY	OERC Approval FY 2022-23	OERC Approval FY 2023-24	GRIDCO Proposal for FY 2024-25
TPCODL	9790.00	11256	11,469
TPNODL	6020.00	7508	8,172
TPSODL	4390.00	4920	4,917
TPWODL	9300.00	13286	11,704
Total DISCOMS	29500.00	36970	39,263
CGP	60	70	70
Total sale	29560.00	37040	36,333
Transmission loss	914.23 (3 %)	1145.57 (3 %)	1124 (3%)
Energy Requirement	30,474.23	38,185.57	37457
Available Energy			39,652
Surplus Energy			2,195

Stations	OERC approval for FY 22-23	OERC approval for FY 23-24	Proposal for FY 24-25
OHPC(Old)	3660.22	3660.22	3642.71
Indravati	1942.38	1942.38	1396.46
Machhkund	259.88	259.88	259.88
Total State hydro	5862.48	5862.48	5299.05
OPGC (1& 2)	2636.04	2731.66	2447.98
OPGC (3& 4)	4862.04	9294.69	9236.11
Small Hydro	456.35	483.35	468.70
Biomass	80	80.00	70.00
Wind Energy	975.87	1060.43	1091.92
Solar Energy	1800	2160.00	1950.00
IPPs	4338.36	5471.25	4829.27
Total State availability	21011.13	27143.86	25393.03
TSTPS Stg.-I	541.01	1912.93	2233.89
TSTPS Stg.-II	1349.63	1349.63	1336.46
Barh-STPS-I			410.64
Darlipali STPS 1	6350.84	5612.74	5207.20
MTPS-II (Kanti Bijli)			171.70
Nabinagar STPS-I			105.26
North Karanpura STPS-I		979.83	1932.05
Total Central Thermal	8241.48	9855.15	11397.20
Chukha	267.05	267.68	256.00
TALA	125.80	122.20	116.00
Teesta	505.93	474.05	
Mangdechhu	322.84	313.30	287.00
Rangit & Kiruchu		9.34	7.00
Total Central Hydro	1221.62	1186.57	666.00
Total EREB	8425.83	11041.71	12063.20
Total Availability (MU)	30,474.23	38,185.57	37,456.22 <i>plus surplus 2195.93</i>

Energy Availability

FY 2024-25



- **State hydro:** Proposed (5039.18 MU) as per the generation plan submitted by OHPC, Gridco has proposed 563.42 MU less than last year approved (5602.60 MU);
- **OPGC: U # 1&2:** GRIDCO considers energy availability of 2447.98 MU (73.52% PLF) against 2668.31MU as submitted by the generator.
- For **Stage-II of OPGC**, GRIDCO has considered 9,236.11 MU to be made available by the generator for FY 2024-25, considering 85.20% availability.
- **IPPs** – 4829.27 MU are proposed to meet state demand as per MoD; FY 2023-24 approved was 5471.25 MU.
- **Central Thermal :** estimated drawl is calculated based on Normative Availability of 85% or projected generation based on actual of FY 2023-24, whichever is lower. The generation with normative availability factor should be considered and limited to state requirement only.
- No energy availability from Teesta-V is considered considering its present situation.
- **Wind and solar availability:** WIND availability has been increased by 31.49 MU while availability of SOLAR power has been decreased as compared to last year approval. This is due to availability from manufacturing linked solar scheme is proposed from Dec 2024 only.

RPO Status

FY 2024-25

- As compare to OERC approval for FY 2023-24, decrease in overall RE purchase – 203.16 MU in FY 2024-25.
- Biomass availability (70MU) needs to be verified based on actual energy (45.99 MU in 6 months of FY 23-24).
- Availability from SHP projects should be verified.
- For HPO: *The HPO shall be met from the eligible large hydro plants commissioned on or after 08.03.2019. If power from eligible large hydro plants is insufficient to meet HPO, generation from small hydro sources commissioned on and after 08.03.2019 would qualify for fulfilment of HPO.*
- RPO compliance - Short fall for the earlier years' RPO to be considered.
- Out of total 3465.15 MW contacted RE capacity, installed capacity is only 1466.65 MW.

