

Office of Chief Engineer
Commercial Unit



U.P. Rajya Vidyut Utpadan Nigam Ltd.
14th Floor, Shakti bhawan Extn.
Lucknow -226001
Tel No.- 0522-2288056 / 2287030
CIN : U 40101UP1980SGC005065
gm.commercial@uprvunl.org

cecommercialunl@gmail.com

No. /UNL/CE(Comml.)/Energy Bill/FY (2021-22)

Date: 12, November, 2021

Superintending Engineer
Electricity Import-Export & Payment Circle
U.P. Power Corporation Ltd
11th floor, Shakti Bhawan Extn.
Lucknow-226001.

Subject: Provisional Main Energy Bill of various TPS of UPRVUNL for the month October-2021.

The Provisional Main Energy bill of various Thermal Power Stations of UPRVUNL against Electricity supplied by U.P. Rajya Vidyut Utpadan Nigam Ltd. to U.P. Power Corporation Ltd. during month **October, 2021** as detailed below, is being enclosed for payment:-

Main Bill No.:- UNL/Energy Bill(SG/ESO)/2021-10/01, dt. 12.11.2021 **Rs 608.6919102 Crs**

(Rs Six hundred eight crore, sixty nine lacs, nineteen thousand, one hundred and two only)

It is therefore requested that the payment of this Bill in accordance with Operational parameters of UPERC Generation Regulation-2019 dt. 11.09.2019 & Fixed Cost as per Tariff Order dt. 29.04.2016 & 18.01.2017 and PPA signed between UPRVUNL and UPPCL may kindly be ensured.

Last Energy Account from SLDC/ABT received on dt. 12.11.2021 for Anpara TPS.

(Ravindra Kumar Wahi)
Chief Engineer (Commercial)

No. 529/UNL/CE(Comml.)/Energy Bill/FY (2021-22)

Date: 12, November, 2021

Copy forwarded to the following for their kind information :-

1. PS to Managing Director, UPRVUNL, 7th floor, Shakti Bhawan, Lucknow.
2. Director (Project & Comml.), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow
3. Director (Technical), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow
4. Director (Finance), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow

Copy forwarded to the following for their kind information & necessary action :-

1. CE (TO/Fuel), UPRVUNL, 14th floor, Shakti Bhawan Extn, Lucknow.
2. Chief Engineer (L-1), Anpara/Obra/Harduaganj/Parichha TPS.
3. Dy CAO (Accounts), UPRVUNL, 9th floor, Shakti Bhawan Extn, Lucknow.
4. Dy CAO (Finance), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow.
5. Chief Manager (CMU), UPRVUNL, 7th floor, Shakti Bhawan Extn, Lucknow.

→ Summary file.

(Ravindra Kumar Wahi)
Chief Engineer (Commercial)

U.P. Rajya Vidyut Utpadan Nigam Ltd.
14th Floor, Shakti Bhawan Extn., Lucknow
GST Reg. No. 09AAACU4749D2Z9

Bill of supply of Power of the month : Oct-21
Name of Customer :- U.P. Power Corporation Ltd.
Shakti Bhawan, Extn.
14, Ashok Marg, Lucknow
GST Reg. No: 09AAACU5088M4ZM

Bill No. : UNL/Energy Bill (SG/ESO)/2021-10/01
Bill Date : 12-11-21
Due Date : 30 Days from the billing date
Reference- (i) UPERC Tariff Order Dt.29.04.2016 & 18.01.2017
(ii) UPERC Gen Reg.'19 Dt. 11.09.2019
(iii) PPA for various Thermal Power Stations.

Provisional Main Energy Bill of UPRVUNL to UPPCL for Anpara A, Anpara B, Anpara D, Obra B, Parichha Extn, Parichha Extn Stage-2, Harduaganj & Harduagnaj Extn on Schedule Generation (SG).

