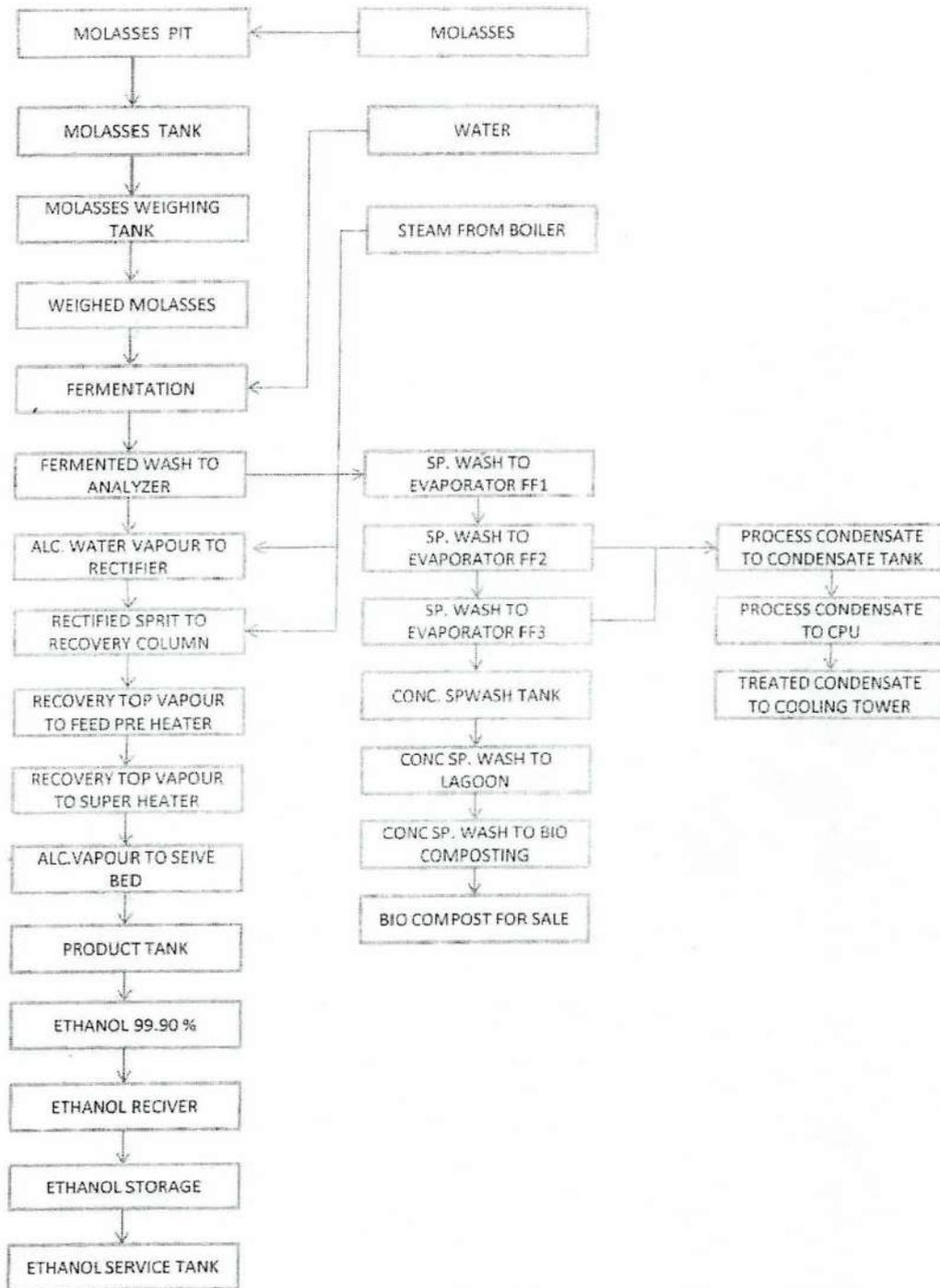


PROCESS FLOW SHEET
RSL BELWARA (DISTILLERY DIVISION)



M/s Rana Distillery Unit

Distillery Unit-Data & Documents

(Summary of -
Production, RSW, CSW and Condensate)

S. No.	Items	Details	Remarks
1	Production Data (as per records vetted by Excise) (during inspection C-Molasses was being used)	April 2020 to June 2020 = 61,67,747 BL 12.10.2020 to 28.10.2020 = 12,75,629 BL	Excise Certificate enclosed as Annexure-1, during
2	Raw Water Bore Wells Details	Number of Borewell = 1 No. Capacity = 58 m3/hr	Copy of Log Book enclosed as Annexure-2
3	Raw Spent Wash Generation	April 2020 to June 2020 = 26297 KL 12.10.2020 to 28.10.2020 = 8008 KL	
4	Details of Bio-Digesters	N/A	
5	Details of MEE	Design - Falling Film Feed Rate = 30 m3 Brix/Solids (Inlet) = 12-14 Brix/Solids (Outlet) = 30-33	Copy of Log Book enclosed as Annexure-3
6	C.P.U reject fed to MEE	April 2020 to June 2020 = 5965 KL 12.10.2020 to 28.10.2020 = 1560 KL(1560 MT)	
7	MEE infeed	April 2020 to June 2020 = 26297 KL + 5965 KL = 32262 KL 12.10.2020 to 28.10.2020 = 8488MT(8008KL)+1560 MT=10018 MT	
8	MEE Condensate Generation	April 2020 to June 2020 = 20576 KL 12.10.2020 to 28.10.2020 = 5345 MT	Copy of Log Book enclosed as Annexure-4
9	MEE Concentrate Generation	April 2020 to June 2020 = 11686 KL 12.10.2020 to 28.10.2020 = 4135 KL(4672 MT)	
10	MEE Maintenance	N/A	
11	Water Balance Chart		Enclosed as Annexure-5
12	Details of RO	Inflow Feeded -15 m3 Permeate - 11 m3 Reject - 4 m3 Operational Condition-Excellent	Copy of Log Book enclosed as Annexure-6
13	Quantity of Spent Wash and Press Mud used in Bio-Composting	Spent Wash - 17943 m3 Press Mud - 21342 MT	Annexure: 10
14	Area for Bio-Composting	Covered -12 Open - 7 Finished Compost Storage - 1	Layout & Khasra No. enclosed as Annexure 7
15	Flow Meter & Mass Flow Meters		Details enclosed as Annexure-8
16	Online (OCMS) Connectivity Status		Details enclosed as Annexure-8
17	Valid Documents	Consent to Operate CGWA NOC - Applied for Renewal Authorisation for Composting & Packing - Applied For	Copy enclosed as Annexure-9 Copy enclosed as Annexure-9 Copy enclosed as Annexure-9
18	Monthly Water Quality Analysis Report	N/A	

For RANA SUGARS LIMITED

Authorised Signatory

Certification
of Total production
of Ethanol
(APR - June 2020)

This is certified that Total production of Ethanol from the month of April-2020 to June -2020 is 61,67,747 B.L .


प्रभारी भावकरी अधिकारी
राणा शुगर लि०
डिस्टिलरी डिविजन, बेलवार मुरादाबाद
Officer in-Charge

U.P.Excise

Rana Sugars (Distillery Division)

Belwara, MORADABAD

Cor To e)

This is certified that Total production of Ethanol from 12.10.2020 to 28.10.2020 is 12, 75,629 B.L . (As per Postal) at Rana Sugars (Dist Div.)


प्रभारी/अधिकारी
राणा शुगर लि०
बिरसाई, बिरसाई, बिरसाई, मुरादाबाद

U.P.Excise

Rana Sugars (Distillery Division)

Belwara, MORADABAD

MEE Feed & Out
 (Feed → RSW + CPU Reject)
 April - 2020

DATE: 28
 PAGE No:

Date	Avop Feed	m ³	Evap. outlet	m ³
01.04.20	147336.81	565.1	58890.76	214.3
02.04.20	147902.91	566.1	59105.46	216.7
03.04.20	148470.51	567.6	59320.66	215.2
04.04.20	149020.61	550.1	59529.26	208.6
05.04.20	149565.91	545.3	59736.06	206.8
06.04.20	150111.41	545.5	59942.96	206.9
07.04.20	150656.81	545.4	60149.76	206.8
08.04.20	151201.81	545.0	60356.46	206.7
09.04.20	151732.01	530.2	60557.56	201.1
10.04.20	152060.71	328.7	60682.16	124.6
11.04.20	152608.71	548.0	60889.96	207.8
12.04.20	153161.41	552.7	61099.56	209.6
13.04.20	153711.51	550.1	61308.16	208.6
14.04.20	154265.51	485.0	61492.06	183.9
15.04.20	154376.61	180.1	61560.36	68.3
16.04.20	154936.91	560.3	61772.86	212.5
17.04.20	155496.91	560.0	61985.26	212.4
18.04.20	156058.41	561.5	62198.16	212.9
19.04.20	156619.51	561.1	62410.96	212.8
20.04.20	157071.11	451.6	62582.16	171.2
21.04.20	157633.61	562.5	62795.46	213.3
22.04.20	158089.91	456.3	62968.46	173.0
23.04.20	158651.91	562.0	63181.56	213.1
24.04.20	159089.31	437.4	63347.46	165.9
25.04.20	159626.41	535.1	63550.36	202.9
26.04.20	159978.21	353.8	63684.56	134.2
27.04.20	160423.51	445.3	63853.46	168.9
28.04.20	160753.81	330.3	63978.76	125.3

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For RANA SUGARS LIMITED

Authorised Signatory

DATE	Evap. Feed	m ³	Evap outlet	m ³
29-4-20	161061.41	307.6	64095.36	116.6
30-04-20	161526.81	465.4	64271.86	176.5

For RANA SUGARS LIMITED
[Signature]
Authorised Signatory

MAY 2020

DATE	1	20
PAGE No		23

DATE	Evap Recd	m3	Evapord Lit	
01-05-20	162061.1	537.254	641655.86	184.00
02-05-20	162606.9	542.864	64641.96	186.10
03-05-20	163019.4	412.46	64778.66	136.70
04-05-20	163598.6	579.16	64978.56	199.90
05-05-20	164115.1	552.46	65168.36	189.80
06-05-20	164513.1	362.06	65285.86	117.50
07-05-20	164768.4	255.26	65362.86	77.00
08-05-20	165325.6	557.26	65554.46	191.60
09-05-20	165882.3	556.66	65745.86	191.40
10-05-20	166439.6	557.26	65937.46	191.60
11-05-20	166983.1	543.56	66123.86	186.40
12-05-20	167521.6	538.46	66308.26	184.40
13-05-20	168093.6	572.06	66505.46	197.20
14-05-20	168604.1	510.46	66679.26	173.80
15-05-20	169187.2	583.06	66880.66	201.40
16-05-20	169693.9	506.76	67053.06	172.40
17-05-20	170215.2	521.26	67230.96	177.90
18-05-20	170806.2	500.96	67435.36	201.40
19-05-20	171410.8	604.66	67644.96	209.60
20-05-20	172009.5	598.66	67852.26	207.30
21-05-20	172604.3	594.76	68058.86	205.80
22-05-20	173199.6	595.36	68264.04	206.00
23-05-20	173568.4	368.76	68384.16	120.10
24-05-20	174169.1	600.76	68592.26	205.10
25-05-20	174400.7	231.56	68660.36	68.10
26-05-20	174809.2	407.46	68795.16	134.80
27-05-20	175353.0	545.66	68982.36	187.20
28-05-20	175912.0	606.16	69192.46	210.10
29-05-20	176538.0	577.96	69391.86	199.40

Scanned by CamScanner

For RANA SUGARS LIMITED
 Authorised Signature

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June - 2020

DATE: / /
PAGE NO: 3

Date	Imp. feed	PI ²	Imp. outlet	PI ³
01.06.20	177856.7	220.9	69856.56	121.7
02.06.20	178278.7	422.0	70016.56	160.0
03.06.20	178806.2	527.5	70216.56	200.0
04.06.20	179034.4	228.2	70308.06	86.5

For RANA SUGARS LIMITED
[Signature]
Authorised Signatory

MEE Feed & Conc. (SW) outlet

SW + CPU Reject

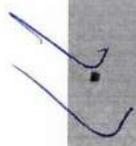
Eva. Inlet and outlet

Totalizer Log book

OCT-2020

DATE / /
PAGE No.

	Today Eva. Inlet (Ton)	Today/Totalizer Eva. Inlet (Ton)	Today/Totalizer Eva. outlet (Ton)	Today/Totalizer	
1.10.20	0	0	0	0	01.
2.10.20	0	0	0	0	02
3.10.20	0	0	0	0	03
4.10.20	0	0	0	0	04
5.10.20	0	0	0	0	05
6.10.20	0	0	0	0	06
7.10.20	0	0	0	0	07
8.10.20	0	0	0	0	08
9.10.20	0	0	0	0	09
10.10.20	0	0	0	0	10
11.10.20	0	0	0	0	11
12.10.20	320	320	159	159	12
13.10.20	555	875	275	434	13
14.10.20	553	1428	267	701	14
15.10.20	664	2092	320	1021	15
16.10.20	581	2673	281	1302	16
17.10.20	479	3152	231	1533	17
18.10.20	708	3860	341	1874	18
19.10.20	769	4629	323	2197	19
20.10.20	778	5407	328	2525	20
21.10.20	764	6171	321	2846	21
22.10.20	676	6847	325	3171	22
23.10.20	583	7430	280	3451	23
24.10.20	673	8103	324	3775	24
25.10.20	656	8759	316	4091	25
26.10.20	628	9387	284	4375	26
27.10.20	632	10019	297	4672	27
28.10.20					28

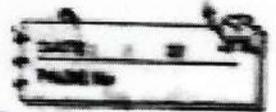


On 27/10
MEE outlet
Totalizer = 4400 MT.

For RAJ SUGARS LIMITED
Authorized Signatory

Log Book MEE Condensate
(April 20 - June 20)