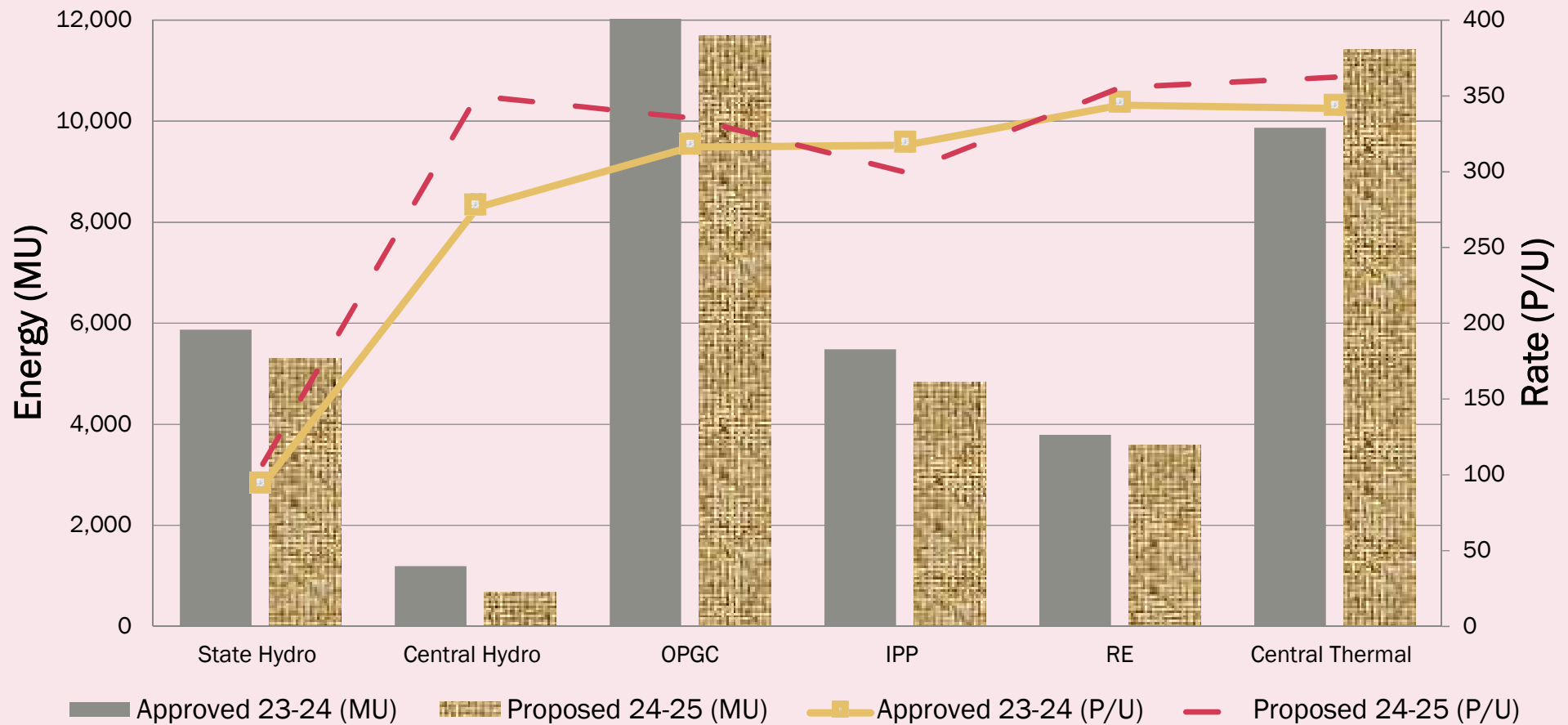
Particulars	RPO Target (On Proposed Sale of 36,333 MU to DISCOMs)		Renewable Energy proposed by GRIDCO for FY 2024-25
	Percentage (%)	Quantum (MU)	Quantum (MU)
A. Solar Energy	9.75	3542	1950
B. Non-Solar Energy (HPO & Other Non Solar)	8.25 incl. (HPO: 1.08%)	2997	1630.62
Total	18.00	6540	3580.62