Projects	Approved Plant capacity as per UPERC T.O. (MW)	No. of Months w.e.f April 2021 n	Cum.Plant Availability		Capacity charges (Fixed Charges)				Energy Charge(E.C)			Total Amount
			Target by UPERC (%)	Actual till current month w.e.f April.2021 (%)	Total capacity charges approved by UPERC (Rs. Crs)	Percentage to be recovered (%)	Amount of annual capacity charges corresponding to Column 6 (ACC2) (Rs. Crs)	Amount of capacity charges payable for the month (Rs. Crs)	Scheduled Generation by SLDC/ Energy Sent Out by Plants (MU)	Rate of Energy Charges (REC) (Rs/kwh)	Total Energy Charges (Rs. Crs)	Capacity Charges+ Energy Charges (Rs. Crs)
			3	4#	5	6##	7=(Col 5X6)/100	8###	9	10	11=(Col 9x10)/10	12=(Col 8+11)
Anpara 'A'	630	7	85	73.27	306.96	86.20	264.5995200	20.9295560	260.351580	1.87	48.6857455	69.6153015
Anpara 'B'	1000	7	85	86.38	307.88	100.00	307.8800000	25.6566667	560.463205	1.62	90.7950392	116.4517059
Anpara 'D'	1000	7	85	56.16	1088.75	66.07	719.3371250	95.4924479	568.756053	1.44	81.9008716	177.3933195
Obra 'B'	1000	7	80	57.91	421.89	72.39	305.4061710	24.7965848	297.553018	1.52	45.2280587	70.0246435
Harduaganj Extn	500	7	85	64.13	532.38	75.45	401.6807100	37.9720035	81.304955	2.67	21.7084230	59.6804265
Parichha Extn.	420	7	85	88.46	333.66	100.00	333.6600000	27.8050000	53.805555	3.21	17.2715832	45.0765832
Pari.Extn. Stage2	500	7	85	86.63	498.79	100.00	498.7900000	41.5658333	84.029405	3.21	26.9734390	68.5392723
Harduaganj (U#7)	105	7	65	48.39	78.98	74.45	58.8006100	1.9106578	0.000000	3.47	0.0000000	1.9106578
	5155				3569.29		2890.1541360	276.1287500	1906.2637710		332.5631602	608.6919102

Total Amount Payable

Rs Crs. 608.6919102

(Rs. Six hundred eight crore, sixty nine lacs, nineteen thousand, one hundred and two only)

DC up to Month: 17200.284557 MU

SG up to Month: 14217.4815520 MU

From Commulative Availability Sheet

Column No. 6 : If Col No. 4 is less than Col No.3 , then (Col No.4/Col No. 3)x100% else 100%

Column No.8 : Computed as per UPERC Generation Regulation 2019, dt 11.09.2019 para 25 , for n month=(nxACCn-(n-i)xACCn-i)/12

Effective Annual Capacity charges on 2% RoE of Harduaganj (U#7) TPS having capacity 105 MW due to deletion of U#5 as per O.M. NO. 592/CE(TO)/Harduaganj dt. 15.07.2017 = 124.11*105/165= 78.98 Cr.

Effective Annual Capacity charges on 2% RoE of 2x500 MW Anpara 'D' TPS as per calculation sheet of Verified Bill of March'18 by UPPCL letter no. 1512/EIE&PC/UPRVUNL/U-4, dt. 03.05.2018 is Rs 1088.75 Crs.

Prepared as per DC/SG received from ABT/SLDC & Bill from TPS

Checked as per DC/SG received from ABT/SLDC & Bill from TPS

Verified as per DC/SG received from ABT/SLDC & Bill from TPS

Saurabh

(Saurabh Grover)
EA (Comml.)

Ritu Singh

(Ritu Singh)
AE (Comml.)

Accountant

Accountant

Dy-c
Accounts officer

Ritu Singh

(Ritu Singh)
AE (Comml.)

Abhishek
12/11/21
(Abhishek Srivastava)
EE(Comml.)