2020 - 2020



Date	Condensate	Difference
01.04.20	88811.22	350.8
02.04.20	89163.72	351.4
03.04.20	89515.12	352.0
04.04.20	89856.62	352.5
05.04.20	90198.12	353.0
06.04.20	90539.62	353.6
07.04.20	90879.12	354.1
08.04.20	91219.62	354.6
09.04.20	91559.12	355.1
10.04.20	91899.62	355.6
11.04.20	92239.12	356.1
12.04.20	92579.62	356.6
13.04.20	92919.12	357.1
14.04.20	93259.62	357.6
15.04.20	93599.12	358.1
16.04.20	93939.62	358.6
17.04.20	94279.12	359.1
18.04.20	94619.62	359.6
19.04.20	94959.12	360.1
20.04.20	95299.62	360.6
21.04.20	95639.12	361.1
22.04.20	95979.62	361.6
23.04.20	96319.12	362.1
24.04.20	96659.62	362.6
25.04.20	96999.12	363.1
26.04.20	97339.62	363.6
27.04.20	97679.12	364.1
28.04.20	98019.62	364.6
29.04.20	98359.12	365.1
30.04.20	98699.62	365.6
01.05.20	99039.12	366.1
02.05.20	99379.62	366.6
03.05.20	99719.12	367.1
04.05.20	100059.62	367.6
05.05.20	100399.12	368.1
06.05.20	100739.62	368.6
07.05.20	101079.12	369.1
08.05.20	101419.62	369.6
09.05.20	101759.12	370.1
10.05.20	102099.62	370.6
11.05.20	102439.12	371.1
12.05.20	102779.62	371.6
13.05.20	103119.12	372.1
14.05.20	103459.62	372.6
15.05.20	103799.12	373.1
16.05.20	104139.62	373.6
17.05.20	104479.12	374.1
18.05.20	104819.62	374.6
19.05.20	105159.12	375.1
20.05.20	105499.62	375.6
21.05.20	105839.12	376.1
22.05.20	106179.62	376.6
23.05.20	106519.12	377.1
24.05.20	106859.62	377.6
25.05.20	107199.12	378.1
26.05.20	107539.62	378.6
27.05.20	107879.12	379.1
28.05.20	108219.62	379.6
29.05.20	108559.12	380.1
30.05.20	108899.62	380.6
31.05.20	109239.12	381.1
01.06.20	109579.62	381.6
02.06.20	109919.12	382.1
03.06.20	110259.62	382.6
04.06.20	110599.12	383.1
05.06.20	110939.62	383.6
06.06.20	111279.12	384.1
07.06.20	111619.62	384.6
08.06.20	111959.12	385.1
09.06.20	112299.62	385.6
10.06.20	112639.12	386.1
11.06.20	112979.62	386.6
12.06.20	113319.12	387.1
13.06.20	113659.62	387.6
14.06.20	113999.12	388.1
15.06.20	114339.62	388.6
16.06.20	114679.12	389.1
17.06.20	115019.62	389.6
18.06.20	115359.12	390.1
19.06.20	115699.62	390.6
20.06.20	116039.12	391.1
21.06.20	116379.62	391.6
22.06.20	116719.12	392.1
23.06.20	117059.62	392.6
24.06.20	117399.12	393.1
25.06.20	117739.62	393.6
26.06.20	118079.12	394.1
27.06.20	118419.62	394.6
28.06.20	118759.12	395.1
29.06.20	119099.62	395.6
30.06.20	119439.12	396.1
01.07.20	119779.62	396.6
02.07.20	120119.12	397.1
03.07.20	120459.62	397.6
04.07.20	120799.12	398.1
05.07.20	121139.62	398.6
06.07.20	121479.12	399.1
07.07.20	121819.62	399.6
08.07.20	122159.12	400.1
09.07.20	122499.62	400.6
10.07.20	122839.12	401.1
11.07.20	123179.62	401.6
12.07.20	123519.12	402.1
13.07.20	123859.62	402.6
14.07.20	124199.12	403.1
15.07.20	124539.62	403.6
16.07.20	124879.12	404.1
17.07.20	125219.62	404.6
18.07.20	125559.12	405.1
19.07.20	125899.62	405.6
20.07.20	126239.12	406.1
21.07.20	126579.62	406.6
22.07.20	126919.12	407.1
23.07.20	127259.62	407.6
24.07.20	127599.12	408.1
25.07.20	127939.62	408.6
26.07.20	128279.12	409.1
27.07.20	128619.62	409.6
28.07.20	128959.12	410.1
29.07.20	129299.62	410.6
30.07.20	129639.12	411.1
31.07.20	129979.62	411.6
01.08.20	130319.12	412.1
02.08.20	130659.62	412.6
03.08.20	130999.12	413.1
04.08.20	131339.62	413.6
05.08.20	131679.12	414.1
06.08.20	132019.62	414.6
07.08.20	132359.12	415.1
08.08.20	132699.62	415.6
09.08.20	133039.12	416.1
10.08.20	133379.62	416.6
11.08.20	133719.12	417.1
12.08.20	134059.62	417.6
13.08.20	134399.12	418.1
14.08.20	134739.62	418.6
15.08.20	135079.12	419.1
16.08.20	135419.62	419.6
17.08.20	135759.12	420.1
18.08.20	136099.62	420.6
19.08.20	136439.12	421.1
20.08.20	136779.62	421.6
21.08.20	137119.12	422.1
22.08.20	137459.62	422.6
23.08.20	137799.12	423.1
24.08.20	138139.62	423.6
25.08.20	138479.12	424.1
26.08.20	138819.62	424.6
27.08.20	139159.12	425.1
28.08.20	139499.62	425.6
29.08.20	139839.12	426.1
30.08.20	140179.62	426.6
31.08.20	140519.12	427.1
01.09.20	140859.62	427.6
02.09.20	141199.12	428.1
03.09.20	141539.62	428.6
04.09.20	141879.12	429.1
05.09.20	142219.62	429.6
06.09.20	142559.12	430.1
07.09.20	142899.62	430.6
08.09.20	143239.12	431.1
09.09.20	143579.62	431.6
10.09.20	143919.12	432.1
11.09.20	144259.62	432.6
12.09.20	144599.12	433.1
13.09.20	144939.62	433.6
14.09.20	145279.12	434.1
15.09.20	145619.62	434.6
16.09.20	145959.12	435.1
17.09.20	146299.62	435.6
18.09.20	146639.12	436.1
19.09.20	146979.62	436.6
20.09.20	147319.12	437.1
21.09.20	147659.62	437.6
22.09.20	147999.12	438.1
23.09.20	148339.62	438.6
24.09.20	148679.12	439.1
25.09.20	149019.62	439.6
26.09.20	149359.12	440.1
27.09.20	149699.62	440.6
28.09.20	150039.12	441.1
29.09.20	150379.62	441.6
30.09.20	150719.12	442.1
01.10.20	151059.62	442.6
02.10.20	151399.12	443.1
03.10.20	151739.62	443.6
04.10.20	152079.12	444.1
05.10.20	152419.62	444.6
06.10.20	152759.12	445.1
07.10.20	153099.62	445.6
08.10.20	153439.12	446.1
09.10.20	153779.62	446.6
10.10.20	154119.12	447.1
11.10.20	154459.62	447.6
12.10.20	154799.12	448.1
13.10.20	155139.62	448.6
14.10.20	155479.12	449.1
15.10.20	155819.62	449.6
16.10.20	156159.12	450.1
17.10.20	156499.62	450.6
18.10.20	156839.12	451.1
19.10.20	157179.62	451.6
20.10.20	157519.12	452.1
21.10.20	157859.62	452.6
22.10.20	158199.12	453.1
23.10.20	158539.62	453.6
24.10.20	158879.12	454.1
25.10.20	159219.62	454.6
26.10.20	159559.12	455.1
27.10.20	159899.62	455.6
28.10.20	160239.12	456.1
29.10.20	160579.62	456.6
30.10.20	160919.12	457.1
31.10.20	161259.62	457.6
01.11.20	161599.12	458.1
02.11.20	161939.62	458.6
03.11.20	162279.12	459.1
04.11.20	162619.62	459.6
05.11.20	162959.12	460.1
06.11.20	163299.62	460.6
07.11.20	163639.12	461.1
08.11.20	163979.62	461.6
09.11.20	164319.12	462.1
10.11.20	164659.62	462.6
11.11.20	164999.12	463.1
12.11.20	165339.62	463.6
13.11.20	165679.12	464.1
14.11.20	166019.62	464.6
15.11.20	166359.12	465.1
16.11.20	166699.62	465.6
17.11.20	167039.12	466.1
18.11.20	167379.62	466.6
19.11.20	167719.12	467.1
20.11.20	168059.62	467.6
21.11.20	168399.12	468.1
22.11.20	168739.62	468.6
23.11.20	169079.12	469.1
24.11.20	169419.62	469.6
25.11.20	169759.12	470.1
26.11.20	170099.62	470.6
27.11.20	170439.12	471.1
28.11.20	170779.62	471.6
29.11.20	171119.12	472.1
30.11.20	171459.62	472.6
01.12.20	171799.12	473.1
02.12.20	172139.62	473.6
03.12.20	172479.12	474.1
04.12.20	172819.62	474.6
05.12.20	173159.12	475.1
06.12.20	173499.62	475.6
07.12.20	173839.12	476.1
08.12.20	174179.62	476.6
09.12.20	174519.12	477.1
10.12.20	174859.62	477.6
11.12.20	175199.12	478.1
12.12.20	175539.62	478.6
13.12.20	175879.12	479.1
14.12.20	176219.62	479.6
15.12.20	176559.12	480.1
16.12.20	176899.62	480.6
17.12.20	177239.12	481.1
18.12.20	177579.62	481.6
19.12.20	177919.12	482.1
20.12.20	178259.62	482.6
21.12.20	178599.12	483.1
22.12.20	178939.62	483.6
23.12.20	179279.12	484.1
24.12.20	179619.62	484.6
25.12.20	179959.12	485.1
26.12.20	180299.62	485.6
27.12.20	180639.12	486.1
28.12.20	180979.62	486.6
29.12.20	181319.12	487.1
30.12.20	181659.62	487.6
31.12.20	181999.12	488.1
01.01.21	182339.62	488.6
02.01.21	182679.12	489.1
03.01.21	183019.62	489.6
04.01.21	183359.12	490.1
05.01.21	183699.62	490.6
06.01.21	184039.12	491.1
07.01.21	184379.62	491.6
08.01.21	184719.12	492.1
09.01.21	185059.62	492.6
10.01.21	185399.12	493.1
11.01.21	185739.62	493.6
12.01.21	186079.12	494.1
13.01.21	186419.62	494.6
14.01.21	186759.12	495.1
15.01.21	187099.62	495.6

DATE: 1 11 2018
 11/11/2018

2/1/20	97334.33	171.0
10/1/20	97600.00	282.9

May/2018

1/5/20	97973.48	283.26
4/5/20	98330.24	356.86
11/5/20	98606.00	203.48
18/5/20	98985.26	209.06
25/5/20	99344.92	302.66
31/5/20	99512.48	277.56
6/6/20	99770.44	188.26
13/6/20	100136.4	281.66
20/6/20	100557.66	363.26
27/6/20	100867.32	365.66
4/7/20	101004.48	337.16
11/7/20	101278.54	357.06
18/7/20	101753.4	307.86
25/7/20	102290.06	396.66
31/7/20	102671.32	381.66
7/8/20	103006.08	337.86
14/8/20	103379.44	375.86
21/8/20	103736.00	386.56
28/8/20	104131.06	395.06
3/9/20	104522.12	370.66
10/9/20	104911.38	308.76
17/9/20	105300.44	389.86

For RANA SUGARS LIMITED
 Authorised Signatory

Date

Condensed

23/5/20	105549.4	248.66
24/5/20	105942.06	392.66
28/5/20	106105.52	163.46
26/5/20	106378.18	272.66
27/5/20	106736.64	358.46
28/5/20	107132.70	396.06
29/5/20	107511.26	378.56
30/5/20	107873.92	362.66
31/5/20	108170.18	296.26

Jun / 2020

3/6/20	108369.38	199.20
2/6/20	108631.38	262.00
3/6/20	108958.88	327.50
4/6/20	109100.58	141.70

For RANA SUGARS LIMITED

 Authorised Signatory

Log-Book; MEE Condensate

OCT. 2020

Date	11
Page No.	

Date	Condensate	Total	Signature
01-10-20	0		
02-10-20	0	100100.58	
03-10-20	0	109100.58	
04-10-20	0	109100.58	
05-10-20	0	100100.58	
06-10-20	0	109100.58	
07-10-20	0	109100.58	
08-10-20	0	109100.58	
09-10-20	0	109100.58	
10-10-20	0	100100.58	
11-10-20	0	109100.58	
12-10-20	0	109100.58	
13-10-20	161	109261.58	<i>[Signature]</i>
14-10-20	280	109541.58	<i>[Signature]</i>
15-10-20	286	109827.58	<i>[Signature]</i>
16-10-20	344	110171.58	<i>[Signature]</i>
17-10-20	300	110471.58	<i>[Signature]</i>
18-10-20	248	110719.58	<i>[Signature]</i>
19-10-20	367	111086.58	<i>[Signature]</i>
20-10-20	463	111549.58	<i>[Signature]</i>
21-10-20	447	111996.58	<i>[Signature]</i>
22-10-20	640	112636.58	<i>[Signature]</i>
23-10-20	351	112987.58	<i>[Signature]</i>
24-10-20	303	113290.58	<i>[Signature]</i>
25-10-20	349	113639.58	<i>[Signature]</i>
26-10-20	340	113979.58	<i>[Signature]</i>
27-10-20	344	114323.58	<i>[Signature]</i>
28-10-20	335	114658.58	

For RANA SUGARS LIMITED
[Signature]
Authorized Signatory

For RANKING CARSLI

Authorised Sign

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OCT. Date	SPENT WASH				PRESS MUD		Useful in BIOCOMP. MT	CB	BIOCOMP				Remarks
	OB MT	Received MT	Use in BIOCOMP. MT	Stock MT	OB MT	Received from Supply (MT)			OB MT	Prod. MT	Sale MT	CB MT	
1-10-20	61	0	0	61	35353	0	0	35353	816	0	3	8159	h
2-10-20	61	0	0	61	35353	0	0	35353	816	0	-	8159	h
3-10-20	61	0	0	61	35353	0	0	35353	8159	0	-	8159	h
4-10-20	61	0	0	61	35353	0	0	35353	8159	0	-	8159	h
5-10-20	61	0	0	61	35353	0	0	35353	8159	0	-	8159	h
6-10-20	61	0	0	61	35353	0	0	35353	8159	0	-	8159	h
7-10-20	61	0	0	61	35353	0	0	35353	8159	0	12	8147	h
8-10-20	61	0	0	61	34943	0	410	34943	8157	0	6	8141	h
9-10-20	61	0	0	61	34943	0	526	34417	8151	0	0	8141	h
10-10-20	61	0	0	61	34417	0	472	33945	8151	0	52	8089	h
11-10-20	61	0	0	61	33945	0	-	33945	8089	0	0	8089	h
12-10-20	61	159	100	120	33945	0	-	33945	8089	0	43	8046	h
13-10-20	120	275	200	195	33945	0	356	33589	8046	0	71	7975	h
14-10-20	195	267	100	362	33589	0	310	33279	7975	0	35	7940	h
15-10-20	362	320	285	397	33279	0	410	32869	7940	0	39	7901	h
16-10-20	397	281	220	458	32869	0	1614	31255	7901	0	9	7892	h
17-10-20	458	231	240	449	31255	0	1206	30049	7892	0	18	7874	h
18-10-20	449	341	240	550	30049	0	1266	28785	7874	0	0	7874	h
19-10-20	550	323	250	623	28785	0	1516	27279	7874	0	16	7858	h
20-10-20	623	328	280	671	27279	0	1309	25899	7858	0	8	7850	h
21-10-20	671	321	300	692	25899	0	1458	24641	7850	0	31	7819	h
22-10-20	692	325	310	707	24641	0	1502	22939	7819	0	44	7775	h
23-10-20	707	283	260	727	22939	0	1232	21707	7775	0	32	7749	h
24-10-20	727	324	320	731	21707	0	696	21011	7743	0	50	7687	h
25-10-20	731	316	320	727	---	0	---	---	7687	0	30	7657	h
26-10-20													

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Authorized Signatory
 For BAMA SUGARS LIMITED

Topic	Total in Rupee				
95/04/2022	96107.12	96439.32	832.2	922.54	6707.7
96/04/2022	96658				
96/04/2022	96439.32	96658.92	219.6	153.22	6717.42
97/04/2022	96658.92	96935.32	276.4	193.98	67364.9
98/04/2022	96935.32	97140.32	205	143.5	67508.4
99/04/2022	97140.32	97331.32	191.0	135.2	67642.1
20/04/2022	97140.32	97331.32	90819	19934	67841.44
21/04/2022	97331.32	976622	90819	19934	67841.44

DATE: / / 20
 PAGE: 1

Point	Date	Totalizer Initial Reading	Totalizer Final Reading	Difference (m ³)	Correct Water (m ³)	Correct Water Totalizer (m ³)	Rec. copy (%)	Remarks
	1/05/2020	97620.22	97973.48	353.26	247.28	68088.72	70%	
	2/05/2020	97973.48	98330.24	356.76	246.16	68334.88	69%	
	3/5/2020	98330.24	98606	275.76	193.03	68527.91	70%	
	4/5/2020	98606	98985.26	379.26	265.48	68793.39	70%	
	5/5/2020	98985.26	99347.92	362.66	250.23	69043.62	69%	
	6/5/2020	99347.92	99592.48	244.56	171.19	69214.81	70%	
	7/5/2020	99592.48	99770.74	178.26	124.78	69339.59	70%	
	8/5/2020	99770.74	100136.4	365.66	255.96	69595.55	70%	
	9/5/2020	100136.4	100501.66	365.26	252.02	69847.57	69%	
	10/5/2020	100501.66	100867.32	365.66	252.30	70099.87	69%	
	11/5/2020	100867.32	101224.48	357.16	250.01	70349.88	70%	
	12/5/2020	101224.48	101578.54	354.06	247.84	70597.72	70%	
	13/5/2020	101578.54	101953.4	374.86	262.40	70860.12	70%	
	14/5/2020	101953.4	102290.06	336.66	232.29	71092.41	69%	
	15/5/2020	102290.06	102671.72	381.66	267.16	71359.57	70%	
	16/5/2020	102671.72	103006.08	334.36	234.05	71593.62	70%	
	17/5/2020	103006.08	103349.44	343.36	240.35	71833.97	70%	
	18/5/2020	103349.44	103736	386.56	266.72	72100.69	69%	
	19/5/2020	103736	104131.06	395.06	276.54	72377.23	70%	
	20/5/2020	104131.06	104522.42	391.36	273.99	72651.18	70%	
	21/5/2020	104522.42	104911.38	388.96	268.38	72919.56	69%	
	22/5/2020	104911.38	105300.74	389.36	272.55	73192.11	70%	
	23/5/2020	105300.74	105549.4	248.66	174.06	73366.17	70%	
	24/5/2020	105549.4	105942.06	392.66	274.86	73641.03	70%	
	25/5/2020	105942.06	106105.52	163.46	112.78	73753.81	69%	

FOR RANA SUGARS LIMITED
Authorized Signatory

DATE: 1 20
PAGE NO:

Date	Totalizer Initial Reading	Totalizer Final Reading	Difference (m ³)	Normal Water (m ³)	Per normal water Totalizer (m ³)	Recovery (%)
26/5/2020	106105.52	106370.10	264.58	130.06	73911.67	701
27/5/2020	106370.10	106736.64	366.54	250.92	74195.59	701
28/5/2020	106736.64	107132.7	396.06	273.20	74469.87	691
29/5/2020	107132.7	107511.26	378.56	264.99	74733.96	701
30/5/2020	107511.26	107873.92	362.66	253.06	74987.72	701
31/5/2020	107873.92	108170.10	296.18	204.41	75192.13	691

For RAMA SUGARS LIMITED

 Authorised Signatory

MEE Condensate Log-Book

OCT. 2020

DATE / /

PAGE No.

