ऑयल इंडिया लिमिटेड
(भारत सरकार का उद्यम)
Oil India Limited
(A Government of India Enterprise)

Business Development Department
Plot No. 19, Sector 16A,
Noida – 201301, U.P.
Phone: 0120-2419160
E-mail: bddomestic@oilindia.in
Website:www.oil-india.com

Date: 17.01.2024

CORRIGENDUM NO.2 TO OIL e-tender NO.: CQI4810P24

DESCRIPTION OF WORK: Establish a plant of 1 MW capacity in Himachal Pradesh for production of High Purity (99.999%) Green Hydrogen for commercial use.

This Corrigendum is issued to notify the following changes in the tender:

1. Annexure – I (Additional Pre-Bid Queries Replies)
2. Annexure – II (Water Testing Report) (enclosed)
3. Annexure – III (Soil Testing Report) (enclosed)
4. Annexure – IV (Tariff Charges DISCOM) (enclosed)

All others terms and conditions of the Tender remain unchanged.

Sd/-
Jyoti Sarkar
Senior Manager (BD)

ANNEXURE -I

REPLIES TO ADDITIONAL PRE-BID QUERIES

Sl. No.	PRE-BID Query	OIL's Reply
1	Compression & Storage is an additional scope of work in the corrigendum, but the pressure of storage and compression is mentioned 250 bar and 350 bar. Kindly confirm which pressure should be considered.	350 bar
2	We are planning to visit at oil site where the H2 generation plant will be installed. Please confirm name of concerned person for site visit.	Er. Naveen Kumar, Senior Manager (Civil), HPPCL Phone - 9418665667
3	Chargeable tariff for Power	Attached
4	This defect liability period is open ended. We request OIL to define defect liability period as "12 (Twelve) months from the date of handover as accepted and certified by OIL or 18 months from the date of supply of Electrolyser whichever is earlier"	Tender condition prevails
5	By this statement, we understand that the work completion time (i.e commissioning of plant) is 18 months from date of LOA. OIL to confirm.	Yes
6	Whether the bidder (EPC) can make DJU with only one Electrolyser manufacturer / Channel partner or multiple Electrolyser manufacturer / Channel partner? OIL is requested to reconfirm.	Only one
7	Whether an Electrolyser manufacturer / Channel partner can make DJU with only one EPC bidder or multiple EPC bidder? OIL to confirm.	Only one
8	We request OIL to accept Performance Bank guarantee to be submitted after commissioning valid till warranty perid. OIL to confirm.	Tender condition prevails
9	We request OIL to accept limitation of Liability to 10% of contract price. OIL to confirm.	Tender condition prevails
10	We request OIL to keep the maximum L.D limited to 5% of contract price. OIL to confirm.	Tender condition prevails
11	Kindly request the Oil India to replace it with the following : Any Dispute between the parties with respect to the execution shall be Finally resolved in accordance with the Rules of Indian Arbitration and conciliation Act 1996 including the subsequent amendments thereof .Both the parties shall mutually appoint the Sole Arbitrator .In case both the parties fails to appoint the sole Arbitrator then Each party shall appoint one Arbitrator each and both the Arbitrators shall appoint the Presiding	Tender condition prevails

Sl. No.	PRE-BID Query	OIL's Reply
	Arbitrator .Award of the Arbitrators shall be binding on both the parties. Arbitration shall be conducted in English Language. The seat and venue of such Arbitration shall be Delhi.	
12	The requirement is to store 2 days of Hydrogen at 350 bar (816 kg of Hydrogen if quoted production rate is 17kg/hour). Would this be absolute storage requirement or live Hydrogen gas requirement? As once Hydrogen is released from the storage cylinder, pressure of the stored Hydrogen gas will reduce and the amount of gas available for usage will depend on the final pressure at usage end. **Kindly inform what would the storage cylinders will be used for and if the storage requirement is of live storage or absolute storage for us to prepare a technically sound bid.**	Tender conditions prevail
13	Whether the tender is No deviation tender or Deviations are accepted by OIL with bid	Tender Condition prevails.