RPO compliance



	RPO target %	RPO target MU	RPO met MU	RPO met%	Compliance %
FY 2022-23	(April22-Mar 23)				
HPO	0.35%	89.28	89.28	0.35%	100%
Non-solar	6.15%	1568.74	SHP: 335.48 Biomass: 60.67 Wind: 932.68 Total: 1328.83	5.21%	84.71%
Solar	8%	2040.64	1983.71	7.78%	97.21%
Total	14.5%	3698.66	3401.81	13.34%	91.97%
FY 2023-24	(April23-Nov 23)				
HPO	0.66%	123.37	123.37	0.66%	100%
Non-solar	6.59%	1231.83	SHP: 200.21 Biomass: 63.69 Wind: 691.64 Nuclear: 5.28 Total: 970.80	5.19%	78.81%
Solar	8.75%	1635.59	1367.45	7.32%	83.61%
Total	16%	2990.79	2461.62	13.17%	82.31%

Power Purchase Cost



- Total energy availability of 39652.15 MU (@336.93 P/U) in FY 2024-25 against FY 23-24 approval of 38185.57 MU (@310.34 P/U) including PGCIL Transmission Chgs and SLDC Chgs.
- Around 26 P/U increase (8.56%) proposed in FY 24-25 from power purchase rate
- approved for FY 23-24.
- All power purchase rates are increased except Wind, IPPs from last year approved.
- Per unit rate increased in FY 24-25, state hydro (13.74%), Central Hydro (26%)

OHPC and OPGC Observations and Submissions

- OHPC Cost should be as per approval given to OHPC stations.
- OPGC (U # 1&2): GRIDCO has projected the Annual Fixed Charges as Rs.291.95 Cr. and the Energy Charge Rate (ECR) as 167.16 P/U.
- OPGC cost as approved in OPGC Generation Order may be considered.
- U#3&4 : Hon'ble Commission has determined the tariff in Case No 96/2021. Approved Fixed charges for FY 23-24 has been considered. However, energy charges as per actual (138P/U) has been considered (approved was 126.15 P/U).

	Energy and rate		OPGC (unit 1 to 4)
	GRIDCO Proposal 23-24	Energy	MU
Rate		P/U	310.8
OERC Approval 23-24	Energy	MU	12026.35
	Rate	P/U	318.12
GRIDCO Proposed 2024-25	Energy	MU	11684.09
	Rate	P/U	336.88

Central (Thermal) Projects

FY 2024-25



Generators	F.C		ECR		Yr.E.A. and Other Charges		Total Rate		% Increase (24-25 vs 23-24)
	(P/U)		(P/U)		(P/U)		(P/U)		
	23-24	24-25	23-24	24-25	23-24	24-25	23-24	24-25	
TSTPS Stg.-I	99.20	99.31	199.97	204.37	12.80	9.58	311.97	313.26	0.4%
TSTPS Stg.-II	73.87	85.64	197.92	202.85	13.36	9.28	285.15	297.77	4.4%
FSTPS-I& II	85.28	146.45	406.46	352.56	19.68	19.06	511.42	518.07	1.3%
FSTPS-III	154.29	175.07	398.97	329.99	17.62	18.34	570.88	523.40	-8.3%
KhSTPS-I	108.41	171.80	389.69	333.39	17.13	7.22	515.23	512.41	-0.5%
KhSTPS-II	112.70	113.99	369.55	316.21	8.39	7.38	490.64	437.58	-10.8%
Darlipalli TPS	171.88	184.67	121.08	108.15	10.52	16.79	303.48	309.61	2.0%
North Karanpura STPS	241.98	209.02	196	151.44		0.07	437.98	360.53	-17.7%
Barh STPS-I	250.72	255.96	321.3	314.23		1.90	572.02	572.08	0.0%
Barh STPS-II	190.38	209.61	344.37	351.11		7.46	534.75	568.18	6.3%
Muzaffarpur TPS	283.59	345.54	275.68	298.43		0.12	559.27	644.09	15.2%
Nabinagar STPS	224.88	225.16	227.06	257.27		0.19	451.94	482.61	6.8%