Date	Totalizer Initial Reading	Totalizer final Reading	Diff	Permet	Permet waste	Permet recovery	Remarks
01-10-20					Totalizer	0%	
02-10-20							
03-10-20							
04-10-20							
05-10-20							
06-10-20							
07-10-20							
08-10-20							
09-10-20							
10-10-20							
11-10-20	0	109100.50	-	-	-	-	-
12-10-20	109100.50	109261.50	161	116.0	75953.79	72%	
13-10-20	109261.50	109541.50	280	201.6	76155.39	72%	
14-10-20	109541.50	109827.50	286	205.92	76361.31	72%	
15-10-20	109827.50	110171.50	344	247.68	76600.99	72%	
16-10-20	110171.50	110471.50	300	216.00	76824.99	72%	
17-10-20	110471.50	110719.50	248	178.56	77003.55	72%	
18-10-20	110719.50	111006.50	367	264.24	77267.79	72%	
19-10-20	111006.50	111529.50	443	318.00	77506.75	72%	
20-10-20	111529.50	111976.50	447	321.84	77900.5	72%	
21-10-20	111976.50	112416.50	440	316.80	78225.39	72%	
22-10-20	112416.50	112767.50	351	252.72	78470.11	72%	
23-10-20	112767.50	113070.50	303	218.00	78696.11	72%	
24-10-20	113070.50	113419.50	349	251.00	78947.11	72%	
25-10-20	113419.50	113759.50	340	245.00	79129.11	72%	
26-10-20	113759.50	114103.50	344	248.00	79377.11	72%	
27-10-20	114103.50	114438.50	335	241.0	79618.11	72%	

For RANA SUGARS LIMITED

Authorized Signatory

Plant

Stop



114199m³ Physically verified ok: (matching) at site (11:45AM)

[Signature]

EMBLEM

FORM D

(See clause 14(2) and 18(1)1

FORM OF APPLICATION TO OBTAIN A CERTIFICATE OF
MANUFACTURE OF PHYSICAL/GRANULATED MIXTURE
OF FERTILISER OR ORGANIC FERTILISER / BIOFERTILISER

To,
The Joint Director Agriculture (fertilizer)
Kirshi Bhavan, Lucknow
Uttar Pradesh

Place:	Village – Belwara, Distt- Moradabad
State of	Uttar Pradesh
(1) Full Name and Address of the applicant:	Rana Sugars Limited(Distillery Division) Vill- Belwara, P.O.-Manpur, Distt_ Moradabad
(2) Does the applicant possess the qualification prescribed by the state Government under sub-clause (1) of clause 14 of the Fertilizer (control) order, 1985	Yes
(3) Is the applicant a newcomer? (Say 'Yes' or 'No')	Yes
(4) Situation of the applicant's premises where physical/granulated mixture organic fertilizer/bio fertilizer will be prepared:	Rana Sugars Limited(Distillery Division) Vill- Belwara, P.O.-Manpur, Distt_ Moradabad
(5) Full particulars regarding specifications of the physical/granulated mixture of fertilizers /organic fertilizer/bio fertilizer for which the certificate is required and the new materials used in making the mixture	Bio-enriched Organic Manure, specification enclosed as annexure -1
(6) Full particulars of any other certificate of manufacture, if any, issued by any other Registering Authority;	Copy of all other certificates of manufacturing enclosed as Annexure – II(A &B), Rectified Sprit/Absolute Alcohol /Ethanol/Fossil Oil
(7) How long has the applicant been carrying on the business of preparing physical/granulated mixture of fertilizers /organic fertilizer/bio fertilizer/ mixture of micronutrient fertilizers?	NEW
(8) Quantities of each physical/granulated mixture of fertilizers/mixture of micronutrient fertilizers /organic fertilizer/bio fertilizer (in tonnes) in my/ our possession on the date of the application and held at different addresses noted against each;	Not Applicable
(9) (i) If the applicant has been carrying on the business of preparing physical/granulated mixture of fertilizers/mixture of micronutrient fertilizers/organic fertilizer /bio-fertilizer, give all particulars of such mixtures handled, the period and the place (s) at which the mixing of fertilizers was done;	Not Applicable
(ii) Also give the quantities of physical/granulated fertilizer mixture organic fertilizer /bio-fertilizer handled during the past calendar year;	Not Applicable
(10) If the applicant is for renewal, indicate briefly why the original certificate could not be acted on within the period of its validity.	Not Applicable
(11) I have deposited the prescribed registration certificate fee/renewal fee.	2251 INR Vide Challan No. GH00108 dated 17.07.2020

Declaration	
(a) I/we declare that the information given above is true and correct to the best of my/our knowledge and belief, and no part there is false.	
(b) I/we have carefully read the terms and conditions of the certificate of manufacture given in Form F appended to the Fertilizer (control) order. 1985 and agree to abide by them.	
I I/we declare that the physical/granulated mixture/organic fertilizer/bio-fertilizer for which certificate of manufacture is applied for shall be prepared by me/us or by a person having such qualifications as may be prescribed by the state Government from time to time or by any other person under my/our direction, supervision and control or under the direction, supervision and control of person having the said qualification.	
(d) I/we declare that the requisite laboratory facilities specified by the controller, under this order are possessed by me/us.	
Name and Address of applicant in block letters:	SUBHASH CHANDER GARG S/O SH. D.D.S.GARG AGM(LLEGAL), RANA SUGARS LIMITED (DISTILLERY DIVISION), VILL – BELWARA , P.O. – MANPUR , DISTT – MORADABAD R/o SRD -402, SHIPRA RIVEIRA TOWER, GYAN KHAND III, INDRAPURAM , GHAZIABAD(U.P.)

Date:23.07.2020

Place:Moradabad


Signature of applicant (SUBHASH CHANDER GARG)
For RANA SUGARS LIMITED(Distillery Division);
Belwara, Moradabad

LIST OF ENCLOSURES:-

1. Two passport size photographs of the applicant
2. Copy of Aadhar No as ID Proof
3. Copy of Address Proof
4. Project Report (Manufacturing) for Bio-enriched Organic Manur
5. Company of Pan No
6. List of Board of Directors
7. Copy of Registration of Distillery
8. Copy of Air Consent
9. Copy of water consent
10. Copy of Khasra -Khatauni
11. Memorandum and Articles Association of Company
12. Company' Board of Resolution for the Applicant
13. Qualification documents of the Applicant
14. Affidavit by Applicant



SISHODIA

Research Laboratories Pvt. Ltd.

CIN No :- U73100UP2009PTC037857



TEST REPORT

Report No RPT/SQ/39/2020	Sample code SMPLS/39/2020	Report issue date 28/10/2020
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SAMPLING DETAIL

1. Name and Address of Customer:	M/s Rana Sugars Ltd (Distillery Division) Belwara, PO. Manpur Moradabad, Uttar Pradesh.		
2. Type of Sample :	Biocompost		
3. Date of sampling :	22/10/2020	Sampling Timing:	11:40 am
4. Sample collected by:	SRL/PL Team		
5. Method of Sampling :	SRL/QR/SP/01		
6. Packing condition:	Sealed		
7. Laboratory Sample Receiving date:	23/10/2020		
8. Period of Sample analysis:	23/10/2020 – 28/10/2020		
9. Humidity (%)	62	Ambient Temperature (°C)	30

BIO-COMPOST TESTING RESULT

Sl. No.	Parameters	Unit	Result
1.	pH	-	7.82
2.	Conductivity (1:5)	dsu/cm ⁻¹	1878
3.	Moisture % by weight	%	23.1
4.	C:N Ratio*	%	16.11
5.	Total Nitrogen	%	1.48
6.	Total Phosphates as P ₂ O ₅ *	%	2.42
7.	Total Potash as K ₂ O *	%	2.04
8.	Total Organic Carbon	%	20.12
9.	Bulk density	g/cc	0.68

*N:NDS*Not in Scope

Note: 1. The results listed refer only to tested sample and applicable parameters

2. The samples will be destroyed after one month from the date of issue of test certificate unless otherwise specified

Authorized Signatory

Prem Narayan Singh Sisodia
(Chairman cum Managing Director)

Prem Narayan Singh





Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)



Application for Issue of NOC to Abstract Ground Water (NOCAP)

Welcome : ranasugarsltd
Previous Login Date Time: 01/11/2020 17:53:04 PM , IP Address: 202.164.37.61

Logout

- Applicant Home
- Apply
- Feedback
- Change Password
- Profile

<p>Information</p> <p>Guidelines</p> <p>Steps for Filling Online Application</p> <p>Documents Required</p> <p>Documents Required for Online Application</p> <ul style="list-style-type: none"> ▶ Industrial ▶ Infrastructure ▶ Mining <p>Track Status</p> <p>Application Status</p> <ul style="list-style-type: none"> ▶ Online <p>Location</p> <p>Area Type</p> <p>Segment-B Area Type</p> <p>Regional office</p> <p>Location</p> <p>CGWA Headquarters</p> <p>Know Your Environmental Compensation(EC)</p> <p>Know Your Penalty Ground Water Abstraction/Restoration Charges</p> <p>Reports</p> <p>Applied for NOC - Online</p> <p>NOC Issued-Online</p> <p>Contact Us</p> <p>Contact</p>	<p style="text-align: center;">Application Status</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Application No :</td> <td>21-4/1031/UP/IND/2016</td> </tr> <tr> <td>Receive Date :</td> <td>29/11/2019</td> </tr> <tr> <td>Name of Industry :</td> <td>RANA SUGARS LIMITED</td> </tr> <tr> <td>Application Processing Fee :</td> <td>Rs. 500.00/- (Rupees Five Hundred Only) (Submitted: No)</td> </tr> <tr> <td>Current Stage :</td> <td>Application Verification Stage</td> </tr> <tr> <td>Current Status :</td> <td>Referback</td> </tr> <tr> <td>Address :</td> <td>Central Ground Water Board Northern Region Bhujal Bhavan, Sector-B, Sitapur Road YojnaRam Ram Bank Chauraha LUCKNOW UTTAR PRADESH</td> </tr> </table> <p style="text-align: center;">Current Status</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="8" style="text-align: center;">Application Verification</th> </tr> <tr> <th>Receive Date</th> <th>From User Name</th> <th>To User Name</th> <th>Forwarded User Name</th> <th>Action Date</th> <th>Action Internal Status</th> <th>Action Comment</th> <th>Copy of Application Received On</th> </tr> </thead> <tbody> <tr> <td>29/11/2019</td> <td></td> <td>(Evaluation Officer) Central Ground Water Board Northern Region</td> <td></td> <td>24/02/2020</td> <td>Referback</td> <td>Query raised for information or clarification.</td> <td></td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="9" style="text-align: center;">Application Processing</th> </tr> <tr> <th>Receive Date</th> <th>From User Name</th> <th>To User Name</th> <th>Forwarded User Name</th> <th>Action Date</th> <th>Action Internal Status</th> <th>Action Comment</th> <th>Ground Water Recom Per Day</th> <th>Ground Water Recom Annual</th> </tr> </thead> <tbody> <tr> <td colspan="9" style="text-align: center;">No Record for this Stage.</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7" style="text-align: center;">NOC Processing</th> </tr> <tr> <th>Receive Date</th> <th>From User Name</th> <th>To User Name</th> <th>Forwarded User Name</th> <th>Action Date</th> <th>Action Internal Status</th> <th>Action Comment</th> </tr> </thead> <tbody> <tr> <td colspan="7" style="text-align: center;">No Record for this Stage.</td> </tr> </tbody> </table>	Application No :	21-4/1031/UP/IND/2016	Receive Date :	29/11/2019	Name of Industry :	RANA SUGARS LIMITED	Application Processing Fee :	Rs. 500.00/- (Rupees Five Hundred Only) (Submitted: No)	Current Stage :	Application Verification Stage	Current Status :	Referback	Address :	Central Ground Water Board Northern Region Bhujal Bhavan, Sector-B, Sitapur Road YojnaRam Ram Bank Chauraha LUCKNOW UTTAR PRADESH	Application Verification								Receive Date	From User Name	To User Name	Forwarded User Name	Action Date	Action Internal Status	Action Comment	Copy of Application Received On	29/11/2019		(Evaluation Officer) Central Ground Water Board Northern Region		24/02/2020	Referback	Query raised for information or clarification.		Application Processing									Receive Date	From User Name	To User Name	Forwarded User Name	Action Date	Action Internal Status	Action Comment	Ground Water Recom Per Day	Ground Water Recom Annual	No Record for this Stage.									NOC Processing							Receive Date	From User Name	To User Name	Forwarded User Name	Action Date	Action Internal Status	Action Comment	No Record for this Stage.						
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NOC Disbursement

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Annexure-7

M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand

- M/s India Glycol Ltd. is located at A-1, Industrial area, Bazpur Road, Kashipur, Uttarakhand consisting of the following manufacturing units:
 - 1) Distillery Plant (Common Consent to operate under Water Act, 1974 and Air Act, 1981 is valid up to 31.12.2023, placed at **Annexure-7.1**)
 - 2) Chemical Plant (Common Consent to operate under Water Act, 1974 and Air Act, 1981 is valid up to 31.03.2023)
- This industrial unit has following utility services for treatment of industrial as well as domestic waste water inside the unit premises:
 - i. Effluent Treatment Plant (ETP) for Chemical unit - 540 KLD
 - ii. Sewage Treatment Plant (STP) near MEG control building - 10 KLD
 - iii. Sewage Treatment Plant (STP) near Electrical substation - 10 KLD
 - iv. Sewage Treatment Plant (STP) near R & D department - 20 KLD
 - v. Spent wash management system comprising of Bio-digester, Multi Effective Evaporator (MEE) and Incineration boiler (details provided in section-2)
 - vi. Sewage Treatment Plant (STP) for Distillery unit - 10 KLD
 - vii. Sewage Treatment Plant (STP) for Residential colony - 40 KLD

Samples Collection

- The joint team collected samples from different points i.e., Effluent Treatment Plant (ETP), spent wash management system, Sewage Treatment Plant (STP), bore wells and piezometers. Samples have been analyzed in CPCB laboratory w.r.t the notified parameters. Duplicate sealed samples were also provided to the unit.
- Detail of the samples collected and analysis results are mentioned in the following relevant sections.

Detailed inspection report of Distillery plant is as below;

1. Fresh Water Consumption

1.1 Sources of Fresh Water

- The distillery plant of the unit has total 03 nos. of bore wells located at different places within the campus. Flow meters are installed on each borewells and meter reading (Totalizer), flow rate observed during inspection are mentioned below:

Table 1: Bore well meter reading and Co-ordinates

Borewell No.	Meter reading at time of inspection (m ³)	Flow rate (m ³ /hr)	Latitude	Longitude

1.	No reading observed on meter	Nil	29.178361	79.005992
2.	102041	79.7	29.172709	79.005305
3.	689788	153.22	29.179339	79.006612

1.2 Freshwater Consumption

- As per log book provided by the unit, freshwater consumption in distillery plant of the unit is presented below for time period from Jan-2020 to Oct-2020:

Table 2: Ground water withdrawal from 03 bore wells of distillery unit (from Jan-20 to Oct-20)

Month	Bore well No. 1	Bore well No. 2	Bore well No. 3	Total fresh water consumption (m ³)
Jan-20	20750	17039	15628	53417
Feb-20	13052	13423	15107	41582
March-20	13700	12550	17250	43500
April-20	15402	6723	22568	44693
May-20	18240	14140	18742	51122
June-20	16240	13065	18157	47462
July-20	17329	13073	21097	51499
August-20	18206	15331	17845	51382
Sept-20	20682	15167	21864	57713
Oct-20	0	24851	25086	49937
Total ground water withdrawal from Bore well-1, 2 & 3 from Jan-2020 to Oct-2020				4,92,307
Average Daily consumption				1614.12

1.3 Piezometers Details

- The Unit has provided 04 nos. of Piezometers for measurement of groundwater depth at the following locations inside the unit's premises, as per the information provided by the unit:

Table 3 Piezometers location, located inside the unit's premises

Piezometer Locations inside the unit's premises				
S. No.	Piezometer No.	Location	Latitude	Longitude
1	Piezometer No. 1	Chemical Plant-1	29.174335	79.009509
2	Piezometer No. 2	Ethanol Plant-1	29.18005	79.00759
3	Piezometer No. 3	Ethanol Plant-2	29.170438	79.005914
4	Piezometer No. 4	Chemical Plant-2	29.172596	79.010094

1.4 Rain Water Harvesting System

- As informed by the unit, it has total 05 nos. of rainwater harvesting system for recharge of groundwater located in the premises of the unit. Details as provided by the unit is as below;

Table 4: Co-ordinates of Rain water harvesting system

System No.	Location	Latitude	Longitude
Rain water Harvesting system-1	Technical Building	29.178916	79.007222
Rain water Harvesting system-2	Tennis ground	29.179027	29.179027

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Rain water Harvesting system-3	B-block housing complex	29.179027	79.009166
Rain water Harvesting system-4	C-block housing complex	29.177777	79.009444
Rain water Harvesting system-5	D-block housing complex	29.177500	79.008888
Ground water recharge pond	Village & Post: Bhagatpur Tanda, Moradabad, UP	Not provided by the unit	

1.5 Characteristics of the Ground Water

- The analysis results of ground water samples collected from the distillery plant is as below:

Table 5: Analysis result of ground water sample collected from distillery plant

Parameter	Sampling location	Bore well No.3 (Ethanol Plant)	Piezometer -2 (at Ethanol Plant)	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH		7.8	8.0	6.5-8.5
Conductivity (µmho/cm)		390	505	-
COD (mg/l)		BDL	10	-
TDS (mg/l)				2000
Total hardness as CaCO ₃ (mg/l)		192	204	600
Total alkalinity as CaCO ₃ (mg/l)		187	155	600
Chloride (mg/l)		12	45	1000
Fluoride (mg/l)		0.2	0.3	1.5
As (mg/l)		BDL	BDL	0.05
Cd (mg/l)		BDL	BDL	0.003
Co (mg/l)		BDL	BDL	-
Cr (mg/l)		BDL	BDL	0.05
Cu (mg/l)		BDL	BDL	1.5
Fe (mg/l)		1.12	0.17	0.3
Mn (mg/l)		0.55	0.02	0.3
Ni (mg/l)		BDL	BDL	0.02
Pb (mg/l)		BDL	BDL	0.01
Sb (mg/l)		BDL	BDL	-
Se (mg/l)		BDL	BDL	0.01
V (mg/l)		BDL	BDL	-
Zn (mg/l)		0.01	0.02	15

1.6 Observations on freshwater withdrawal, piezometer wells installations and analysis results of ground water samples

1. As per the expired CGWA NOC dated 26.02.2009, the unit had permission to withdraw ground water of 5096 m³/day and the same was valid till that area remains in 'Safe category' on ground water resource consideration or for five years from the date of issue i.e., upto 25.02.2014, whichever is earlier (Expired CGWA NOC placed at **Annexure-7.2**).
2. As per document submitted by the unit through mail dated 07.11.2020, the unit received valid CGWA NOC, having validity from 26.10.2020 to 25.10.2023 for abstraction of 2393.63 m³/day (788453.18 m³/year) of ground water from 03 bore wells. As per previous CGWA NOC the unit had permission to abstract 5096 m³/day of ground water. The copy of valid CGWA NOC is placed at **Annexure-7.3**.
3. As per the fresh water consumption data from Jan-2020 to Oct-2020, provided by the unit, average daily ground water withdrawal from three bore wells is 1614.12 m³/day which is within the CGWA permissible limit of 2393.63 m³/day (as per latest CGWA NOC, which is valid from 26.10.2020 to 25.10.2023).
4. As per CGWB report "National Compilation on Dynamic Ground Water Recourses Assessment of India, 2017"-Page No. 149, District-Udham Singh Nagar, Kashipur is in Semi-critical category.
5. As per the analysis result, the quality of ground water (bore well no. 3) is within prescribed norms of BIS IS 10500:2012.