****End of Annexure – I***

WATER TESTING LABORATORY NALAGARH

ANNEXURE-II

JSV SUB –DIVISION: NALAGARH 3/31 DISTRICT : SOLAN

Lab Ref.NO Based Upon BIS : 10500-2012 Date:-09-03-2023

Name and Address of Sender :- JSV SUB Division Nalagarh

Name of District :- SOLAN Block :- Nalagarh Sub Division :-Nalagarh

Village :- Dabhota Gram panchayat:- Dabhota

Source :- Tap Habitation :- LWSS Dabhota

Date& Time of Collection :- 06-03-2023

Date & Time of Receipt at Laboratory :- 06-03--2023 Time :- 1:00PM

Date & Time of Commencing :- -06-03-2023 - 2:30PM

A.)	PHYSICAL TEST			
Sr.No.	TESTS	Desirable Limit	Permissible Limit	Actual Result
1	Temperature	12	15	13°c
2	Colour	5	15	5
3	Odour	Agreeable	Agreeable	Agreeable
4	Taste	Agreeable	Agreeable	Agreeable
5	Turbidity	1 NTU	5NTU	2NTU
6	TDS/ Conductivity	500mg/l	2000mg/l	350mg/l
B.)	CHEMCAL TESTS			
7	CALCIUM	75	200	230mg/l
8	pH	6.5	8.5	7.22
9	Total Alkalinity	200mg/l	600 mg/l	230mg/l
10	Chlorides	250 mg/l	1000 mg/l	140mg/l
11	Fluoride	1.0 mg/l	1.5 mg/l	1.0mg/l
12	Nitrate	45 mg/l	45 mg/l	25mg/l
14	Total Hardness	200 mg/l	600 mg/l	213mg/l
15	Iron	0.1 mg/l	0.3 mg/l	0.1mg/l
16	Magnesium	30mg/l	100mg/l	80mg/l
18	Residual chlorine	0.02 mg/l	1 mg/l	0.2mg/l
C	BACTERIOLOGICAL TEST:-			
19	Total coil from	0MPN	0MPN	0 MPN
20	E.coil/Thermo tolerant Coil Form	0MPN	0MPN	Nil MPN

REMARKS: -OBSERVATIONS ARE WITHIN GIVEN LIMITS .

NOTE :-LAB IS NOT INVOLVED IN SAMPLING.

Assistant Chemist
Water Testing Lab Nalagarh

Junior Engineer
JSV Section Nalagarh

Assistant Engineer
JSV Sub Division NSalagarh

ANNEXURE-III

राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर

हमीरपुर (हि॰प्र॰) – 177 005 (भारत)

[भारत सरकार शिक्षा मंत्रालय के तहत एक राष्ट्रीय महत्व का संस्थान]

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR

HAMIRPUR (H.P.) - 177 005 (INDIA)

[An Institute of National Importance under Ministry of Education (Shiksha Mantralaya)]

{Office of the Civil Engineering Department}

Reference: - No. HPPCL/ RDP/GM/ DB-30/2023-24- 357-389 dated 16.05.2023

Subject:- Regarding carrying out Geo-technical investigation of soil at Majra, Dabhota (II) near Majra, Bara Basot, Plasi Kallan, Dabhota, and Bhangla, in Tehsil Nalagarh, Solar project sites at Distt. Solan (Himachal Pradesh).