Cumulative Availability for FY 2021-22

Month	Days	Cum. Days N	MW 630 AUXn 8.5				MW 1000 AUXn 6.55				MW 1000 AUXn 6.25				MW 1000 AUXn 9.7			
			Anpara "A"				Anpara "B"				Anpara D U6 & 7				Obra "B"			
			Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	
Apr-21	30	30	363.188500	15133	15133	87.51	496.417160	20684	20684	73.78	337.428438	14060	14060	49.99	447.245500	18635	18635	68.79
May-21	31	61	308.213750	12842	27975	79.56	668.931000	27872	48556	85.18	347.278063	14470	28530	49.89	417.824500	17409	36044	65.44
Jun-21	30	91	259.967500	10832	38807	73.98	609.271500	25386	73942	86.95	297.922688	12413	40943	47.99	347.246500	14469	50513	61.47
Jul-21	31	122	299.378000	12474	51281	72.92	582.879580	24287	98229	86.16	313.482125	13062	54005	47.22	404.363000	16848	67361	61.14
Aug-21	31	153	316.303500	13179	64460	73.09	581.752510	24240	122469	85.66	358.317500	14930	68935	48.06	325.048000	13544	80905	58.56
Sep-21	30	183	323.806000	13492	77952	73.89	577.354460	24056	146525	85.68	429.573875	17899	86834	50.61	365.050750	15210	96115	58.16
Oct-21	31	214	298.451750	12435	90387	73.27	629.183500	26216	172741	86.38	619.916750	25830	112664	56.16	378.851000	15785	111900	57.91
Nov-21	30	244																
Dec-21	31	275																
Jan-22	31	306																
Feb-22	28	334																
Mar-22	31	365																
Total			2169.309000				4145.789710				2703.919439				2685.629250			

Month	Days	Cum. Days N	MW 105 AUXn 9.5				MW 500 AUXn 9.0				MW 420 AUXn 9.0				MW 500 AUXn 9.0			
			#Hardwaganj (UW)				Hardwaganj Extn U6 & 9				Parichha Extn (24210)				Parichha Extn Stage-2 (UWS&6)			
			Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	Declared Cap.(MW)	Cum.Decl. Cap.(MW)	Cum.Ava (%)	
Apr-21	30	30	41.406680	1725	1725	60.51	153.008750	6375	6375	46.70	273.987650	11416	11416	99.56	278.025500	11584	11584	84.86
May-21	31	61	34.889485	1454	3179	54.84	154.499000	6437	12812	46.16	284.356800	11848	23264	99.78	306.965000	12790	24374	87.82
Jun-21	30	91	59.594805	2483	5662	65.48	159.230875	6635	19447	46.97	264.005775	11000	34264	98.52	323.076500	13462	37836	91.38
Jul-21	31	122	62.212910	2592	8254	71.20	201.357000	8390	27837	50.15	208.695160	8696	42960	92.13	250.767500	10449	48285	86.98
Aug-21	31	153	24.407470	1017	9271	63.77	317.127375	13214	41051	58.97	269.433730	11226	54186	92.66	320.889375	13370	61655	88.57
Sep-21	30	183	0.000000	0	9271	53.31	267.770750	11157	52208	62.70	251.271510	10470	64656	92.44	298.592250	12441	74096	88.99
Oct-21	31	214	13.659120	569	9840	48.39	245.570445	10232	62440	64.13	184.678993	7695	72351	88.46	246.156750	10257	84353	86.63
Nov-21	30	244																
Dec-21	31	275																
Jan-22	31	306																
Feb-22	28	334																
Mar-22	31	365																
Total			236.170470				1498.564195				1736.429618				2024.472875			

Cumulative Availability (%) = $10000 \times \sum_{i=1}^N DC_i / (N \times (100 - AUX_n)) \%$

DC_i = Average declared capacity for the ith day of the period in MW.
 N = Number of days during the period, and
 AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation.

DC up to Month: 17200.2845570 MU

SG up to Month: 12311.2177810 MU

Availability have been calculated as per new Auxiliary Consumption norms w.e.f. 01.04.2019 for MYT 2019-24 specified by UPERC (Terms & conditions of Generation Tariff) Regulation-2019, dt. 11.09.2019.