2. Molasses based Distillery (RS & ENA)

2.1 Observations on Molasses based Distillery (Ethyl Alcohol) and analysis results of samples collected from distillery

1. The unit is involved in the manufacturing of Rectified Spirit (RS), ENA (Extra Neutral Alcohol) and Absolute alcohol using C-heavy molasses as a raw material.
2. As per Consent to Operate (CTO) under Water Act, 1974 and Air Act 1981 issued by Uttarakhand Pollution Control Board (UKPCB), the consented capacity for production of alcohol is 240 KLD. Consent to Operate (CTO) under Water Act, 1974 and Air Act 1981 issued by UKPCB is valid upto 31.03.2023.
3. On the day of inspection, the Distillery plant was found operational at **115.42 KLD**, i.e. @48.09 % of the consented capacity of 240 KLD.
4. The unit has fed-batch fermentation along with MPR distillation to produce RS, ENA and Absolute alcohol.

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5. As per data provided by the unit, use of C-heavy molasses (in Quintal) and spent wash generation (in KL) per KL of alcohol production is 23.69 Quintal and 7.6 KL respectively.
6. Initially, distillery plant had two streams of treatment facility to achieve Zero Liquid Discharge (ZLD), namely (a) 240 KLD stream having MEE and incineration boiler to achieve ZLD and (b) 98 KLD stream having bio-digester and bio-composting to achieve ZLD. Since the unit failed to install MEE before bio-composting therefore production from 98 KLPD stream was stopped since January 2017 by UKPCB. The inlet pipeline of lagoon for 98 KLD stream was disconnected and sealed by UKPCB on 28.01.2017.
7. Presently, the unit is only operating its 240 KLD stream and achieving ZLD through MEE followed by Incineration boiler.
8. The unit is having the following infrastructure for management of spent wash to achieve Zero Liquid Discharge (ZLD) by Incineration.

Table 6: Infrastructure for spent wash management to achieve ZLD

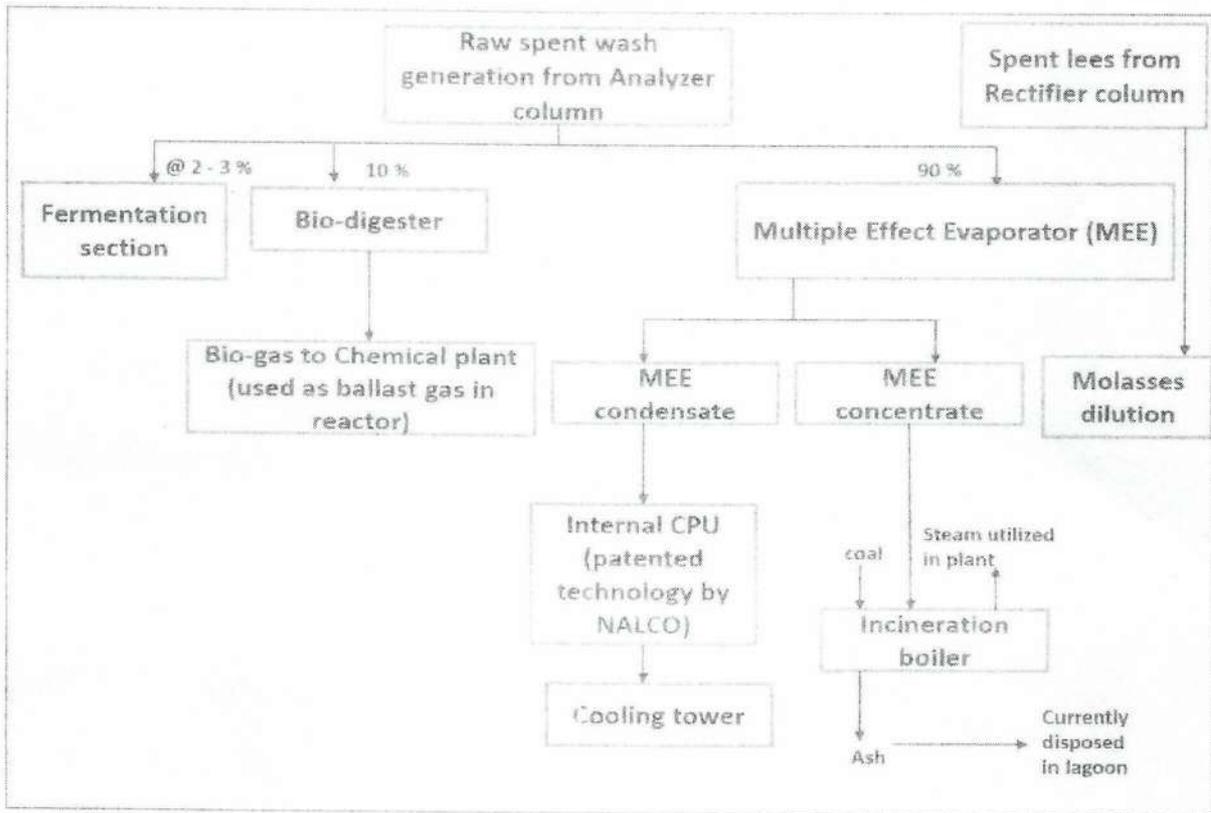
Sr. No.	Unit Name	Nos.	Designed Capacity	Feed
i.	Bio-digesters	Total-12 Operational-02 (01-BCCR* & 01-MUR*)	120-125 m ³ /day	
ii.	MEE - 05 Effects (Falling film 03 Nos. + Forced circulation 02 Nos. + Falling film 02 Nos. as standby)	01	2160 m ³ /day	
iii.	In-house Condensate Polishing Unit (technology by NALCO Water India Ltd.- Placed at Annexure-7.4)	-	It's patented technology, hence details could not provided	
iv.	Incineration Boiler (Slop fired furnace) followed by Super Heater fired furnace to super heat the saturated steam generated from slop furnace	01	36 TPH	

*BCCR-Biological conditioning & control reactor, MUR-Methane Up-flow Reactor

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Flow diagram of Spent wash management system is as below:



9. Details of Spent wash management unit

i. Bio-digester/Bio-methanation plant (as primary treatment unit):

Type of technology- Up flow Anaerobic Sludge Blanket (UASB)

Total no. of digesters - 12

No. of operational digesters - 02 (since 2017)

Types and capacity of operational digesters:

Type	BCCR type	MUR type
Capacity	3851 m ³	7427 m ³
Hydraulic retention time	30.80 days	59.42 days

Raw spent wash feed to digester - 120-125 m³/d; y

Total biogas generated - 5400-5500 Nm³/day

Utilization of biogas- Methane in biogas is utilized in Chemical Plant as ballast gas

ii. Multi Effective Evaporator (as secondary treatment unit):

MEE technology: Standalone spent wash evaporation plant

Stages & type: 5 Effects (Falling film 3 Nos. + Forced circulation 2 Nos. + Falling film 02 Nos. as standby)

Designed feed capacity -2160 m³/day

MEE performance (Avg. of last 03 months):

S. No.	Parameters	Details
1.	Feed rate	48521 kg/hr, 869716 m ³ /day
2.	Solid content in feed	12.4-12.5%

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3.	Concentrate generation	12166.67 kg/hr, 199281 m ³ /day
4.	Solid content in concentrate	50-51 %
5.	Operation hour	16-19 hrs/day
6.	Frequency of Cleaning in Process (CIP)	4 hrs after every 15 days

Mass flow meter installed at inlet and outlet of MEE

MEE condensate: utilized in Cooling Tower and Fermentation

MEE concentrate: burnt in incineration boiler

iii. Incineration Boiler (Final/tertiary treatment unit):

For Incineration of concentrated spent wash

No. of incineration boilers: 01

Slop fired boiler-36 TPH (42 Kg/cm² working pressure) followed by Super Heater - 16.5 TPH (42 Kg/cm² working pressure) to super heat the saturated steam generated from slop furnace, Total capacity-52.5 TPH

Subsidiary Fuel: Coal

Ratio of Slop: subsidiary fuel- 50:50

S.No.	Description	Details
1.	Solid content %	50-51 %
2.	Type of fuel used with consumption/day	Coal: 280-320 MT/day SLOP: 394-400 MT/day
3.	Height of Chimney	Slop fired furnace: 100 m
4.	Emission control system/APCD	Electrostatic Precipitator (ESP)
5.	Average ash generation	125-128 MT/day
6.	Method of disposal of Ash	Ash generated from super heater furnace is 66 MT/D and is used by cement plants. Ash generated in SLOP furnace is 62 MT/D, Presently being used for filling of lagoon.

10. Steam generated from the distillery plant's incineration boiler is utilized in distillation & evaporation (MEE).

11. During inspection, all spent wash management facilities of the distillery plant viz. Bio-digester, Multiple Effective Evaporator and Incineration boiler (slop fired furnace) were found operational.

12. For alcohol production at consented capacity of 240 KLD, the raw spent wash (RSW) generation work out to 1855.2 KLD (240 KLD*7.73 KL/KL of alcohol production). Spent wash generation rate of 7.73 KL/KL of alcohol production, is as per unit's submitted adequacy (prepared by VSI-Pune) for Year: 2017.

13. As informed, out of total generated RSW, @ 2-3 % is being recycled in fermentation section. Out of remaining RSW, @ 10 % is fed to bio-digester and @ 90 % of RSW is directly fed to MEE after mixing with bio-methanated spent wash.

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14. The unit has five Effects (Falling film 3 Nos. + Forced circulation 2 Nos. + falling film 02 Nos. as standby) MEE of 2160 m³/day capacity. As per information provided by unit representative, MEE concentrate after 5th stage (at ~ 50% Total solids) is used in slop Boiler.
15. Concentrated spent wash after 5th stage of MEE called as 'slop' is directly feed to slop (incineration) boiler and there was no provision for sample collection, hence sample from inlet of incineration boiler could not be collected. However, sample from MEE outlet i.e., MEE concentrate was collected.
16. As informed, the unit has in-house Condensate Polishing Unit for treatment of MEE condensate. This condensate treatment technology is provided by NALCO Water India Ltd. and that is a patented technology. Document regarding the technology by NALCO Water India Ltd. as provided by the unit is placed at **Annexure-7.4**. Spent lees is being utilized for molasses dilution.
17. Mass flow meter with totalizer has been installed at MEE feed and MEE outlet after 5th stage. Mass flow meter readings (Totalizer and Flow rate) observed during inspection are as follows-
- MEE feed reading - 34561.8 Metric Tons having mass flow rate 66.1 MT/hr (62.36 m³/hr, considering Sp.Gr.1.06);
 - MEE concentrate (Slop, after 5th stage)- 252309.0 MT having mass flow rate 18.9 MT/hr (16.29 m³/hr, considering Sp.Gr.1.16);
- Based on above mass flow meter readings, MEE is achieving an efficiency of 86.3 %.
18. As per the logbook data submitted by the unit, month wise total raw spent wash generation, alcohol production and spent wash generation per KL of alcohol production is as below:

Table 7: Month wise SW generation and SW generation per KL of alcohol production

Month	Spent wash generation (KL)	Production (in KL)	Avg. Spent wash generation per KL of alcohol production (KL/KL)
Jan-2020	28500.94	4328.88	6.58
Feb-2020	27678.30	3237.03	8.55
March-2020	28134.91	3688.93	7.63
April-2020	27094.34	3484.00	7.78
May-2020	31727.36	4149.63	7.65
June-2020	26863.21	3793.40	7.08
July-2020	31248.11	4083.71	7.65
Aug-2020	31489.62	4110.68	7.66

Sept-2020	36274.53	4736.72	7.66
Oct-2020	31810.38	4148.72	7.67
Average of 10 months (from Jan-2020 to Oct-2020)			7.59

19. As per the logbook data submitted by the unit, month wise total concentrated spent wash (slop) generation, total concentrated spent wash (slop) and subsidiary fuel feed to Incineration boiler is as below:

Table 8: Month wise concen. SW (slop) generation, concen. SW and subsidiary fuel feed to incineration boiler

Month	Concentrated Spent wash generation (MT)	Concen. Spent wash (slop) feed to incineration boiler (MT)	Subsidiary fuel (coal) feed to incineration boiler (MT)	Total Feed (MT)	Ratio of Slop:Coal feed to Incineration boiler
Jan-2020	8937	8937	7996	16933	53:47
Feb-2020	6588	6607	7841	14448	46:54
March-2020	7385	7385	6456	13841	53:47
April-2020	7249	7249	8408	15657	46:54
May-2020	8374	8424	8278	16702	50:50
June-2020	7879.5	7659	7703	15362	50:50
July-2020	8299	8299	8217	16516	50:50
Aug-2020	8417	8462	8943	17405	49:51
Sept-2020	9544	9544	7499	17043	56:44
Oct-2020	8503	8503	8857	17360	49:51
Total	81175.5	81069	80198	161267	50:50

20. During inspection the unit representative informed that, they are maintaining 70:30 ratio for concentrated spent wash (slop) and subsidiary fuel in incineration boiler, however from the above data, it can be concluded that, the unit is maintaining about 50:50 ratio for concentrated spent wash (slop) and subsidiary fuel in incineration boiler.

21. At the time of inspection, a drain was observed near incineration boiler, it was informed by the unit representative that, the drain is provided to collect floor washing as well as other cleaning waste water from boiler area and this waste water is utilized for ash quenching and coal dust suppression.

To access the quality of that waste water, a sample was collected from the said drain. As per the analysis result, it has color-2156 hazen, pH-6.6, COD-4216 mg/l, BOD-2567 mg/l, TDS-3940 mg/l and TS-4400 mg/l (refer Table 11 for analysis result).

22. As per the data submitted by the unit, month wise ash generation, ash supplied for cement industry, ash supplied for brick manufacturing and ash used for lagoon filling from Jan-2020 to Oct-2020 is as below:

Table 9: Month wise ash generation, ash for cement industry, ash for brick manufacturing and ash for lagoon filling from Jan-2020 to Oct-2020

Month	Fly ash for Cement industry (MT)	Cinder ash for brick mfg. (MT)	Ash for lagoon filling (MT)	Total (MT)
Jan-2020	2328.690	19.050	6547.570	8895.310
Feb-2020	2683.650	0	6675.280	9358.930
March-2020	2007.380	25.400	8510.480	10543.260
April-2020	255.490	50.8	10069.610	10375.900
May-2020	1072.270	6.350	10038.520	11117.140
June-2020	1037.060	95.250	7620	8752.310
July-2020	251.470	109.600	9863.880	10224.950
Aug-2020	1504.710	52.400	9677.100	11234.210
Sept-2020	217.590	13.100	11631.980	11862.670
Oct-2020	31.040	13.100	10887.930	10932.070
Total	11389.350	385.050	91522.350	103296.750

23. Agreement of the unit with Shree Cement Ltd. (SCL), Beawar, Ajmer, Rajasthan to take off fly ash/bottom ash is valid from 01.04.2017 to 31.03.2020 (**Annexure-7.5**).
24. At the time of inspection, 02 nos. of discarded aeration lagoons located near incineration boiler were observed inside the unit premises. As informed by the unit representative, previously (about five years before) those were aeration tanks and were being used to store Bio-methanated spent wash (BMSW). Afterwards, they started filling both the lagoons with fly ash and sludge. Both the discarded aeration lagoons are lined and as per the details submitted by the unit, total volume of both discarded aeration lagoons is 25000 m³ (i.e. first lagoon-10,000 m³ and second lagoon-15,000 m³). 1st discarded aeration lagoon of capacity 10,000 m³ was found about 95 % filled and 2nd discarded aeration lagoon of capacity 15,000 m³ was found about 90 % filled with fly ash and sludge. However, during inspection, water logging was observed in both lagoons (**Fig. 1, Fig. 2 & Fig. 3**). Sample was collected from one lagoon at time of inspection.
25. Analysis result of the sample collected from discarded aeration lagoon shows (refer Table 11 for analysis result), color-2665 hazen, pH-7.9, COD-5920 mg/l, BOD-2460 mg/l and TS-9660 mg/l (0.9 %), which indicates characteristics of diluted bio-methanated spent wash having about 1 % solids concentration, that may be due to leaching from sludge used for filling the lagoons.
26. Besides discarded aeration lagoons, two clarifiers of 4166.64 m³ (i.e. first clarifier-18870 m³ and second clarifier-2279.64 m³) and two rectangular tanks were observed within the premises, which were not in use (**Fig. 4, Fig. 5 & Fig. 6**). As informed by the unit representative, that was old Effluent Treatment Plant (ETP) structure, which is not being used since long.