The assessment of the safe bearing capacity of foundation test for the proposed Solar Power projects at Majra, Dabhota (II) near Majra, Bara Basot, Plasi Kallan, Dabhota, and Bhangla, in Tehsil Nalagarh, Solar project sites at Distt. Solan (Himachal Pradesh). Testing of Safe Bearing Capacity of soil has been carried out keeping in view the sub soil characteristics using shear failure criteria. According to IS:6403 -1981. Based Upon the settlement criteria, as per IS:8009 (Part-I)-1976, the allowable bearing capacity pressure has been evaluated for permissible settlement of 50 mm as specified in IS: 1904-1978 for Cement concrete structure piles in foundations or as the designer may consider the appropriate type of foundation based on these parameters. The recommended safe bearing capacity value are given below in the table.2

Table 2: Recommended safe Bearing Capacity values of foundation test for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, Solar project sites at Distt. Solan (Himachal Pradesh).

Location of bore hole According to Contour Plan at site	Depth of foundation below N.S.L (Meters)	Recommended safe bearing capacity (t/m^2)
Bore hole Test 1- BH1. Towards South side on open land of khasra No. 1281/2 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.50	17.50
Bore hole Test 2- BH2. Towards North side on open land of khasra No. 1281/2 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.60	17.70
Bore hole Test 3- BH3. Towards Eastt side on open land of khasra No. 1281/2 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.40	17.10
Bore hole Test 4- BH4. Towards South side on open land of khasra No. 1312 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.50	16.90

Bore hole Test 5- BH5. Towards East side on open land of khasra No. 1317 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.30	16.50
Bore hole Test 6- BH6. Towards West side on open land of khasra No. 1317 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.60	16.80
Bore hole Test 7- BH7. Towards East side on open land of khasra No. 1798 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.40	16.60
Bore hole Test 8- BH8. Towards West side on open land of khasra No. 1798 as per revenue record tatima, for the construction of proposed Solar Power projects at Dabhota (II) near Majra, in Tehsil Nalagarh, District. Solan (Himachal Pradesh).	2.50	17.20

Note :-These recommendations are based on field and Laboratory tests conducted as given the report, In case locations of the foundations are changed and strata are different from that report herein additional testing may be required

Dr Sujit Singh Katoch
Associate Professor
Civil Engg. Deptt.
NIT Hamirpur HP

Dr R. K. Dutta
Professor
Civil Engg. Deptt.
NIT Hamirpur HP

Table 1 Properties of disturbed soil samples at Dabhota(II) Near Majra, Tehsil Nalagarh, Solar Projects Site at Distt. Solan, Himachal Pradesh

Property	Unit	Sample location	
		BH2	BH6
Natural water content	(%)	11.02	9.48
Void ratio		0.73	0.72
Dry unit weight	kN/m^3	15.4	15.5
Bulk unit weight	kN/m^3	17.09	16.96
Specific gravity	Unit less	2.67	2.68
Liquid limit	(%)	34.8	35.8
Plastic limit	(%)	20.9	21.4
Plasticity Index		13.9	14.4

CALCULATIONS OF BEARING CAPACITY

Geotechnical Investigation of soil at Dabhota(II) Near Majra, Tehsil Nalagarh, Solar Projects Site at Distt. Solan, Himachal Pradesh

Strip	Footing				BH1									Net ultimate bearing capacity in kPa	Safe Bearing Capacity, kPa
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.7	F =	2.5							
Df =	2.5	B =	1	q =	0										
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ			
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1		128.757	51.5
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1		168.46	67.38
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1		224.95	89.98
15	10.98	3.94	2.65	1	1	1	1.6	1.3	1.3	1	1	1		314.26	125.7
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1		449.55	179.82
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1		672.8	269.12
30	30.14	18.4	22.4	1	1	1	1.7	1.3	1.3	1	1	1		1063.78	425.51
35	46.12	33.3	48.03	1	1	1	1.7	1.3	1.3	1	1	1		1801.93	720.77
40	75.31	64.2	109.41	1	1	1	1.7	1.4	1.4	1	1	1		3329.44	1331.78
45	138.88	134.88	271.76	1	1	1	1.8	1.4	1.4	1	1	1		7026.52	2810.61
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1		16459.44	6583.78

From the graph corresponding to N= 3.16, the friction angle was around 19.55^0. Hence the recommended Bearing Capacity for BH1= 17.5 t/m^2