Independent Power Producers

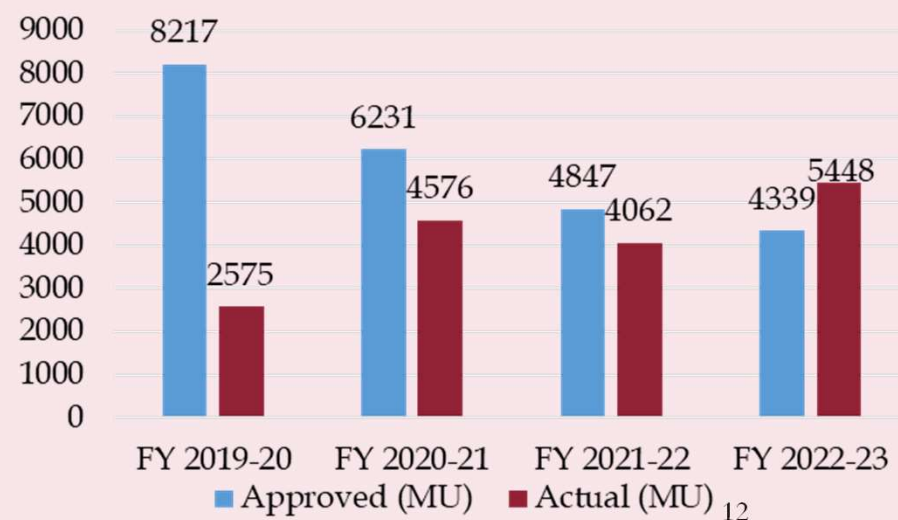
FY 2024-25



- **Vedanta:**
- The average rate of power from M/s Vedanta Ltd. is projected at 280.85 Paise / kWh i.e., FC: 95.67 P/kWh + ECR: 181.14 P/kWh+ ED & SOC-MOC: 4.05 P/kWh. The order in case of MYT application (Case No 20/2020) may be considered.
- **GKEL:** Tariff Petition for 2019-24 period is pending before CERC and hence fixed cost for FY 2018-19 has been considered. Hon'ble Commission may consider ECR as arrived by considering price of firm linkage coal / SHAKTI coal only.

			IPPs
GRIDCO Proposed 2023-24	Energy	MU	5261.94
	Rate	P/U	318.41
OERC Approval 2023-24	Energy	MU	5471.25
	Rate	P/U	319.47
GRIDCO Proposal 2024-25	Energy	MU	4829.27*
	Rate	P/U	301.21

* Up to DISCOM requirement



Renewable Energy



- What are the initiatives taken by GRIDCO to meet the RPO?
- How to meet the backlog?
- Financial provision for non compliance of RPO ?
- Rates projected by GRIDCO should be verified based on approved / adopted rates and provisions of PPA.

	Sources		Small Hydro	Biomass Energy	Wind Energy	Solar Energy
	Energy	MU				
GRIDCO Proposed 2023-24	Energy	MU	483.35	80.00	1060.43	2160.00
	Rate	P/U	437.12	360.00	279.93	345.60
OERC Approval 2023-24	Energy	MU	483.35	80.00	1060.43	2160.00
	Rate	P/U	423.06	760.00	279.93	345.60
GRIDCO Proposal 2024-25	Energy	MU	468.70	70.00	1091.92	1950.00
	Rate	P/U	424.94	760.00	279.83	369.24

Power Purchase Cost : Trend (P/U)