27. The unit has total 20 acres of bio-compost area to prepare bio-compost using press mud and diluted spent wash, located at Dabhora site. Out of total 20 acres, active area is 08 acres and remaining 12 acres is used for storage of press mud and ready bio-compost. Entire area of bio-composting is un-covered. During inspection, bio-composting was observed (**Fig. 7**).
28. As per the logbook data submitted by the unit, bio-composting was not in operation from 23.03.2020 to 31.05.2020 due to COVID-19 pandemic and from June-2020 to September-2020 due to monsoon season. Bio-composting operation has been started from 01.10.2020.

2.2 Background for Lagoons

- Initially, distillery plant had two streams of treatment facility to achieve ZLD, namely (a) 240 KLD stream having MEE and incineration boiler to achieve ZLD and (b) 98 KLD stream having bio-digester and bio-composting to achieve ZLD.
- Since the Unit failed to install MEE before bio-composting therefore production from 98 KLPD stream was stopped since January 2017 by UKPCB. The inlet pipeline of that lagoon was disconnected and sealed by UEPPCB on 28.01.2017.
- Till then, the Unit was only operating its 240 KLD stream and achieving ZLD through MEE followed by incineration.
- As per CPCB direction dated 07.12.2015, the 98 KLD stream having bio-digester and bio-composting to achieve ZLD, was allowed to store raw/bio-methanated spent wash in lagoons until 31.03.2016. The lagoons associated with the 98 KLD stream were in use for storage of spent wash until the issuance of closure direction on 12.01.2017 and subsequent disconnection and sealing of the lagoons on 28.01.2017.
- Hence, the spent wash previously stored from the 98 KLD stream remained un-utilized in the sealed lagoons. Volume of spent wash found stored at the time of sealing was low, however due to deposition of rain water during subsequent monsoon seasons, the volume of diluted spent wash increased to 96000 m³ having pH 7.6-8.0, COD 14000-18000 mg/l and total solids less than 1%.
- Unit was jointly inspected by officials of CPCB, and officials of UEPPCB, on 09.01.2019, based on SMS Alert Monitoring System and found that, huge quantity of diluted spent wash (approx. 70,000 m³) was stored in the lagoons. To manage the diluted spent wash stored in the lagoons, the Unit was undertaking bio-composting over an area of 20 acres.
- CPCB issued show cause notice dated 07.02.2019 under section 5 of Environment Protection (Act), 1986 to the Unit as to submit a time bound action plan for complete safe disposal of approximately 70,000 m³ of diluted spent wash (which was found stored in the lagoons) as per SOP/Consent Conditions, to ensure that no runoff or



overflow occurs from the lagoons, to restrict lagoon capacity to seven days' equivalent of production etc.

- On 25.02.2019, the unit submitted a time bound action plan (validated by Department of Health, Safety, Environment & Civil Engineering, University of Petroleum and Energy Studies, Dehradun) to consume 96000 m³ (70000 m³ Stored effluent + 26000 m³ rain water) of diluted spent wash within two years i.e. 2019 to 2021.
 - As per the action plan, in parallel to utilization of stored spent wash through bio-composting (by maintaining press mud to spent wash in the ratio of 1:2), lagoon shall also be filled with fly ash and demolition waste to prevent further accumulation of rain water.
 - The utilization of diluted spent wash through bio-composting will be done during non-monsoon season only.
 - The level of spent wash in the lagoon is well below the upper ridge of the lagoon and there is no possibility of run-off.
 - The Unit has kept one lagoon within the premises for storage of concentrated spent wash equivalent to 07 days production (3920 m³).
- CPCB issued direction dated 14.03.2019 under Section 5 of Environment (Protection) Act,1986,
 - To utilize the diluted spent wash stored in isolated lagoons in bio-composting before June 30, 2021 as per standard operating process and the action plan.
 - To dismantle the lagoon after utilization of accumulated spent wash and to submit the documentary evidence when the lagoon gets emptied.
 - Continue to achieve ZLD and to restrict the impermeable storage of lagoon of spent wash to 07 days equivalent as per the direction dated 07.12.2015 issued under section 18(1) (b) of Water (Prevention & Control of pollution) Act, 1974.
- As per the replies submitted by the unit vide letters dated 02.04.2019, 10.05.2019, 10.06.2019, 06.07.2019 and 08.08.2019,
 - The Unit completed the first cycle of bio-composting on 04.06.2019, where 12000 m³ of stored diluted spent wash was utilized maintaining press mud to spent wash ratio of 1:2 and cycle duration was 60 days.
 - The Unit purchased 7500 MT of press mud, of which 6000 MT was utilized in first bio-composting cycle.
 - The filling of lagoons is under progress with 47905 MT fly ash dumped in the lagoons till 31.07.2019.
- Joint Committee comprising of Member Secretary, CPCB and Member Secretary, UEPPCB, under the supervision of Justice (Retd.) Arun Tandon, carried out inspection of the Unit on 11.06.2019-12.06.2019 and observed that, lagoon for 98 KLD stream located at dabhora (which was directed by CPCB on 14.03.2019 to dismantle, by

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utilising diluted effluent through bio-composting by June 2021) was filled with diluted spent wash total volume of 96000 m³ (70,000 m³ stored effluent+ 26000 m³ rain water) with solid content less than 1%.

- Also the joint team observed one additional lagoon of 1,00,000 m³ capacity at dabhora site, which was unnoticed till then.
- Based on the observations made in the joint inspection report, CPCB issued direction dated 16.09.2019 under Section 5 of the Environment (Protection) Act, 1986 to the unit:
 - To dismantle/level/fill all excess storage capacity of lagoons in compliance to CPCB direction dated 07.12.2015 issued under section 18(1) (b) of Water (Prevention & Control of pollution) Act, 1974.
 - To dismantle/level/fill excess storage capacity of active lagoon located in its premise used for storage of concentrated spent wash from 240 KLD stream production and to have only storage capacity equivalent to seven days' production. Sludge/spent wash stored in the lagoon to be utilized as per conditions prescribed in the Consent to Operate and to submit time bound action plan within 15 days.
 - To comply with CPCB direction dated 14.03.2019 issued Section 5 of the Environment (Protection) Act, 1986.

2.3 Present Status of Lagoons

1. Presently, the Unit is only operating its 240 KLD stream and achieving ZLD through MEE followed by incineration.
2. Status of lagoons located at inside of the unit premises and at Dabhora site is as below:

Table 10: Status of Lagoons, located inside the unit premises and dabhora site

Sr. No.	Lagoon for stream	Observation during Joint inspection in Nov-2019	Observation during current inspection dated 28.10.2020	Current status
1.	Lagoon for 240 KLD stream (of 1,00,000 m ³ cap)*	Found closed/filled/levelled and plantation was under process	Found closed/filled/levelled and plantation has been completed (Fig. 8)	Completely filled and levelled
2.	Lagoon-1 for 98 KLD stream (of 3,50,000 m ³ cap)# (inlet pipeline disconnected and sealed by UEPPCB on 28.01.2017)	Filling of the lagoon by using fly ash was under process. (previously found filled with diluted spent wash total volume of 96000 m ³ (with solid content less than 1%))	was partially filled with diluted spent wash and filling/dumping of ash generated from it's slop fired boiler after utilizing the stored diluted spent wash in bio-composting was under progress (Fig.	@75-80 % filled

Or

			9 & Fig. 10) in compliance of CPCB direction dated 14.03.2019	
3.	Lagoon-2 (of 1,00,000 m ³ cap)#	was unnoticed till then, but during inspection the same lagoon was found with sludge with impervious lining	Converted in rain water harvesting/aqua culture/wetland development (Fig. 11) For the same the unit has obtained permission from UKPCB vide letter no. UEPPCB/HO/Con.I-8-DOI-III/1612 dated 02.01.2020. Permission letter received from UKPCB is placed at Annexure-7.6.	Found 1/3 rd filled with fresh water, no fish was observed

*Located inside the unit premises

Located at Dabhora site

- As per the documents provided by the unit, the quantity of diluted spent wash utilized in bio-composting from the lagoon-1 (of capacity 3,50,000 m³) is 18,000 m³ till Dec-2019, 15,798 m³ during Jan-2020 to March-2020 and 8,838 m³ in Sept-2020, making total of 42,636 m³.
- The unit has provided MS steel tank for storage of concentrated spent wash. Of capacity 3931 m³ (dia-20.6 mt & height-11.8 mt) equivalent to 07 days concentrated spent wash generation, located inside the unit premises near bio-digesters. MS Tank was found empty at the time of inspection.
- To assess the performance of Spent wash management system adopted by the unit, samples were collected from various locations. Details of sample collection points and analysis results are presented in Table 11. All samples were sealed in presence of officials of State Pollution Control Board and industry representatives. The sealed samples were submitted in CPCB laboratory for analysis.

3. Characteristics of samples collected from Molasses based Distillery unit:

Table 11: Analysis result of samples collected from distillery plant

Distillery Plant (Molasses based)								
	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	TSS (mg/l)	TDS (mg/l)	Colour (Hazen)
1.	Raw spent wash*	4.9	149170	50000	173854	-	-	-
2.	Raw Spent wash tank (feed to bio digester)	5.0	118240	46400	160230	-	-	-
3.	Inlet line of BMSW Collection tank	8.8	45600	12500	63650	-	-	-
4.	BMSW Collection tank	8.8	40000	7467	57320	-	-	-

5.	Feed to MEE	4.9	94600	31200	126060	-	-	-
6.	MEE Concentrate	5.2	472960	118000	666000	-	-	-
7.	MEE Condensate	3.6	4028	2633	136	-	76	6
8.	Spent Lees	4.5	584	367	132	BDL	76	-
9.	MEE Condensate after Treatment to Fermentation	4.1	2692	1680	336	-	100	25
10.	Drain near Incineration boiler	6.6	4216	2567	4400	-	3940	2156
11.	Lagoon at IGL Composting yard under dismantling	9.6	3108	745	8680	-	-	-
12.	Sprinkler for Bio composting from lagoon to pump at IGL composting yard	9.5	8840	2383	21710	-	-	-
13.	Discarded Aeration Lagoon	7.9	5920	2460	9660	-	-	2665

3.1 Observations on Analysis results

1. Sample collected from MEE inlet has total solid content of 1,26,060 mg/l (12.6 %). Sample collected from outlet of MEE has total solid content of 6,66,000 mg/l (66.6 %) which is higher than desired solid content of 50-55% to meet the calorific value to achieve self-sustaining incinerator.
2. The characteristics of sample collected from sprinkler for bio-composting from lagoon to compost yard, showed pH-9.5, COD-8840 mg/l, BOD-2383 mg/l and TS-21710 mg/l (2.17 %).
3. Sample collected from drain near incineration boiler (which is being used for ash quenching and coal dust suppression) shows color-2156 hazen, pH-6.6, COD-4216 mg/l, BOD-2567 mg/l, TDS-3940 mg/l and TS-4400 mg/l.
4. Analysis result of the sample collected from discarded aeration lagoon shows color-2665 hazen, pH-7.9, COD-5920 mg/l, BOD-2460 mg/l and TS-9660 mg/l (0.9 %), which indicates characteristics of diluted bio-methanated spent wash having about 1 % solids concentration.

4. Sewage Treatment Plant

1. The unit has one STP of 10 KLD capacity to treat domestic waste water of distillery plant and one STP of 40 KLD capacity to treat domestic waste water coming from residential colony located in the unit premises.
2. Both STPs are comprising of screening cum oil & grease trap, collection cum equalization tank, aeration tank, clarifier, pressure sand filter, activated carbon filter and filter press.
3. As informed by the unit representative, treated effluent from both STPs are utilized for horticulture purpose within the unit premises.




4. **STP for Distillery Plant:** Flow meter is not provided at inlet and outlet of STP. At the time of inspection, no flow was observed at outlet of STP. Sample from STP inlet was collected and sample from STP outlet could not be collected during inspection.
5. **STP for Residential Colony:** Flow meter is provided at inlet, however not provided at outlet of STP. To assess the performance of STP, samples were collected from inlet and outlet of STP for residential colony.
6. Analysis result of collected samples from STP for distillery plant and for residential colony are as below:

Table 12: Analysis result of samples collected from STP for residential colony and for distillery plant

Sewage Treatment Plant of Resident colony IGL										
Sr. No.	Sample Location	Color	pH	COD (mg/l)	BOD (mg/l)	TDS (mg/l)	TSS (mg/l)	NO ₃ -N	NO ₂ ⁻	NH ₃ -N
1.	STP Inlet (Residential colony)	22	8.1	45	21	552	39	1.3	0.50	28
2.	STP Outlet (Residential colony)	BDL	7.8	23	10	376	14	9.8	8.88	14
3.	STP Inlet (Distillery plant)	2636	9.1	1252	308	2216	122	-	-	148

4.1 Observations on Analysis results

1. Sample collected from inlet of STP for residential colony shows color-22 hazen, pH-8.1, COD- 45 mg/l, BOD- 21 mg/l, TDS-552 mg/l and TSS- 39 mg/l.
2. Sample collected from outlet of STP for residential colony shows color-BDL, pH-7.8, COD- 23 mg/l, BOD- 10 mg/l, TDS-376 mg/l, TSS- 14 mg/l, NO₃-N-9.8 mg/l, NO₂⁻ - 8.88 mg/l and NH₃-N-14 mg/l, which are complying w.r.t notified discharge norms.
3. Sample collected from inlet of STP for distillery unit shows color-2636 hazen, pH-9.1, COD- 1252 mg/l, BOD- 308 mg/l, TDS-2216 mg/l, TSS- 122 mg/l and NH₃-N-148 mg/l, which indicates possibility of mixing of domestic waste water with seepage of wastewater from the distillery plant.

5. Characteristics of waste water samples collected from drain located at upstream and downstream of the unit

- Joint team collected samples from the industrial drain located outside of the unit premises (adjoining to the unit), at upstream and downstream locations. Analysis result of the collected samples is as below:

Analysis result of the collected samples is as below:

Table 13: Analysis result of samples collected from industrial drain at u/s & d/s of IGL campus

Parameters	Industrial drain U/s of IGL campus	Industrial drain D/s of IGL campus	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.2	7.9	6.5-8.5
Colour (colour units)	33	-	15
COD (mg/l)	291	100	-
BOD (mg/l)	119	47	-
TDS (mg/l)	928	-	2000
TSS (mg/l)	58	21	
Chloride (mg/l)	-	48	1000
NO ₃ -N (mg/l)	-	1.3	45
As (mg/l)	BDL	BDL	0.05
Cd (mg/l)	BDL	BDL	0.003
Co (mg/l)	BDL	BDL	-
Cr (mg/l)	BDL	BDL	0.05
Cu (mg/l)	BDL	BDL	1.5
Fe (mg/l)	0.95	0.55	0.3
Mn (mg/l)	0.09	0.05	0.3
Ni (mg/l)	BDL	BDL	0.02
Pb (mg/l)	BDL	BDL	0.01
Sb (mg/l)	BDL	BDL	-
Se (mg/l)	BDL	BDL	0.01
V (mg/l)	BDL	BDL	-
Zn (mg/l)	0.07	BDL	15

5.1 Observations on Analysis results

- Sample collected from the drain at upstream location of the unit shows pH-7.2, color- 32 hazen, COD- 291 mg/l, BOD-119 mg/l, TDS-928 mg/l, TSS- 58 mg/l, whereas the sample collected from the drain at downstream location of the unit shows pH- 7.9, COD- 100 mg/l, BOD-47 mg/l and TSS- 21 mg/l.