Strip Footing					BH2									
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	F =	2.5						
Df =	2.6	B =	1	q =	0									

Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ	Net ultimate bearing capacity in kPa	Safe Bearing Capacity, kPa
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1	128.9112	51.56
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1	168.72	67.49
10	8.35	2.47	1.22	1	1	1	1.6	1	1	1	1	1	225.38	90.15
15	10.98	3.94	2.65	1	1	1	1.6	1.3	1.3	1	1	1	315.18	126.07
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1	451.15	180.46
25	20.72	10.66	10.88	1	1	1	1.7	1.3	1.3	1	1	1	675.68	270.27
30	30.14	18.4	22.4	1	1	1	1.7	1.3	1.3	1	1	1	1069.15	427.66
35	46.12	33.3	48.03	1	1	1	1.7	1.4	1.4	1	1	1	1812.53	725.01
40	75.31	64.2	109.41	1	1	1	1.8	1.4	1.4	1	1	1	3352.08	1340.83
45	138.88	134.88	271.76	1	1	1	1.8	1.4	1.4	1	1	1	7080.89	2832.36
50	266.89	319.07	762.89	1	1	1	1.9	1.4	1.4	1	1	1	16605.18	6642.07

From the graph corresponding to N= 3.07, the friction angle was around 19.68^0. Hence the recommended Bearing Capacity for BH2= 17.7 t/m^2

Strip Footing					BH3									Net ultimate bearing capacity	Safe Bearing Capacity, kPa
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	F =	2.5							
Df =	2.4	B =	1	q =	0									in kPa	
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ		125.5188	50.21
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1		164.25	65.7
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1		219.36	87.74
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1		306.44	122.58
15	10.98	3.94	2.65	1	1	1	1.5	1.3	1.3	1	1	1		438.46	175.38
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1		656.45	262.58
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1		1038.43	415.37
30	30.14	18.4	22.4	1	1	1	1.6	1.3	1.3	1	1	1		1760.09	704.04
35	46.12	33.3	48.03	1	1	1	1.7	1.3	1.3	1	1	1		3254.62	1301.85
40	75.31	64.2	109.41	1	1	1	1.7	1.4	1.4	1	1	1		6873.44	2749.38
45	138.88	134.88	271.76	1	1	1	1.7	1.4	1.4	1	1	1		16118.47	6447.39
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1			

From the graph corresponding to N= 3.13, the friction angle was around 19.59^0. Hence the recommended Bearing Capacity for BH3= 17.1 t/m^2

BH4

Strip Footing														
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	F =	2.5						
Df =	2.5	B =	1	q =	0									
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ	Net ultimate bearing capacity in kPa	Safe Bearing Capacity, kPa
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1	127.215	50.89
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1	166.48	66.59
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1	222.37	88.95
15	10.98	3.94	2.65	1	1	1	1.6	1.3	1.3	1	1	1	310.81	124.32
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1	444.81	177.92
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1	666.06	266.42
30	30.14	18.4	22.4	1	1	1	1.7	1.3	1.3	1	1	1	1053.79	421.52
35	46.12	33.3	48.03	1	1	1	1.7	1.3	1.3	1	1	1	1786.31	714.52
40	75.31	64.2	109.41	1	1	1	1.7	1.4	1.4	1	1	1	3303.35	1321.34
45	138.88	134.88	271.76	1	1	1	1.8	1.4	1.4	1	1	1	6977.16	2790.86
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1	16361.83	6544.73

From the graph corresponding to N= 3.46, the friction angle was around 19.17^0. Hence the recommended Bearing Capacity for BH4= 16.9 t/m²