Stations	Approved rate for FY 22-23	Approved rate for FY 23-24	Proposed rate for FY 24-25	23-24 VS 22-23	24-25 VS 23-24
OHPC(Old)	91.71	97.43	100.63	6.24	3.28
Indravati	85.27	86.07	122.51	0.94	42.34
Machhkund	110.9	116.97	123.63	5.47	5.69
Total State Hydro	90.43	94.53	107.52	4.53	13.74
OPGC	350.98	318.12	336.88	-9.36	5.90
Small Hydro	415.38	423.06	424.94	1.85	0.44
Biomass Energy	733	760	760	3.68	0.00
Wind Energy	278.68	279.93	279.83	0.45	-0.04
Solar Energy	360.96	345.6	369.24	-4.26	6.84
IPPs	302.7	319.47	301.21	5.54	-5.72
Total State	253.06	273.97	285.06	8.26	4.05
TSTPS Stg.-I	287.82	329.08	313.26	14.34	-4.81
TSTPS Stg.-II	256.85	285.15	297.77	11.02	4.43
FSTPS-I&II	388.93	511.42	518.07	11.02	1.30
FSTPS-III	450.31	570.88	523.40	31.49	-8.32
KhSTPS Stg.-I	372.92	515.23	512.41	26.77	-0.55
KhSTPS Stg.-II	361.00	490.64	437.58	38.16	-10.81
Barh-I	-	572.01	572.08		0.01
Barh-II		534.75	568.18		6.25
Darlipali	280	303.47	309.61	8.38	2.02
NKSTPS		437.98	360.53		-17.68
MTPS		559.27	644.09		15.17
NSTPS		451.95	482.61		6.78
Central Thermal	292.18	343.76	363.69	17.65	5.80
Chukha	248.43	248.43	310.7	0.00	25.07
TALA	234.82	234.82	235.09	0.00	0.11
Teesta	198.75	202.55		1.91	-100.00
Mangdechhu	433.43	433.43	433.97	0.00	0.12
Kurichu		227	240		5.73
Rangeet		346.86	410		18.20
Central Hydro	275.35	277.96	351.44	0.95	26.44
Total EREB	290.01	336.68	363.01	16.09	7.82
GRAND TOTAL (incl. PGCIL)	297.69	310.34	337.44	4.25	8.73

Summary of Total Additional Cost claimed in the ARR for FY 2024-25



Sl. No.	Name of the Station	Amount proposed for Pass Through (Rs. Crore)
1	RE	29.2461 (solar)
		0.0187 (SHP)
2	OPGC	28.07
3	M/s. Vedanta	127.69
4	M/s. GMR	1.03
5	Teesta V	1.38
6	Rangit	0.02
7	Machhkund	8.63
8	NTPC	119.74
9	Chukha	54.89
10	PGCIL	231.85
11	OHPC	158.43
	Total	760.99

- STU/Scheduling charges and safeguard duty claims may be allowed as per actual payment made.
- Payment made to Vedanta may be reviewed.
- Other payment made as per orders issued by CERC may be considered.
- For Chukha, actual payment made can be considered.
- PGCIL cost can be considered during true-up.
- OHPC securitised dues can be reviewed based on OERC orders.

Interest Financing and Other Exp. FY 2023-24 (Rs. Crore)



	Approved FY 2022-23	Approved 23-24	Proposed 24-25	% Increase 23-24 vs 22- 23	% Increase 24-25 vs 23-24
1. Interest & Financial Charges	39.53	15.73	521.55	-60.20	3215.64
2. Other Costs:					
a. Employee Cost	13.25	20.14	22.3	52	10.72
b. A&G Cost	5.59	5.79	17.19	3.57	196.89
c. Repair & Maintenance Cost	0.85	0.81	0.98	-4.70	20.98
<i>Sub-Total</i>	19.69	42.47	40.47	115.69	-4.70
3. Depreciation	1.02	1.31	2.47	28.43	88.54
Total (1+2+3)	60.24	43.78	564.49	-27.32	1189.38

- Interest impact of loans availed by GRIDCO from FY 2016-17 onwards should not be allowed as per the decisions of the Commission in earlier orders.
- Para 449 of FY 23-24 order: *“The Commission observed that GRIDCO instead of collecting its dues from the erstwhile DISCOMs availed loan from the commercial institutions and the Commission had taken a view not to allow interest on loan availed by GRIDCO after FY 2015-16. The commission in the current ARR is also continuing with the same approach of not allowing any interest on the loans availed by GRIDCO after FY 2015-16, for arriving at the interest cost to be passed on the in the ARR...”* – the same methodology may be followed.
- Reasons for increase in other costs may be scrutinized.