6. Recommendations

1. The unit shall dismantle/completely fill/level both discarded aeration lagoons as well as discarded clarifiers and rectangular tanks located inside the unit premises near incineration boiler in scientific manner so that there shall not be any water logging.
2. In compliance to CPCB direction dated 14.03.2019, the unit shall utilize/consume the diluted spent wash stored in lagoon (of 3,50,000 m³ cap for 98 KLD stream,

- located at Dabhora site) in bio-composting before June 30, 2021 as per standard operating process and the lagoons may be filled with ash.
3. The unit shall comply with CPCB directions dated 14.03.2019.
 4. As per the analysis result of sample collected from the drain near incineration boiler (being used in ash quenching and coal dust suppression), indicates higher color, BOD, COD and TDS i.e., contaminated water. Hence, the unit shall use the waste water as MEE feed.
 5. The unit shall obtain valid agreement with cement industry to dispose of fly ash/bottom ash, as the existing agreement has been expired in April-2020.
 6. The unit shall install flow meters at outlet of STP at residential colony and inlet and outlet of STP at distillery plant and shall keep/maintain record of treated sewage being utilized for horticulture.
 7. Analysis result of sample collected from inlet of STP for distillery plant shows high color, pH, BOD, COD, TDS and TSS, hence mixing of domestic wastewater with seepage of waste water from distillery could not be ruled out. The unit shall ensure that no effluent get mixed with domestic wastewater, shall reach to STP for treatment.

7. Photographs

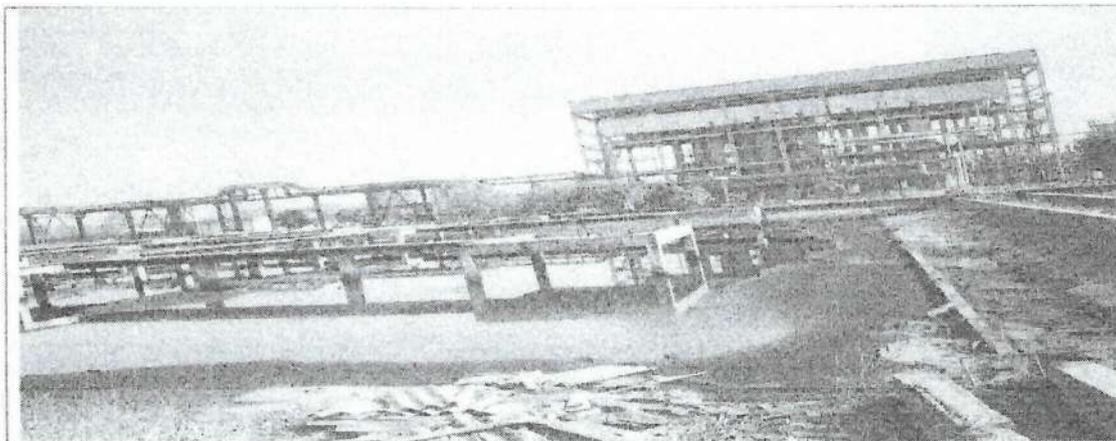


Fig. 1 Discarded lagoon-1 located inside the unit premises

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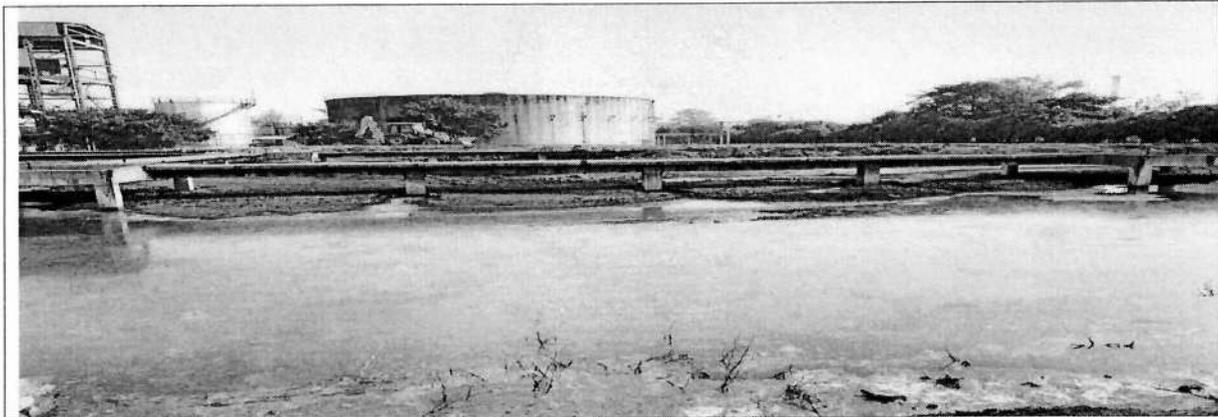


Fig.2 Discarded lagoon-2 located inside the unit premises

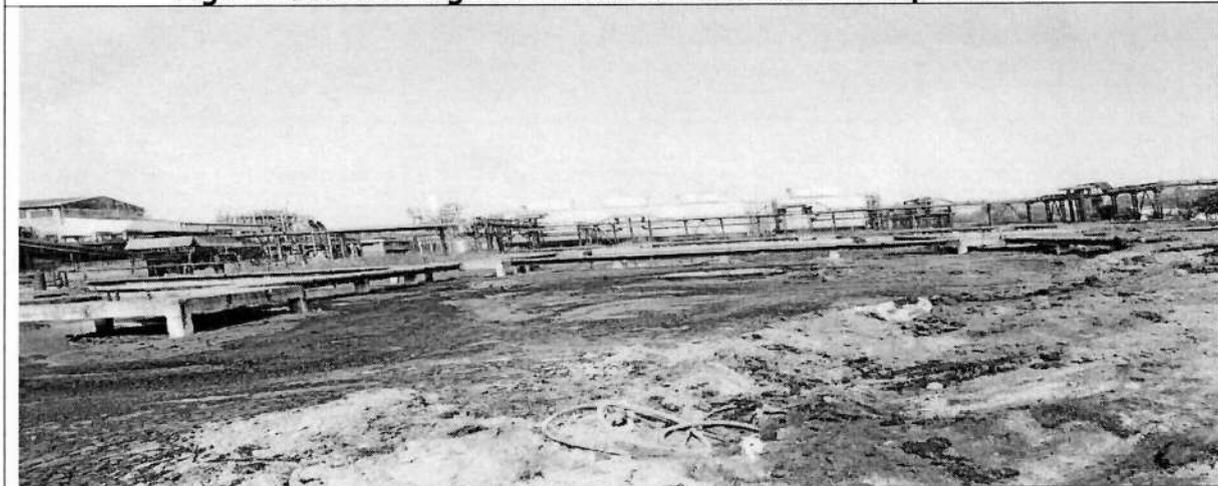


Fig.3 Discarded lagoon-2 located inside the unit premises



Fig.4 : Un-used Clarifier-1

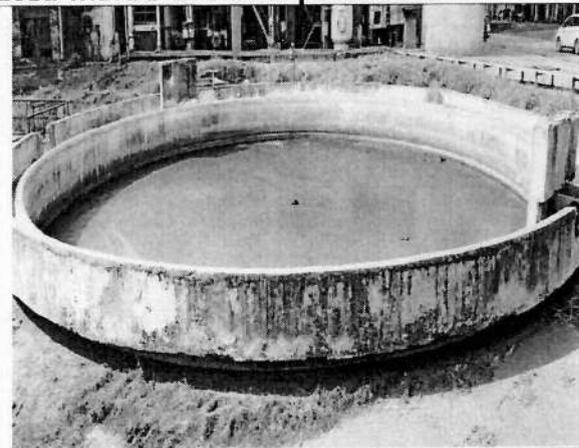


Fig.5 : Un-used Clarifier-2

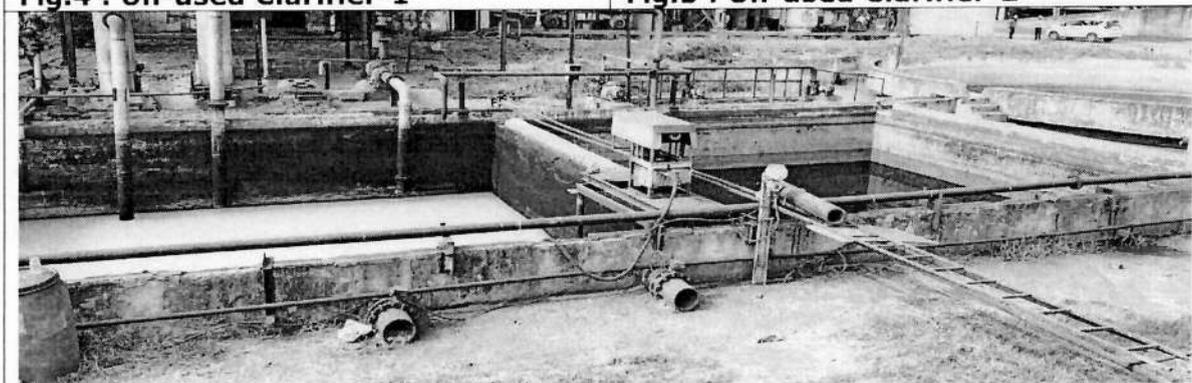


Fig.6 : Un-used Rectangular tanks

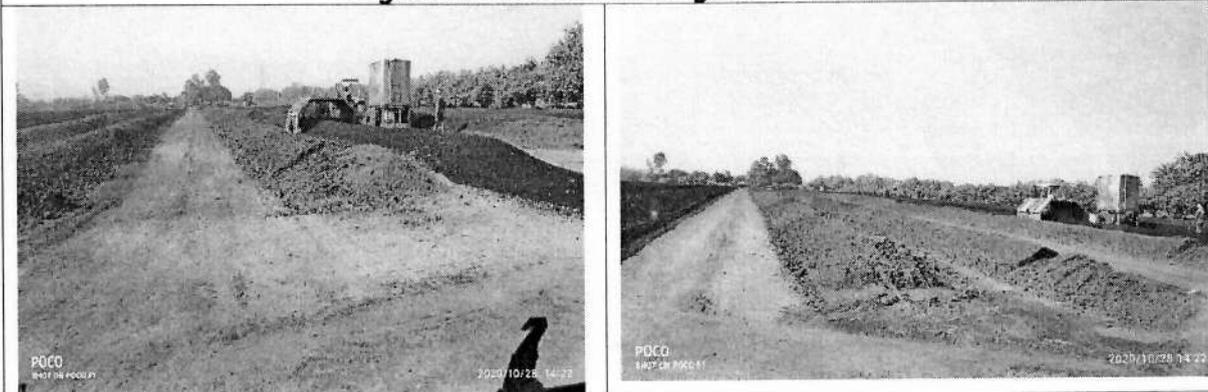


Fig. 7 Bio-composting (at dabhora site)



Fig. 8 Filled/levelled Lagoon (at inside of the unit) with plantation



Fig. 9 Half filled lagoon-1 (at dabhora site)

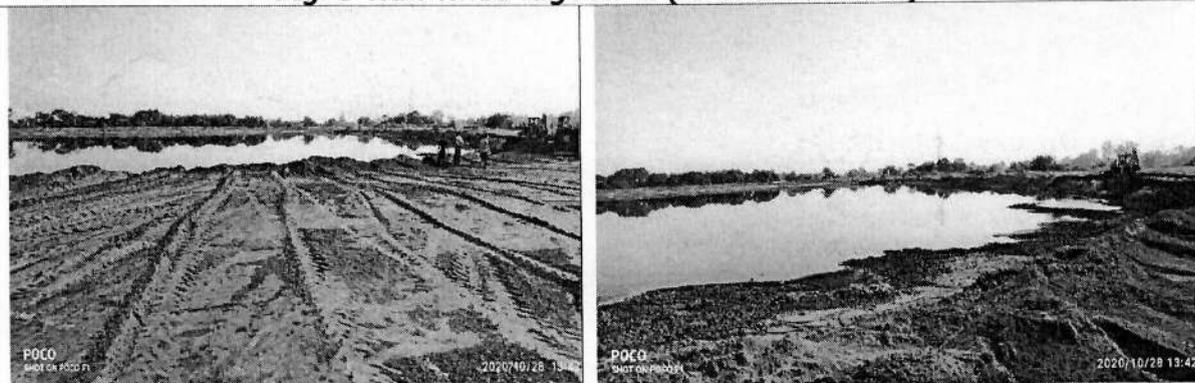


Fig. 10 Lagoon-1 (at dabhora site)



Fig. 11 Lagoon-2 of 1,00,000 m³ capacity (at dabhora site)

Signature of the inspecting officials

Sr. No.	Name of the Officials	Signature
1.	Mrs. Reena Satavan, Sc.'D', CPCB, Delhi	<i>Reena</i>
2.	Dr. R. K. Singh, Sc.'D', CPCB, Delhi	<i>R.K. Singh</i>
3.	Dr. Ajeet, Assistant Scientific Officer, RO Kashipur, UKPCB	<i>Ajeet</i>
4.	Dr. Firoz Ahmad, RA-III, CPCB, Delhi	<i>Firoz</i>
5.	Ms. Anshul Kumari, RA-III, CPCB, Delhi	<i>Anshul</i>
6.	Mrs. Shivangi Goswami, RA-II, CPCB, Delhi	<i>Shivangi</i>



HEAD OFFICE
Uttarakhand Environment Protection and Pollution Control Board
29/20, Nemi Road, Dalanwala, Dehra Dun (Uttarakhand)

Phone : 0135-2658086, Fax : 2718092. Web : www.ueppcb.uk.gov.in. E-mail : msukpcb@yahoo.com

UEPPCB/HO/Con-I-8/2018/ 109

Date: 20.04.2018
REGD. POST

To,
 M/s India Glycols Ltd-Ethanol Plant,
 Plot No. A-1, Industrial Area, Bazpur Road,
 Kashipur, Distt- U.S.Nagar.

Consolidated Consent to Operate and Authorization hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) under Section-25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2)" of the "Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and Hazardous & Other Wastes Rules, 2016 respectively).

PCB ID - 10069	Inward ID - 238302
CCA (Renewal)	
Consent No. 38036/ 759	Date :- 26.03.2018

CCA is hereby granted to M/s India Glycols Ltd-Ethanol Plant located at Plot No. A-1, Industrial Area, Bazpur Road, Kashipur, Distt- U.S.Nagar subject to the provisions of the Water Act, Air Act and Hazardous & Other Wastes Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for a period up to 31.03.2023 and valid for manufacturing of following products with Capital Investment/Net Assets Values ₹ 14.91Cr :-

S. No.	Last CCA		Present CCA (Renewal)	
	Product	Quantity (Per Month)	Product	Quantity (Per Month)
1	Alcohol	7200KLT	Alcohol	7200KLT

2. Specific Conditions under Water Act :-

- (i) The daily quantity of effluent discharge (KLD) :-

	Last CCA	Present CCA (Renewal)
Trade Effluent	Nil	Nil
Sewage	Nil	Nil

- (ii) Trade Effluent Treatment and Disposal:Nil.....

- (iii) Sewage Treatment and Disposal: The applicant shall provide comprehensive STP as is required with reference to influent quantity and quality.

In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (iv) The treated sewage shall be reuse in gardening and the same shall be maintained continuously so as to achieve the quality of the treated effluent to the following standards. As per the direction issued by CPCB for Sewage Treatment Effluent discharge standards meet the following standards given below within five years from date of notifications.

S.No.	Parameters	Present Standard for STPs	Standard for STPs to be achieved within five years.
I.	pH	5.5 to 9.0	6.5 to 9.0

2.	BOD (mg/L)	Not more than 30	< 30
3.	TSS (mg/L)	Not more than 100	<100
4.	Fecal Coliform (MPN/100ml)	-	<1000

3. Conditions under Air Act :-

- (i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :

S. No	Stack attached with	Stack height (Mt)	Type of Fuel	Fuel Quantity	Emission Control Equipment	Emission standards not to exceed
1	Boiler (50TPH) x1Nos.	100	Slop & Coal	425 & 50MT	ESP	PM-150mg/N M ³
Not Applicable						

In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

Standards for Noise level in db(A) Leq	Industrial Area		Commercial Area		Residential Area		Silence Zone	
	Day time	Night time	Day time	Night time	Day time	Night time	Day time	Night time
	75	70	65	55	55	45	50	40

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. Conditions under Hazardous & Other Wastes Rules-2016 :-

- (i) Number of authorization and date of issue : -----
 (ii) The **Factory Manager** ofNil..... is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.
 (iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

S.No.	Category (Schedule-I & Schedule-II)	Quantity of Waste for which authorization is being issued (MTA)	Mode of Disposal
Not Applicable			

- (iv) The authorization shall be in force for a period fromNil.....
 (v) The authorization is subject to the conditions stated below and such conditions as may be specified in the rules for the time being in force under Environment (Protection) Act, 1986.

Terms and conditions of authorization :-

- (i) The authorization shall comply with the provisions of the **Environment (Protection) Act, 1986**, and the rules made there under.
 (ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.
 (iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.

- (iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
- (v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.
- (vi) An application for the renewal of an authorization shall be made as laid down under these rules.
- (vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.
5. This CCA is valid for Fermentation & Distillation Processes only.
6. **Compulsory documents to be submitted by the Industry/Unit :-**
- (i) Annual return in Form-4 and Waste Disposal Manifest in Form-10 under Hazardous & Other Wastes Rules-2016 and Third Party Audit Report.
 - (ii) Environment Statement in Form-V of Environment (Protection) Rules, 1986.
 - (iii) Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.
7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.
8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.
9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the Water Act, Air Act and Hazardous & Other Wastes Rules-2016 will result in legal action under the aforesaid Acts and Rules.