BH5

Strip Footing														
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	F =	2.5						
Df =	2.3	B =	1	q =	0									
													Net ultimate bearing capacity	Safe Bearing Capacity,
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ	in kPa	kPa
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1	123.8226	49.53
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1	162.01	64.8
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1	216.36	86.54
15	10.98	3.94	2.65	1	1	1	1.5	1.3	1.3	1	1	1	302.07	120.83
20	14.83	6.4	5.39	1	1	1	1.5	1.3	1.3	1	1	1	432.12	172.85
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1	646.83	258.73
30	30.14	18.4	22.4	1	1	1	1.6	1.3	1.3	1	1	1	1023.07	409.23
35	46.12	33.3	48.03	1	1	1	1.6	1.3	1.3	1	1	1	1733.87	693.55
40	75.31	64.2	109.41	1	1	1	1.7	1.3	1.3	1	1	1	3205.89	1282.36
45	138.88	134.88	271.76	1	1	1	1.7	1.4	1.4	1	1	1	6769.72	2707.89
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1	15875.11	6350.04

From the graph corresponding to N= 3.39, the friction angle was around 18.25^0. Hence the recommended Bearing Capacity for BH5= 16.5 t/m²

Strip	Footing				BH6								Net ultimate bearing capacity	Safe Bearing Capacity, kPa
Gamma =	15.5	kN/m³	Alpha =	0	C =	16.5	F =	2.5						
Df =	2.6	B =	1	q =	0								in kPa	
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ	128.9112	51.56
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1	168.74	67.5
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1	225.44	90.18
10	8.35	2.47	1.22	1	1	1	1.6	1	1	1	1	1	315.35	126.14
15	10.98	3.94	2.65	1	1	1	1.6	1.3	1.3	1	1	1	451.51	180.6
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1	676.4	270.56
25	20.72	10.66	10.88	1	1	1	1.7	1.3	1.3	1	1	1	1070.65	428.26
30	30.14	18.4	22.4	1	1	1	1.7	1.3	1.3	1	1	1	1815.8	726.32
35	46.12	33.3	48.03	1	1	1	1.7	1.4	1.4	1	1	1	3359.63	1343.85
40	75.31	64.2	109.41	1	1	1	1.8	1.4	1.4	1	1	1	7099.96	2839.98
45	138.88	134.88	271.76	1	1	1	1.8	1.4	1.4	1	1	1	16659.76	6663.9
50	266.89	319.07	762.89	1	1	1	1.9	1.4	1.4	1	1	1		

From the graph corresponding to N= 3.75, the friction angle was around 18.84^0. Hence the recommended Bearing Capacity for BH6= 16.8 t/m²

BH7

Strip Footing														Net ultimate bearing capacity	Safe Bearing Capacity, kPa
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	F =	2.5							
Df =	2.4	B =	1	q =	0									in kPa	
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ			
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1		125.5188	50.21
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1		164.25	65.7
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1		219.36	87.74
15	10.98	3.94	2.65	1	1	1	1.5	1.3	1.3	1	1	1		306.44	122.58
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1		438.46	175.38
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1		656.45	262.58
30	30.14	18.4	22.4	1	1	1	1.6	1.3	1.3	1	1	1		1038.43	415.37
35	46.12	33.3	48.03	1	1	1	1.7	1.3	1.3	1	1	1		1760.09	704.04
40	75.31	64.2	109.41	1	1	1	1.7	1.4	1.4	1	1	1		3254.62	1301.85
45	138.88	134.88	271.76	1	1	1	1.7	1.4	1.4	1	1	1		6873.44	2749.38
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1		16118.47	6447.39

From the graph corresponding to N= 3.51, the friction angle was around 19.11^0. Hence the recommended Bearing Capacity for BH7= 16.6 t/m^2