ARR Analysis of GRIDCO

FY 2024-25 (Rs.Crore)



Particulars	Approved 22-23	Approved 23-24	Proposed 24-25	% Increase 23-24 vs 22-23	% Increase 24-25 vs 23-24
Power Purchase cost	9,071.93	11850.44	12639.14	30.63	6.66
Interest and Financial Charges, Depreciation and Other cost	60.24	43.78	564.49	-27.32	1189.38
Pass through expenses and Special Appropriation	147.46	896	760.99	507.62	-15.07
Gross Revenue Requirement	9,279.63	12884.32*	13,964.62	38.85	8.38
Less: (i) Miscellaneous Receipt NALCO & IMFA	44.52	52.22	52.22	17.30	0.00
Net Revenue Requirement	9,235.11	12,832	13,912.40	38.95	8.42
Expected Revenue Receipts from DISCOMs at Current BSP	9,213.95	12575.58	12,184.08	36.48	-3.11
Surplus (+)/Gap (-)	-21.16	-256.52	-1,728.32		

*includes Carrying cost on regulatory asset of ₹ 94.10 Cr

Proposed BSP for FY 2024-25



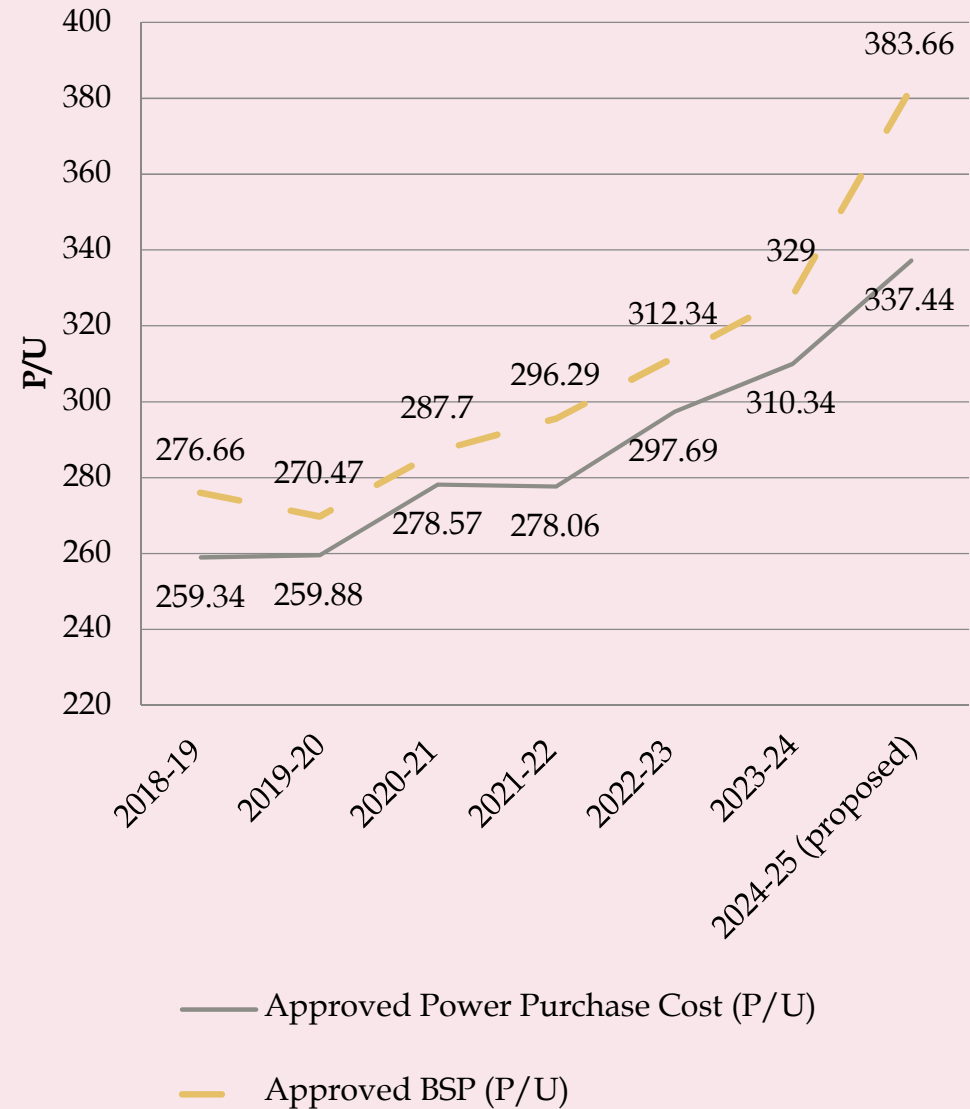
SL. NO.	COMPONENTS	Amount
		Rs. Crore
1	Net ARR to be recovered through BSP (A)	13,912.40
2	Units to be sold to DISCOMs Utilities (MU) (B)	36,263
3	Net Revenue to be recovered through sale of 36,263 MU at existing average BSP	12,184.08
4	Deficit Revenue at existing Average BSP	1,728.32
5	Proposed Average BSP to recover the Net Total Aggregate Revenue (P/U) $[A*1000/B]$	383.66