Member Secretary

Copy to: Regional Officer, Uttarakhand Environment Protection and Pollution Control Board, Kashipur, Distt- U.S.Nagar for information and compliance of the same.

Chief Environment Officer

Annexure

Specific Conditions:

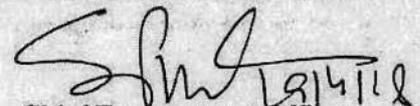
1. The applicant shall provide ISI mark water meter to each water supply source and shall regularly submit returns of water consumption in the prescribed form and pay the cess as specified under Section-3 of Cess Act.
2. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
3. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
4. The industry shall ensure interlocking of air pollution control devices and production processes.
5. A solid waste generated from the industry has to be disposed in manner so that contamination of surface water bodies/ground water/soil etc. does not take place.
6. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
7. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the Central Pollution Control Board.
8. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of Water Act, Air Act and Environment (Protection) Act and Rules made thereunder.

9. The industry shall ensure **all safety measures** and shall undertake **periodical assessment** by the competent authority.
10. Unit shall ensure manifest system in **Form-10 of Hazardous & Other Wastes Rules-2016** while disposing hazardous waste.
11. Hazardous waste should not be stored beyond a period of **90 days**.
12. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangement in such a way so that no waste water is discharged in water stream or water bodies.
13. The generated effluent shall be disposal through Multi effect and concrete (Slop) shall be used in boiler, while condensate shall be utilized process. No case spent wash/condensate shall be discharged in the land or water bodies.
14. **The unit shall strictly comply with the directions issued under Section-33(A) of the Water (Prevention & Control of Pollution) Act, 1974- regarding Zero Liquid Discharge (ZLD). This CCA is linked with timely compliance of directions issued time to time. In case of non-compliance the CCA issued to the unit shall stand withdrawn.**
15. **The Unit shall strictly comply with the directions issued under section-33(A) of the Water Act, 1974 regarding installation of Real Time Monitoring System & Regular Data Transmission to CPCB & UEPPCB.**
16. In case of non compliance of this CCA, the bank guarantee no. 50220IGL0008417 ₹5.0Lacs (Union Bank of India) shall be forfeited in favour of this Board.
17. The unit shall strictly comply with the provisions of Water, Air & E (P) Acts and Rules/Notifications made thereunder.

General Conditions :-

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF and shall report to the UEPPCB.
2. The applicant shall however, not without the prior consent of the **Board** bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the **Board**, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.
6. The industry shall provide uninterrupted entry to the STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
7. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.
10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The **Board** reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the **Board**.
14. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the **Board** to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.

17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on **Display Board of size 6x4 feet** out side the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in **Form-3** and shall submit annual return in **Form-4** on or before the 30th day of June following to the financial year to which that return relates.
20. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
21. Before the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed **physical and chemical analysis of hazardous waste sample** and report to the **Board**.
22. Dried hazardous sludge from the process in the plant shall be stored in **double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.**
23. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and 'Hazardous' shall be displayed at appropriate position both in Hindi and English.
24. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be **sold only to Registered Recyclers/Re-processors.**
25. In case of any transportation of hazardous waste, the details in **Form-10 of Hazardous & Other Wastes Rules-2016** shall be submitted to the **Board**.


Chief Environment Officer

No. 21-4(20)/UR/CGWA/2008-2290
Government of India
Ministry of Water Resources
Central Ground Water Authority
A 2, W 3, Curzon Road Barracks
Kasturba Gandhi Marg
New Delhi 110001

Dated: 26 FEB 2009

To:
Dr. Ashutosh Gautam
Deputy General Manager (Biogas & Enviro)
M/s India Glycols Limited
A-1, Industrial Area
Bazpur Road, Kashipur (U.S. Nagar)
Uttarakhand

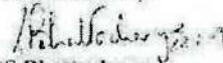
Sub: No Objection for withdrawal of ground water in respect of M/s India Glycols Ltd., for their unit located at Plot No. A-1, Industrial Area, Block & Tehsil Kashipur, District U. S. Nagar, Uttarakhand -reg.

Sir,
Kindly refer to your letter No. DGM/CGWB/KSP/2008/352 dated 22.12.2008 on the above cited subject. As the above mentioned site falls in 'Safe Category' area on ground water resource considerations, Central Ground Water Authority has no objection for the proposed withdrawal of 5096 m³/day of ground water in respect of M/s India Glycols Ltd., for their industrial unit located at Plot No. A-1, Industrial Area, Block & Tehsil Kashipur, District U. S. Nagar, Uttarakhand.

However, taking into consideration the adverse effect of the proposed ground water withdrawal that may arise on long term basis, the firm/ industry is advised to conduct a detailed hydrogeological investigation of the area and implement Rain Water Harvesting and Conservation measures, Recycling and Re-use of water and Monitoring of the ground water levels in and around the area. The data may be submitted to this office for perusal.

The NOC is valid till the area remains under Safe Category on ground water resource consideration, or, for a period of five years from the date of issue of this letter, whichever is earlier.

Yours faithfully,


(S Bhattacharya)
Scientist 'D'

for Member Secretary

Copy for information to:

- 1) The Regional Director, CGWB, UR, Dehradun.
- 2) The TS to Chairman, CGWB, NH-IV, Faridabad.

/
(S Bhattacharya)
Scientist 'D'
for Member Secretary

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines . Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m³/day through certified auditors within three months of completion of the same to CGWA.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.
- 11) **Firm shall submit Water Audit Report prepared by certified auditors by 31/12/2020.**

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Annexure - 7-4



Nalco Water India Limited
Unit No. 225 (A & B),
2nd Floor, Vipul Agora,
MG Road, Gurgaon (Haryana)
Office : +91 124 4409520

Ref : PK/NWIL/IGL/300116
India Glycols Limited,
Bazpur Road,
Kashipur.

Feb 08, 2016

Kind Attention : Mr. S.C. Tewari, JGM (Utility)
Subject : CW Revised Offer for Distillery Cooling Towers

Dear Sir,
This refers to the discussion had with your good self-regarding the subject matter. We take this opportunity to thank you for the trust imposed in Nalco and allowing us to submit the revised offer for the same.

We have done the complete survey of your system and based on the data collected and the water analysis we are pleased to give hereunder the revised treatment program for distillery cooling towers.

We trust above is in line with your requirement. Should you need any further clarifications please feel free to contact us.

Thanking and assuring you of our best services and attention always.

Yours truly,
For Nalco Water India Ltd.

Anubhav Mishra
Area Sales Leader

Technical Offer

System Details:

System	Flow Rate (m ³ /hr)	Hold Up (m ³)	Delta T (deg C)	COC (unitless)	Evaporation (m ³ /hr)
FCT	1050	200	7	COC@5	16.4
DCT	1350	390	10	COC@7	24.30
ENA DCT	900	200	8	COC@7	10.7

Make Up Water Analysis:

(When Using blend of Evaporator Condensate & Raw Water in the ratio 80 : 20)

(Evaporator condensate = 80% and Raw Water = 20%)

S.No.	Parameter	Condensate	Raw water	Mixed MakeUp (30:70)
1	Alkalinity Total (as CaCO ₃), mg/l	0	190	133
2	Aluminium (as Al), mg/l	0	0	0
3	Calcium (as Ca), mg/l	12	110	80.6
4	Chloride (as Cl), mg/l	13	20	17.9
5	Chromium Total (as Cr), mg/l	0	0	0
6	Magnesium (as CaCO ₃), mg/l	14	70	53.2
7	Nitrates (as NO ₃), mg/l	0	0	0
8	pH Value at 25°C	3.2	7.5	
9	Phosphorous, mg/l	0	0	0
10	Silica mg/l	0	25	17.5
14	Hardness Total (as CaCO ₃), mg/l	44	180	139.2
15	Iron Total (as Fe), mg/l	0.088	0.01	0.0334
18	Chemical Oxygen demand (COD), mg/l	6000	10	1807
19	Total Dissolved Solids -PPM	300	300	300
20	VFA mg/l	5485	0	1645.5

Existing Program Vs Proposed Program:

	Existing Program	Existing Doses/month	Existing Cost/month	Revised Program	Revised Doses/month	Revised Cost/month	Remarks
Scale & Corrosion Control	N 3236	42	5796	N 3236	42	5796	No change
	N 7384	35	3430	N 7384	35	3430	No change
	3DT 199	9	3429	3DT 199	9	3429	No change
	N 7401	104	10608	N 7401	104	10608	No change
	N 1393	24	4176	N 1393	24	4176	No change
Microbiology Control	N 73550	13	4745	N 73550	35	12775	Increased
	N 2593	66	8250	N 2593	99	12375	Increased
	N 5705	66	12408	N 5705	99	18612	Increased
	N 3050S	68	10268	N 3050S	450	67950	Increased
	CB 70	0	0	CB 70	288	57600	Increased
	Total		63110			196751	

Chemical Treatment Program & Dosage:

Product	Function	Frequency	Monthly Requirement
N - 3236	MS Corrosion Inhibitor	Daily	42.00 Kg
N - 7384	MS Corrosion Inhibitor	Daily	35.00 Kg
3DT - 199	Cu Corrosion Inhibitor	Daily	9.00 Kg
N - 7401	Scale Dispersant	Daily	104.00 Kg
N - 1393	Scale Dispersant	Daily	24.00 Kg
N - 73550	Bio Dispersant	Daily	35.00 Kg
N - 2593	Non Ox Biocide	Twice/Month	99.00 Kg
N - 5705	Non Ox Biocide	Twice/Month	99.00 Kg
CB - 70	Ox Biocide	Daily	288.00 Kg
N 3050S	Clo2 Pre cursor	Daily	450.00 Kg

Tower Chemistry:

Tower Chemistry	Value	Unit
Tower pH	7.5-7.8	Unitless
Tower Calcium	<500	ppm Ca as CaCO ₃
Tower M Alkalinity	100(+/- 50)	ppm as CaCO ₃
Tower Conductivity	3,500	µS/cm
Tower Aluminum	0.0	ppm Al
Tower Ammonia	0.0	ppm NH ₃
Tower Chloride	160	ppm Cl
Tower Iron	0.0	ppm as Fe
Tower Magnesium	360	ppm Mg as CaCO ₃
Tower Manganese	0.0	ppm Mn
Tower Silica	108	ppm SiO ₂
Tower Sulfate	827	ppm SO ₄
Tower Turbidity	0	NTU
TVC	100000	Counts/ml
SRB	100	Counts/100 ml
MS Corrosion rate	<3	MPY

Considerations:

- ✓ Makeup water should be added from the cooling tower deck to reduce the temperature & reduction in COD level up to some extent.
- ✓ COD in makeup water remain less than 2000 ppm.
- ✓ Chlorine dosing should be on continuous basis maintaining 0.5 ppm free residual.
- ✓ No oil or Hydrocarbon contaminations.
- ✓ CB-70/N 3050S quantities & dosages might be varying depending upon the situation to maintain cleanliness in the system.
- ✓ We suggest start taking condensate step by step and will increase quantity slowly as per system response.
- ✓ We have considered current COC(5-7) for calculation. However the same can be concluded during operation.
- ✓ Nalco proposed higher dosages of N 73550 to keep the system (includes Fills cleaning) as much cleanly as possible. It is targeted to maintain the system cleaning frequency as per current practice. However, the exact frequency can be decided after one month of operation. N 73550 shall be slug dosed once in 15 days to avoid slime deposition.
- ✓ It is advisable to make back flushing arrangement in critical exchangers to avoid clogging of exchanger tubes/passes.

Commercial Offer

Chemical Treatment Cost:

Product	Cost (Rs./Kg)	Monthly Consumption	Yearly Consumption	Yearly Cost (INR)
N - 3236	138.00	42.00 Kg	500.00 Kg	69000.00
N - 7384	98.00	35.00 Kg	400.00 Kg	3900.00
3DT - 199	381.00	9.00 Kg	108.00 Kg	41148.00
N - 7401	102.00	104.00 Kg	1248.00 Kg	127296.00
N - 1393	174.00	24.00 Kg	288.00 Kg	50112.00
N - 73550	365.00	35.00 Kg	417.00 Kg	153300.00
N - 2593	125.00	99.00 Kg	1188.00 Kg	148500.00
N - 5705	188.00	99.00 Kg	1188.00 Kg	223344.00
CB - 70	200.00	288.00 Kg	3456.00 Kg	691200.00
N-3050S	151.00	450.00 Kg	5400.00 Kg	815400.00
Total				2358500.00

Special Note:

The above chemicals & cost is for normal operations with the given makeup water quality, any change in condition like process contamination, uncontrolled blowdown, changes in makeup water quality & COC will be treated as contingency & any extra chemical requirement for this period will be charged extra at actual.

Terms & Condition:

- o These prices are F.O.R. your site.
- o These prices are inclusive of packing & forwarding.
- o Excise duty @ 12.36% and Sales tax @ 2% (against form "C") charged EXTRA.
- o Any other taxes and duties shall be extra, if applicable at the time of dispatch.
- o 100 % payment is to be made within 30 days from the date of invoice.
- o The delivery time shall be minimum 3 weeks after receipt of P.O. & road permit.

Binod Kumar Jha

From: Madhup Misra
Sent: Tuesday, March 19, 2019 10:41 AM
To: Shikhar Chaturvedi
Cc: Amit Bohra; Sunil Joshi; Binod Kumar Jha; Puneet Kumar Sharma
Subject: RE: Dry ash lifting - IGL-Kashipur

Dear Chaturvediji,

With reference to your trailing mail and subsequent discussions with you, existing agreement between SCL & IGL related to cement grade dry fly ash is extended till 30th June'19 on same terms and conditions.

Regards,

Madhup Misra

Vice President

Head - Administration, Liaison, Security

Plant Finance, Accounts & Taxation

India Glycols Limited,
A-1, Industrial Area, Bazpur Road,
Kashipur - 244 713, Distt. Udham Singh Nagar (Uttarakhand)
GSTIN 05AAACI7246P1Z7
Mobile: +91 9837045061
Land Line: 05947-269107
Email: madhup.misra@indiaglycols.com

From: Shikhar Chaturvedi [mailto:ChaturvediShikhar@shreecement.com]
Sent: 19 March 2019 10:06
To: Madhup Misra <madhup.misra@indiaglycols.com>
Cc: Amit Bohra <BohraA@shreecement.com>; Sunil Joshi <JoshiSunil@shreecement.com>
Subject: Dry ash lifting - IGL-Kashipur

Shri Madhup Mishraji

This is reference to dry flyash agreement expiring on 31st March'19.

You may appreciate that presently ash offtake is suspended (through mutual understanding) due to high LOI issues and lifting would be restarted on indication from IGL about improvement in LOI content.

Therefore it is requested that existing agreement may be extended till 30th June'19 and in due course we will conclude the renewal proceedings.

Regards

Shikhar Chaturvedi
Shree Cement Ltd



Shree Cement Ltd is among India's "Top 100 Best Places to Work" and "Top 5 in the Manufacturing and Production Sector" by Great Place To Work ?, India.

Disclaimer: "The information in this e-mail and any attachments is confidential and may be legally privileged. It is intended solely for the addressee or addressees. If you are not an intended recipient, please delete the message and any attachments and notify the sender of misdelivery. Any use or disclosure of the contents of either is unauthorised and may be unlawful. All liability for viruses is excluded to the fullest extent permitted by law. Any views expressed in this message are those of the individual sender, except where the sender states them, with requisite authority, to be those of the organisation."



उत्तराखण्ड UTTARAKHAND

AGREEMENT
BETWEEN

N 553331

INDIA GLYCOLS LIMITED (IGL)

AND

SHREE CEMENT LIMITED (SCL)
BEAWAR, RAJASTHAN, INDIA

For
OFF TAKE OF FLY ASH

From
INDIA GLYCOLS LIMITED (IGL)
A-1, INDUSTRIAL AREA, BAZPUR ROAD,
KASHIPUR DISTT. UDHAM SINGH NAGAR,
UTTARAKHAND - 244713

Dated: Wednesday, 22 March, 2017

This Agreement for Off-Take of Fly Ash / Bottom Ash is entered on 22nd day of March, 2017 ("Commencement Date - 1st April 2017") between

1. M/s. INDIA GLYCOLS LIMITED, having its registered office at A-1, Industrial Area, Bazpur Road, Kashipur Distt. Udham Singh Nagar, Uttarakhand - 244713 (hereinafter referred to as the "Seller" or "IGL" which expression shall unless excluded by or repugnant to the context shall be deemed to include its successors in business and assignees) as the "FIRST PARTY";

AND

2. M/s Shree Cement Limited, a public limited company registered under Companies Act, 1956 and having its registered office at Bangur Nagar, Beawar- 305901, District- Ajmer, (Rajasthan) (hereinafter referred to as the 'Buyer" or as "SCL" which expression shall unless excluded or repugnant to the context shall be deemed to include its successors in business and assignees) as the " SECOND PARTY"



IGL and SCL shall be collectively referred to as the "Parties, and individually as the "Party".