Saurabh

EA (Comm.)

[Signature]

AE (Comm.)

[Signature]

EE (Comm.)

Office of Chief Engineer
Commercial Unit

cecommercialunl@gmail.com



U.P. Rajya Vidyut Utpadan Nigam Ltd.
14th Floor, Shakti bhawan Extn.
Lucknow -226001
Tel No.- 0522-2288056 / 2287030
CIN : U 40101UP1980SGC005065
gm.commercial@uprvunl.org

No. 552/UNL/CE(Comm.)/FCA/FY (2021-22)

Date: 30, November, 2021

Superintending Engineer
Electricity Import-Export & Payment Circle
U.P. Power Corporation Ltd
11th floor, Shakti Bhawan Extn.
Lucknow-226001.

Subject: Supplementary Bill of FCA of various TPS of UPRVUNL for October-2021.

The Supplementary bill of Fuel Cost Adjustment (FCA) for variation in fuel data certified by Cost Accountants of various Thermal Power Stations of U.P. Rajya Vidyut Utpadan Nigam Ltd against electricity supplied to U.P. Power Corporation Ltd. during the month **October, 2021**, is being enclosed herewith for payment :-

(1) FCA Bill No.:-UNL/FCA/2021-10/02, dt. 30.11.2021 **Rs 58.0487920 Crs**

(Rs Fifty eight crore, four lac, eighty seven thousand, nine hundred and twenty only)

It is, therefore, requested that the payment of these Bills in accordance with UPERC Generation Tariff Regulation-2019, dt. 11.09.2019 and Power Purchase Agreements signed between UPRVUNL and UPPCL may kindly be ensured.

Last fuel data received on dt. 29.11.2021 of Harduaganj TPS.

The Calculation sheet for Rate of Variable Cost of MOD stack for the month of December-2021 is attached herewith.

Encl.: As above.

(Ravindra Kumar Wahi)
Chief Engineer (Commercial)

Date: 30, November, 2021

No. 552/UNL/CE(Comm.)/FCA/FY (2021-22)

Copy forwarded to the following for their kind information :-

1. PS to Managing Director, UPRVUNL, 7th floor, Shakti Bhawan, Lucknow.
2. Director (Project & Comm.), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow.
3. Director (Finance), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow.
4. Director (Technical), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow.

Copy forwarded to the following for their kind information & necessary action :-

1. Chief Engineer (TO/Fuel), UPRVUNL, 14th floor, Shakti Bhawan Extn, Lucknow.
2. Chief Engineer (L-1), Anpara, Obra, Parichha, Harduaganj Projects.
3. Dy CAO (Finance), UPRVUNL, 8th floor, Shakti Bhawan Extn, Lucknow.
4. Dy CAO (Accounts), UPRVUNL, 9th floor, Shakti Bhawan Extn, Lucknow.
5. Chief Manager (CMU), UPRVUNL, 7th floor, Shakti Bhawan Extn, Lucknow.

→ Summary File

(Ravindra Kumar Wahi)
Chief Engineer (Commercial)

U.P. Rajya Vidyut Utpadan Nigam Ltd.
14th Floor, Shakti Bhawan Extn.,
Lucknow - 226001
 GST Reg. No.- 09AAACU4749D2Z9

Bill of supply of Power for Month: October, 2021
 Name of Customer :- U.P. Power Corporation Ltd.
 Shakti Bhawan, Extn.
 14, Ashok Marg, Lucknow
 GST Reg. No: 09AAACU5088M4ZM

FCA Bill No.- UNL/FCA/2021-10/02
 Bill Date- 30.11.2021
 Due Date- 30 Days from the billing date
 Reference- (i) UPERC Tariff Order Dt. 29.04.2016 & 18.01.2017
 (ii) UPERC Gen Regu., 2019 Dt. 11.09.2019
 (iii) Fuel data from Plants (certified by Cost Accountant)