Power Purchase Cost vs BSP

FY 2024-25



	Approved Power Purchase Cost (P/U)	Approved BSP (P/U)	PPC % Increase Y-o-Y	BSP % Increase Y-o-Y
2018-19	259.34	276.66		
2019-20	259.88	270.47	0.21%	-2.24%
2020-21	278.57	287.7	7.19%	6.37%
2021-22	278.06	296.29	-0.18%	2.99%
2022-23	297.69	312.34	7.06%	5.42%
2023-24	310.34	329	4.25%	5.33%
2024-25 (proposed)	337.44	383.66	8.73%	16.61%



Impact of BST on Average Tariff FY 2024-25

Parameters	Value
Average cost of supply of Discoms (FY 23-24) (P/U)	604.22
Bulk supply tariff proposed by GRIDCO (FY 24-25) (P/U)	383.66
Sale to Discoms projected by GRIDCO (FY 24-25) (MU)	36263
Power purchase cost of Discoms at proposed BST (FY 24-25) (Rs crore)	13,912.66
Distribution cost, Transmission cost and SLDC charges of Discoms (as per FY 23-24 approved) (Rs crore)	5774.54
Projected total cost of Discoms (FY 24-25) (Rs crore)	19,687.20
Net saleable unit to consumers (FY 24-25) (MU) at approved loss	29756.64
Projected Average cost of supply of Discoms at proposed BSP (FY 24-25) (P/U)	661.61
% increase in average cost of supply of Discoms in FY 24-25	9.50%