BH8

Strip Footing								F						
Gamma =	15.4	kN/m³	Alpha =	0	C =	16.5	=	2.5						
Df =	2.5	B =	1	q =	0									
													Net ultimate bearing capacity	Safe Bearing Capacity, kPa
Phi	NC	NQ	NG	Sc	Sq	Sγ	Dc	Dq	Dγ	Ic	Iq	Iγ	in kPa	
0	5.14	1	0	1	1	1	1.5	1	1	1	1	1	127.215	50.89
5	6.49	1.57	0.45	1	1	1	1.5	1	1	1	1	1	166.48	66.59
10	8.35	2.47	1.22	1	1	1	1.5	1	1	1	1	1	222.37	88.95
15	10.98	3.94	2.65	1	1	1	1.6	1.3	1.3	1	1	1	310.81	124.32
20	14.83	6.4	5.39	1	1	1	1.6	1.3	1.3	1	1	1	444.81	177.92
25	20.72	10.66	10.88	1	1	1	1.6	1.3	1.3	1	1	1	666.06	266.42
30	30.14	18.4	22.4	1	1	1	1.7	1.3	1.3	1	1	1	1053.79	421.52
35	46.12	33.3	48.03	1	1	1	1.7	1.3	1.3	1	1	1	1786.31	714.52
40	75.31	64.2	109.41	1	1	1	1.7	1.4	1.4	1	1	1	3303.35	1321.34
45	138.88	134.88	271.76	1	1	1	1.8	1.4	1.4	1	1	1	6977.16	2790.86
50	266.89	319.07	762.89	1	1	1	1.8	1.4	1.4	1	1	1	16361.83	6544.73

From the graph corresponding to N= 3.24, the friction angle was around 19.45^0. Hence the recommended Bearing Capacity for BH8= 17.2 t/m^2

ANNEXURE - IV

Annexure-B

(Tentative list of charges, if applicable)

- **In case Power Availed through HPSEBL:**

Schedule of Tariff -Large Industrial Power Supply (LIPS) at 11 kV Standard Supply Voltage

Sr. No.	Description	Charges
Charges to be paid monthly		
1	**Energy Charges**	
	HT-1(Contract Demand up to and including 1 MVA)	5.06 Rs/kVAh
	HT-2(Contract Demand above)	4.81 Rs/kVAh
2	**Demand Charges**	
	HT-1(Contract Demand up to and including 1 MVA)	250 Rs/kVA/Month
	HT-1 (Contract Demand above)	400 Rs/kVA/Month
3	**Peak Load Charges**	
	HT-1	6.16 Rs/kVAh
	HT-2	6.16 Rs/kVAh
Rebate and Concession		
4	**Night Time Concession**	
	HT-1 & HT-2	110 paise/kVAh during Night hours for the month of June, July and August 2023
		70 paise/kVAh for other Months
5	For the new industries, which have come to production from 01.06.2021 onwards, the Energy Charges shall be 15 % lower than the approved Energy Charges for the respective category for a period of 3 years	

- **In case Power is availed through Open Access for Long Term and Medium Term at 11 kV Standard Supply Voltage:**

Sr. No.	Description	Charges payable Rate
1	Energy Charges	As per agreement with Generators or Purchase from Exchange (Not payable to HPSEBL).
2	Wheeling Charges (if wheeled through HPSEBL System)	Rs. 6.79 Lakh /MW /Month
3	Wheeling Losses (if Wheeled through HPSEBL System)	2.5 % to 8 % (corresponding to lower voltage either on injection and drawl).
4	Cross Subsidy Surcharge	Rs. 0.34/ unit

ANNEXURE-A

SCHEDULE - LARGE INDUSTRIAL POWER SUPPLY (LIPS)

1. Applicability

This Schedule is applicable to all other Industrial Power Consumers with Contract Demand exceeding 100 kVA including Tele-communication Towers and Information Technology industry (limited only to IT parks recognized by the State/Central Govt.) and not covered by Schedule "IDWPS".