Provisional Fuel Cost Adjustment Bill due to variation in Cost & GCV of fuel of various TPS of UPRVUNL raised to UPCL as per UPERC Gen. Tariff Regu., 2019 Dt. 11.09.2019

S.No.	Parameters	Symbol	Unit	Anpara A	Anpara B	Anp D	Obra B	Harduaganj Extn.	Pari Extn.	Pari Extn. Stage-2	Harduaganj	Total	
	Unit No.			U#1,2&3	U#4&5	U#6&7	U#9 to 13	U#8&9	U#3&4	U#5&6	U#7		
A	Energy Exported & Billed (ESO)	ESO	MU	260.351580	560.463205	568.756053	297.553018	81.304955	53.805555	84.029405	0.000000	1906.2637710	
	Normative Operating Parameters												
B	Gross Station Heat Rate (GSHR)	H	Kcal/kwh	2430	2390	2374	2755	2430	2430	2430	2625		
C	Sp. Oil Cons.	(Qs)n	ml/kwh	0.50	0.50	0.50	2.10	0.50	0.50	0.50	2.50		
D	Auxiliary Energy Consumption	AUXn	%	8.50	6.55	6.25	9.70	9.00	9.00	9.00	9.50		
	Fuel Data for the month												
E	Price of Primary fuel (Coal)	Pp	Rs./kg	2.33996	2.44363	2.42010	2.57377	4.57476	4.09999	4.09999	4.57476		
F	Price of Secondary fuel (Oil)	Ps	Rs./ml	0.05972879	0.05972879	0.05972879	0.06759375	0.05860960	0.03469024	0.03469024	0.05860960		
G	Gross Calorific Value of Primary fuel (Coal)	Cp	Kcal/kg	3438.00	3547.00	3638.00	4060.00	3070.00	3643.82	3643.82	3070.00		
H	Gross Calorific Value of Primary fuel (Coal) less 85 Kcal/kg on account of variation during storage (Cp1= Cp-85)	Cp1	Kcal/kg	3353.00	3462.00	3553.00	3975.00	2985.00	3558.82	3558.82	2985.00		
I	Gross Calorific Value of Secondary fuel (oil)	Cs	Kcal/lit	8998.50	8998.50	8998.50	9106.00	10570.00	9608.59	9608.59	10570.00		
	Formula of ECR												
			Rs./kwh	ECR= 100{Pp*(H-(Qs)n*Cs/1000)/Cp1+Ps*(Qs)n}/(100-AUXn)									
J	Energy Charge Rate for the month(ECR)	ECR	Rs./kwh	1.8826	1.8338	1.7534	2.1189	4.1158	3.0894	3.0894	4.5625		
K	Already claimed energy charge rate (ECR1)	ECR1	Rs./kwh	1.8700	1.6200	1.4400	1.5200	2.6700	3.2100	3.2100	3.4700		
L	Diff in ECR (J-K)	ECR2	Rs./kwh	0.0126	0.2138	0.3134	0.5989	1.4458	-0.1206	-0.1206	1.0925		
M	Amt. of Energy Charge due to variation in fuel data (AxL)/10		Rs.Crs	0.3280430	11.9827033	17.8248147	17.8204502	11.7550704	-0.6488950	-1.0133946	0.0000000	58.0487920	

Total Amount Payable (Cr)

58.0487920

(Rs Fifty eight crore, four lac, eighty seven thousand, nine hundred and twenty only)

Normative Parameters have been taken as per UPERC Generation Tariff Regulation-2019, dt. 11.09.2019 for various TPS of UPRVUNL.

Prepared as per ESO/SG & Bills /Fuel data received from TPS

Checked as per ESO/SG & Bills /Fuel data received from TPS

Verified as per ESO/SG & Bills /Fuel data received from TPS

(Saurabh Grover)
EA (Comml.)

(S.K. Yadav)
AE (Comml.)

(M. Srinivasan)
A - Accountant

(S.K. Yadav)
Accounts Officer

(S.K. Yadav)
AE(Comml.)

(Abhishek Srivastava)
EE(Comml.)