Other proposal of GRIDCO



Issue	Details
Demand Charges for excess SMD	<p>To formulate suitable monthly controlling measures by reducing the existing limit of drawal of SMD i.e. from 110% to 105% of the approved monthly SMD for DISCOMs. for recovery of charges on account of any excess drawl of energy during a month over and above the monthly approved energy quantum.</p> <p>Demand Charges may be levied @ Rs.250/kVA/Month from DISCOM Utilities on the excess SMD based on the following condition: (a) When the actual SMD of a DISCOM in a month exceeds the permitted monthly SMD (105% of the approved SMD), the respective distribution company will be billed by GRIDCO @ Rs.250/kVA/Month for the excess SMD. (b) Such charges shall not be adjusted at the end of the year even if the actual monthly SMD remains within the permitted monthly SMD in any other month(s) of the same financial year.</p>
Charges for Overdrawal of Energy	<p>Recovery of charges on account of any excess drawl of energy during a month over and above the monthly approved drawal by a Distribution Licensee at additional power purchase cost incurred for such excess drawal or market price, whichever is higher.</p>
Fuel and Power purchase Adjustment Surcharge (FPPAS)	<p>Such Surcharge is to be computed and raised by GRIDCO, if actual cumulative average monthly power purchase cost per unit exceeds 3% of the approved average Power Purchase Cost per unit in the ARR order of the Commission for the corresponding year; subject to maximum of 20 P/U.</p>
Revision in Rebate Policy	<p>Policy may be continued for FY 2024-25 with proposed modification below:</p> <ol style="list-style-type: none">For crediting the BSP bill of the DISCOM to GRIDCO's designated current bank account through Letter of Credit on presentation or through NEFT/RTGS within a period of five (5) working days, a rebate of 1.5 % shall be allowed.Where the amount is credited on any day after five (5) working days and within a period of twenty five (25) days of presentation of bill, a rebate of 1.00% shall be allowed.Eligibility of rebate provided total current BSP dues needs to be settled by the DISCOM within 25th day of presentation of BSP bill.

Other proposal of GRIDCO



Issue	Details
Special concessional tariff	The Petitioner GRIDCO proposes to continue the Special Tariff Scheme for FY 2024-25 at the existing rate approved by Hon'ble Commission for FY 2023-24. However, proposes to consider at a suitable rate during off-peak hours or based on real time power availability of surplus power.
Commitment Charges for new and additional Load	The Petitioner requests the Hon'ble Commission to impose commitment charges @ Rs.250/KVA/Month on industries which apply for new or additional load. Such commitment charges may be in form of a lump-sum deposit with the respective DISCOMs which the Petitioner shall be allowed to forfeit from the DISCOM if the consumer does not avail the load as per the commitment.
Disparity in recovery of Fixed Charge and Variable Charge between Discoms and GRIDCO	<p>The Petitioner submits that it has to recover the approved ARR through the BSP which is 100% variable charge whereas the Petitioner makes payment to the generators and transmission utilities in terms of fixed as well as variable component. The DISCOMs, on the other hand, have a revenue which has both fixed and variable component but makes payment to the Petitioner at the BSP which is variable in nature.</p> <p>The Petitioner requests the Hon'ble Commission to allow part of the ARR of the Petitioner to be recovered as fixed charge from the fixed charges recovered by the DISCOMs from consumers and the balance costs as part of BSP.</p>
Time of day tariff	<p>Present ToD tariff is 20 P/U.</p> <p>Propose to include all categories excluding LT domestic, LT general purpose, agriculture, public lighting, emergency supply.</p> <p>SLDC to decide peak hour and off-peak hour on monthly basis.</p> <p>Peak hour: 120% of normal energy charges, off-peak: 90% of normal energy charges.</p>

Summary of observations

FY 2024-25



- Energy availability from all sources may be reviewed, particularly from OPGC, IPPs and Central thermal. Costly power purchase should be avoided through merit order principle.
- Review of cost components of OPGC U#3&4 as per latest order.
- Review of all charges in case of Central thermal power plants. Fixed charges should be based on CERC orders only. As per earlier order, costs only from approved sources should be considered.
- Review transmission loss and transmission charges in case of Central sector projects.
- Power procurement quantum and rate for all IPPs may be reviewed.
- Substantial amount claimed for additional power purchase cost. Claims as per payment made and as per CERC orders may be considered.
- Pass through expenses of differential power purchase cost of central transmission charges for FY 2023-24 may not be part of present ARR.
- Payment on account of interest on various loans may be reviewed and interest expenses of loan taken from FY 2016-17 onwards should not be allowed, as per earlier decision of the Commission.
- Employee cost, A&G expenses, and R&M expenses may be reviewed.
- Other proposal of GRIDCO may be reviewed based on existing norms in₂₃ force.



THANK YOU !