2. Character of Service: *Applicable as per relevant provisions of Himachal Pradesh Electricity Supply Code, 2009, as amended from time to time.*

3. Two Part Tariff

a) Fixed Charges (Charges-1)

Description	Fixed Charge s(Rs/month)
EHT	Nil
HT-1 (Contract Demand up to and including 1MVA)	Nil
HT-2 (Contract Demand above 1 MVA)	Nil

b) Energy Charges (Charges-2)

Description	Energy Charges (Rs./kVAh)
EHT	
220 kV and above	4.66
132 kV	4.71
66 kV	4.76
HT-1 (Contract Demand up to and including 1MVA)	5.06
HT-2 (Contract Demand above 1 MVA)	4.81

Note:

In case of sick unit or permanently disconnected units, the Industrial Consumer can avail pre-paid meter with a load up to 20 kW for the purpose of lighting, surveillance and security.

c) Demand Charges (Charges-3)

Description	Demand Charge (Rs/kVA/month)
EHT	
220 kV and above	425.00
132 kV	425.00
66 kV	425.00
HT-1 (Contract Demand up to	250.00

and including 1MVA)	
HT-2 (Contract Demand above 1 MVA)	400.00

Note: Demand Charges would be levied on the actual maximum recorded demand in a month in any 30-minute interval in a month or 85% of the Contract Demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.

4. **Peak load charges (PLC)**

Description	Energy Charge (Rs./kVAh)
EHT	5.96
HT-1	6.16
HT-2	6.16

5. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

6. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

7. **Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

8. **Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

9. **Night Time Concession (NTC):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff' of this Annexure I at following rates:-*

   (i) 110 Paise/kVAh for consumption during night hours for the month of June, July and August 2023;

   (ii) 70 Paise/kVAh for other months.

10. **Power Factor Surcharge (PFS):** *Not Applicable.*

11. **Disturbing Load Penalty (DLP):** *Not Applicable*

12. **Factory lighting and colony supply:** All consumption for bonafide factory lighting i.e., energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare Centre and factory yard lighting shall be charged under this Tariff Schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this Tariff Schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates:

    a) During normal times and night time: Normal rate subject to the condition that the night time concession as per 8 above shall be given on consumption during night time.

    b) During peak load hours: The rates (demand and energy) applicable for peak load hours shall be charged.

If supplies for colony and/or its residences are taken separately, the same shall be charged as per the relevant Consumer Categories of this Schedule of Tariff.

13. Rebate for New and Expansion Industries:

a. For new industries, which have come into production between 01.07.2019 to 31.05.2020, the Energy Charges shall be 15% lower than the approved Energy Charges for the respective Category for a period of 3 years.

b. For new industries, which have come into production between 01.06.2020 to 31.05.2021, the Energy Charges shall be 10% lower than the approved Energy Charges for the respective Category for a period of 3 years.

c. For new industries, which have come into production from 01.06.2021 onwards, the Energy Charges shall be 15% lower than the approved Energy Charges for the respective Category for a period of 3 years.

d. For existing industries, which have undergone expansion during 01.06.2020 to 31.05.2021, Energy Charges shall be 10% lower than the approved Energy Charges corresponding to the respective Category for a period of three years for quantum of energy consumption corresponding to proportionate increase in Contract Demand.

Provided that such expansion, if undertaken during 1.07.2019 to 31.05.2020 and/or during 01.06.2021 to 31.03.2023 and/or shall be undergoing expansion on or after 01.04.2023, the Energy Charges shall be 15% lower than the approved Energy Charges for the respective Category for a period of 3 years for quantum of energy consumption corresponding to proportionate increase in Contract Demand.

e. Example: In case of Contracted Demand is increased by an industry from 2 MVA to 3 MVA, the monthly units consumption for the purpose of lower Energy Charges shall be considered in proportion of the Original Contracted Demand and increased Contracted Demand. i.e., in case of the monthly consumption is 6 LUs, the lower Energy Charges shall be applicable on 2 LUs while 4 LUs shall be billed at the regular Energy Charge.

f. The above-mentioned rebate on Energy Charges shall be applicable during normal and peak hours. In case of night hours, night-time concession shall only apply.

14. Rebate for Prepaid Consumers: *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*