Rate of Variable Cost for MOD of the month Dec'21 as per UPERC Order dt. 21.06.2016 against Petition no.- 1070/2015 according to Energy/FCA Bill of the month October-2021

Projects	Approved Plant capacity as per UPERC T.O. #	No. of Months	Target Availability by UPERC #	Cumulative Availability *	Total capacity charges at 15.5% RoE#	Total capacity charges at 2% RoE#	Percentage to be recovered *	Amount of annual capacity charges at 15.5% RoE corresponding to Column 6	Total capacity charges for month at 15.5% RoE	Amount of annual capacity charges at 2% RoE corresponding to Column 6	Total capacity charges for month at 2% RoE *	Foregoing Capacity Charges for the month	Energy Charge as per Main Energy Bill *	Variable Charge as per FCA Bill **	Total Variable Cost - Foregoing Fixed Cost	Scheduled Generation by SLDC/ Energy Sent Out by Plants*	Revised Rate of Variable Cost for MOD
	(MW)		(%)	(%)	(Rs. Crs)	(Rs. Crs)	(%)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(Rs. Crs)	(MU)
	1	2	3	4	5	6	7=(Col. 4X6)/100	8	9=(Col. 5X6)/100	10	11=(Col. 8-10)	12	13	14=(Col. 12+13-11)	15	16= (Col 14/Col 15)*10	
Anpara 'A'	630	7	85	73.27	339.55	306.96	86.20	292.6921000	23.1516508	264.5995200	20.9295560	2.2220948	48.6857455	0.3280430	46.7916937	260.351580	1.797
Anpara 'B'	1000	7	85	86.38	485.68	307.88	100.00	485.6800000	40.4733333	307.8800000	25.6566667	14.8166666	90.7950392	11.9827033	87.9610759	560.463205	1.569
Anpara 'D'	1000	7	85	56.16	1323.02	1088.75	66.07	874.119314	116.0398792	719.3371250	95.4924479	20.5474313	81.9008716	17.8248147	79.1782550	568.756053	1.392
Obra 'B'	1000	7	80	57.91	453.56	421.89	72.39	328.3320840	26.6579890	305.4061710	24.7965848	1.8614042	45.2280587	17.8204502	61.1871047	297.553018	2.056
H'dnj. Extn	500	7	85	64.13	658.65	532.38	75.45	496.9514250	46.9782113	401.6807100	37.9720035	9.0062078	21.7084230	11.7550704	24.4572856	81.304955	3.008
Pari. Extn.	420	7	85	88.46	381.95	333.66	100.00	381.9500000	31.8291667	333.6600000	27.8050000	4.0241667	17.2715832	-0.6488950	12.5985215	53.805555	2.341
Pari. Extn. Stage-2	500	7	85	86.63	607.06	498.79	100.00	607.0600000	50.5883333	498.7900000	41.5658333	9.0225000	26.9734390	-1.0133946	16.9375444	84.029405	2.016
H'dnj. (U#7) S	105	7	65	48.39	82.82	78.98	74.45	61.6567827	2.0034658	58.8006100	1.9106578	0.0928080	0.0000000	0.0000000	-0.0928080	0.0000000	3.765
TOTAL					4332.29	3569.29		3528.4417057	294.0368088	2890.1541360	276.1287500	61.5932794	332.5631602	58.0487920	329.0186728	1906.2637710	

UPPCL letter no. 766/CE/PPA, dt. 23.05.2018

* Taken from Energy Bill of the month.

As per UPERC Tariff Order.

** Taken from FCA Bill of the month.

Column No. 8 & 10 computed as per UPERC Generation Regulation 2019, dt. 11.09.2019 para 25, for n month=(nxACCn-(n-1)xACCn-1)/12

S Harduaganj (U#7) remain closed in October'2021, hence SG is 0 (Zero). Therefore, rate of previous variable charge for MOD has been taken.

Saurabh
EA (Comml.)

Jandeep
30.11.2021
AE (Comml.)

Abhinav
30/11/21
EE (Commercial), UPRVUNL