RECITALS

- I.) WHEREAS "IGL" has captive coal based boiler/power plant for steam generation at its works at Kashipur. The generation of steam by Coal leads to the generation of residue, commonly known dry fly ash.
- II.) IGL is engaged inter alia in the business of sale of dry fly ash, being generated through its power plant and process boilers in the Kashipur complex.
- III.) IGL also developed facility for storage, loading and distribution of dry Fly Ash (hereinafter referred as the "Facility")
- IV.) AND WHEREAS "SCL" is engaged into business of manufacturing various grade of cement including PPC, and SCL has approached IGL, and being desirous and interested in lifting/utilizing the dry fly ash of "IGL" for long term & to use the said dry fly ash in the manufacturing of fly ash based cement i.e. PPC at its cement manufacturing unit located in Laksar (Roorkee) or any other grinding units and has accordingly approached the "IGL" for permitting same, which has been accepted by "IGL", to allow SCL to collect and transport the dry fly Ash from Kashipur.
- V.) AND WHEREAS both parties have also agreed to enter into an agreement on mutually agreed terms and conditions in token thereof.

NOW THEREFORE IN CONSIDERATION OF THE MUTUAL COVENANTS, UNDERTAKINGS AND PROMISES SET FORTH HEREIN, THE PARTIES AGREE TO AS FOLLOWS:

ARTICLE-1 DEFINITIONS AND INTERPRETATIONS

- 1.1. The following terms when used in capitalized manner in this Agreement shall have meaning as specified below:
 - 1.1.1. "Agreement" shall mean this agreement for off-take of fly Ash and all agreements between the Parties supplemental to or in amendment or confirmation of this Agreement.
 - 1.1.2. "Business Day" means a working day at IGL - Kashipur other than a Sunday and a holiday declared by IGL including any holiday declared subsequently after publication of it list of holidays applicable to IGL - Kashipur.
 - 1.1.3. "Annual Contracted Quantity (ACQ)" means yearly minimum Fly Ash quantity, which shall be made available at the Delivery Point (as defined below) by IGL and to be lifted and transported by SCL, during the term of this Agreement.
 - 1.1.4. "Commencement date" shall mean date following the Effective Date when SCL starts lifting and transportation of dry Fly Ash and Bottom Ash from the Delivery Point.
 - 1.1.5. "Effective Date" shall mean the date of signing of the Agreement by both the Parties.
 - 1.1.6. "Delivery Point" shall mean the nozzles/ outlets below the fly ash silos situated at plant premises. (To load fly ash into ~~bulkers/~~ closed body trucks placed by SCL or ~~bulkers/~~ closed body trucks placed by authorized transporter of SCL).



ARTICLE 2
SCOPE AND PURPOSE

- 2.1. IGL offers to supply the Annual Contracted Quantity (as defined at Article 4 below) of fly ash, to be generated from its facility to SCL/ associates of SCL for its captive consumption or any other allied business.
- 2.2 SCL shall arrange for onward transportation of Fly Ash and Bottom Ash from Delivery Point to its own plant/ its subsidiary plant at its own cost and subject to the compliance of applicable law.

ARTICLE 3
TERM

- 3.1. The Agreement shall come into effective on the Effective Date i.e. 1st April'2017, and will remain valid for a period of 2 (Two) years, unless terminated in accordance with Article 8 mentioned herein below. At the end of the Term, this Agreement can be renewed on fresh terms and conditions including Price consideration as may be mutually agreed upon by both SCL and IGL.

ARTICLE 4
ANNUAL CONTRACTED QUANTITY

- 4.1. Subject to the other terms and conditions of this Agreement and availability of adequate quantity of fly ash, SCL has desired to take away annual contracted quantity of 60,000 tons (sixty thousand tons) of dry Fly Ash per annum and 5000 tons on monthly basis.
- 4.1.1. IGL agrees to allocate fly ash to SCL on priority based on indicative lifting plan submitted by SCL on fortnightly basis.
- 4.1.2. Out of the Annual Contractual Quantity as per Article 4.1 above, SCL shall lift fly ash regularly.
- 4.1.3. The Parties shall have the option to enhance/ reduce the Annual Contracted Quantity, subject to availability and mutual written consent of the Parties.

ARTICLE 5
COMMERCIAL TERMS

- 5.1. **Price:** In consideration of SCL agreeing to take away annual contracted quantity of Dry Fly Ash per annum as agreed hereinabove, IGL hereby agrees to supply the agreed annual contracted quantity of Dry Fly Ash to SCL at price of Rs.150 per ton. In case of, if any, all statutory taxes, duties, levies etc., shall be payable by SCL at actual.
- 5.2 **Commodity/Product & Specifications:** The "Dry Fly Ash" required by the SCL is fly ash as would be generated from power and process boilers from "IGL". IGL will be dedicating their two boilers i.e. IJT-80 and TBW for delivering entire dry fly ash quantity generated to SCL.
- 5.3 **Quality:** The indicative quality of fly ash to be maximum 6% LOI, if LOI exceeds 6% on weekly average basis in fly ash same would not be usable in cement process. IGL has state of the art QC lab to analyze LOI content. However, in case of differences in LOI results given by IGL lab and SCL lab, joint analysis to be conducted at SCL lab or at IGL lab.



- 5.4 **Lifting Commitment:** SCL will ensure the regular lifting of fly ash from the ash silos, so that no point of time IGL's boilers and plant operations are affected. Total fly ash generated (cement grade) at IGL is approx. 5000 MT/month. SCL has to arrange lifting of this qty. IGL shall charge cost of fly ash for entire qty. generated (cement grade only). In case SCL is not able to lift the committed qty. and IGL has to dispose off the same then IGL shall charge additional Rs. 75 PMT as disposal cost over and above the material cost. IGL shall allow performance rebate up to 6% to SCL on the total qty. of fly ash generated in view of the traffic jams en route etc. This will be calculated on monthly basis. On the remaining 94% qty. SCL shall be charged basic price @ Rs. 150 PMT by IGL and disposal cost @ Rs. 75 PMT if any, shall be charged extra by IGL.
- 5.5 The clause 5.4 shall not be applicable during specific period of route closure due to Kaware yatra/ Kumbh snan etc. and also during annual maintenance shut/unforeseen breakdown at SCL's Laksar plant. SCL shall inform IGL about such planned shut downs and route related stoppages with duration of stoppage well in advance i.e. minimum four working days before so that IGL may organize alternative arrangement for ash lifting. Duration of stoppage can be of maximum 15 days and during these durations, the compensation as mentioned in clause 5.4 shall not be applicable. It also covers in the same manner for any preventive/ sudden plant shutdown taking place at IGL and affecting fly ash generation quantity.

ARTICLE 6
OBLIGATION OF THE PARTIES

- 6.1. **Loading:** Loading of the Dry Fly Ash shall be arranged by IGL from the silo into the bulkers, close body trucks/trailers as provided by the Transporters authorized by the SCL.
- The parties hereby agree that the fly ash shall be loaded by supplier at the delivery point where SCL shall place its bulkers / closed body trucks to collect fly ash at its own cost, supplier shall bear all cost for loading on the bulkers/close body trucks.
- 6.2 **Transportation:** The authorized transporter/Truck drivers/ helpers etc. of SCL will have to adhere to all the safety norms as laid down by IGL from time to time. SCL shall ensure safety of all its personal deputed for loading and taking away the Fly Ash from Kashipur in accordance with this Agreement.
- 6.3 The parties hereby understand and agree that IGL responsibility for any duty, obligation or liability of, either created under this Agreement shall be limited to the loading of the fly ash to the bulkers / closed body trucks placed by SCL at the delivery point and SCL shall be solely responsible for any duty, obligation, responsibility or liability of such fly ash once the bulker / closed body trucks etc. are loaded at the Delivery Point
- 6.4 The unit of measurement of each consignment of the Fly Ash shall be metric tonnes. The quantity of fly ash will be measured at IGL's weighbridge available within the facility shall be final and binding on SCL.
- 6.5 SCL shall be responsible to obtain, renew and keep in force all consent, permissions, licenses and approvals as applicable under the Applicable law to handle, off take, transport, and store and or use the Fly ash throughout the Term including any extension thereof.
- 6.6 All measures would be taken by SCL as per notifications issued by the State Pollution Control Board and/or the Ministry of Environment & Forests, Government of India, to avoid pollution while transportation of fly ash within the premises of the facility and during the transit time.



- 6.7 The responsibility of the materials and equipment brought by SCL will remain with SCL and any claim of whatsoever nature due to any loss or otherwise will not be entertained under this Agreement.

ARTICLE 7 CONFIDENTIALITY

- 7.1. Each of the Parties undertakes that it will not, during and for a period of 2 (Two) years after the termination of this Agreement, make any announcement or disclosure in respect of the subject matter of this Agreement or the terms and conditions thereof or of any document executed or delivered pursuant hereto, unless the other Party shall have given their respective prior written consent to such announcement or disclosure and the contents thereof.

ARTICLE 8 TERMINATION

- 8.1. **Termination:** Either party can terminate the contract by giving 2 months' notice. However notwithstanding anything hereinabove contained, in the event of IGL or SCL being adjudicated insolvent, or being a company resolved or ordered to be wound up, then in such event, the order shall automatically stand terminated and in event of breach, default or violation of any of the terms hereof by IGL or SCL for any reason whatsoever, both parties shall be at liberty to terminate this order forthwith and without prejudice to all other rights and claims of other party under this order or otherwise in law against the contract / order and either party shall not be entitled to any claim for loss, compensation or damages arising out of any such early termination.

MISCELLANEOUS

9 Contract Coordination

IGL and ACL shall appoint its authorized representative to co-ordinate all the issues related to this Agreement.

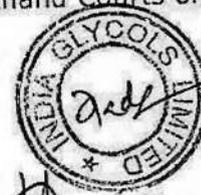
10 Arbitration

In the event of any Dispute or differences arising out of relation to under or in respect of this contract the parties, hereto, the same shall be referred at written request of either party to a sole arbitrator to be appointed jointly by the Chief Executive Officer of India Glycols Ltd., Kashipur, Uttarakhand and competent authority of SCL, Beawar, Rajasthan in accordance with Arbitration and Conciliation Act, 1996 and the Rules, if any, made there under and any statutory modification or reenactment thereof.

Any arbitration award made in such arbitration proceeding shall be final and binding on both the parties.

11 Governing Law and Jurisdiction

This contract shall be in all respects be deemed and constructed in conformity with Indian Laws and will be subjected to jurisdiction of Uttarakhand Courts only.



12 Notices

All notices, requests, demands and other communications which are required or may be given pursuant to the terms of this Agreement shall be addressed as follows:

If to SCL

To,
Sr. VP (Commercial)
Shree Cement Ltd.
Bangur Nagar, Post Box 33,
Beawar (305901)
Rajasthan

If to IGL

To,
Executive Director
IGL, A-1, Industrial Area,
Bazpur Road, Kashipur Distt.
Udham Singh Nagar,
Uttarakhand- 244713

Notice if delivered by hand shall be deemed to have been received on the date of delivery and if sent by registered post, shall be deemed to have been received upon the production of the postal receipt of payment for the registered post.

12.1 Entire Agreement

This Agreement constitutes the entire agreement and understanding between the parties and supersedes all prior agreements, contract and or understanding of the Parties, whether oral and written, with respect to such subject matter, if any.

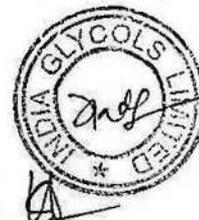
13 Bank Guarantee (BG) & Advance Money Deposit

SCL shall submit BG of Rs. 10 Lacs in favour of IGL which will be effective during the tenure of agreement period. BG can be en-cashed by IGL on breach of specified conditions as stipulated in BG itself and such specified conditions should be agreed by SCL & IGL.

At any point of time, SCL will maintain minimum Rs. 2 Lakh clear balance with IGL towards regular fly ash lifting for ensuring uninterrupted deliveries from IGL. This will be apart from funds remitted by SCL for daily fly ash lifting.

14 Force Majeure

The agreement is subject to force majeure conditions i.e. if, at time during subsistence of the agreement, the parties here to the agreement, because of Force Majeure, which shall mean natural disasters, earth quakes, floods, fire, explosion, accidents, epidemics, quarantine restrictions or any other act of public enmity including but not restricted to any business compulsion or shutdown /breakdown of plant operation, block of passage, revolution, riots, civil commotion, war, hostility, sabotage, quarantine restrictions, Act of God and act of Government and/or restrictions directly affecting the lifting of dry fly ash, epidemics, strikes, embargoes, save those specifically stated herein, it will not amount to non-fulfillment of the obligations under this agreement and the parties shall have no right to claim damages from each other and then the date of fulfillment of obligations shall be postponed during the time when such circumstances are operative. The party claiming Force Majeure shall notify the other party within seven working days after claiming party has notice thereof. The other party indemnify that NO CLAIM will be made in case of non/short supply or non/short lifting due to any unforeseen & non-intentional causes/circumstances.



15 Amendment

That this agreement can be amended or altered at any time with mutual consent of both the parties in writing by executing supplementary agreement.

That the parties hereby declare that they have requisite authority to enter into the present Memorandum of Understanding on behalf of their company.

Execution Page:

IN WITNESS WHEREOF the Parties hereto have set and subscribed their hand on the day and the year first herein above mentioned:

For INDIA GLYCOLS LIMITED (IGL)

For Shree Cement Limited

Signed and delivered by the

Signed and delivered by the

Signature: For India Glycols Limited

Signature: FOR SHREE CEMENT LIMITED

Name: Madhup Misra
(Madhup Misra)

Name: Arvind Khicha
ARVIND KHICHA

Designation: Vice President (F & A)

Designation: Sr. V. P. (Commercial)

For India Glycols Limited

A.K. Shishodia
(A.K. Shishodia)
A.G.M. (Accounts)



For SHREE CEMENT LIMITED

Arvind Khicha
Addl. General Manager (RMP)



INDIA GLYCOLS LIMITED

ISO 9001
ISO 14001
OHSAS 18001
ISO 22000
FSSAI 22000

A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Phone : +91 5947 269000 / 269500 / 275320, +91 0411101202, Fax : +91 5947 275315, 269535
Website: www.indiaglycols.com

January 10, 2020

To

Central Pollution Control Board
Parivesh Bhavan
East Arjun Nagar
Delhi

Kind Attention: Mr. Ajeet Vidyarthi, Addl. Director

Dear Sir,

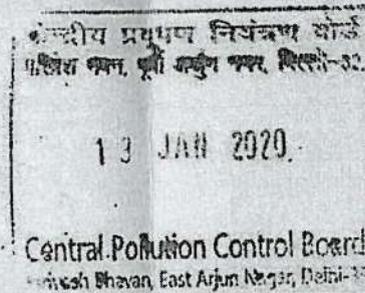
As per the advice of Mr Justice Tandon during site visit of our plant along with the joint committee on 15th November 2019, we have taken permission to utilize the 2nd part of our Lagoon at Dabhora for Rain Water harvesting/ Wetland development/ Aqua Culture from UEPPCB. The cleaning process has already been started and after cleaning it will made suitable to store the rain water before coming rainy season i.e. June -July 2020.the permission is attached as Annexure - I. We would like to assure you once again that the 1st part of the lagoon is under filling process and the filling will be completed by June 2021 as per CPCB directions.

Thanking you

Yours Faithfully
For INDIA GLYCILS LTD.


Dr. Ashutodh Gautam
Head - Environment

Annexure - A/A





मुख्यालय

उत्तराखण्ड पर्यावरण संरक्षण एवं प्रदूषण नियंत्रण बोर्ड

"गौरा देवी पर्यावरण भवन"

46बी, आई.टी. पार्क, सहस्रधारा रोड, देहरादून-248001

पत्रांक-यूईपीसीबी/एच.ओ./COA-I-8-10-III/1611

दिनांक/ 01.2020
03

सेवा में,

श्री0 इन्डिया ग्लोबल लि0,

ए-1, इन्डस्ट्रीयल एरिया, बाजपुर रोड,

काशीपुर, रुधमसिंह नगर।

विषय:- Permission for renovating and converting part-2 of old isolated Lagoons at Dabhora Site for Rain Water Storage/Aquaculture/Wetland के सम्बन्ध में।

महोदय,

उपरोक्त विषयक आपके पत्र दिनांक 18.11.2019 का संदर्भ ग्रहण करना चाहें, जिसमें आपके द्वारा दभोरा स्थित स्पेंट वॉश लagoon के एक हिस्से को (भाग-2) जिसमें वर्तमान में स्लज एकत्रित है, को Rain Water Storage/Aquaculture/Wetland में परिवर्तित करने हेतु सहमति चाही गयी है। जिसके क्रम में सदस्य सचिव महोदय के अनुमोदन के उपरान्त उद्योग को दभोरा लagoon के उपरोक्त भाग-2 को खाली कर Rain Water Storage/Aquaculture/Wetland बनाने की अनुमति निम्न शर्तों के अधीन दी जाती है:-

1. उद्योग द्वारा Sludge को निकालकर लagoon के भाग-1 में भण्डारित किया जाये।
2. लagoon के भाग-2 को चारों दिवारों व फर्श से पक्का करते हुये इसको Rain Water Storage/Aquaculture/Wetland के लिये प्रयोग किया जाये।
3. समय-समय पर (प्रत्येक त्रेमास में) स्थल की भू-गर्भीय जल की जाँच करायी जाये।
4. इस प्रकार के सुरक्षात्मक उपाय किये जायें, जिससे कि स्लज भण्डारण से लagoon के भाग-1 में भण्डारित तरल पदार्थ का over flow न होने पाये तथा remedial measures के तौर पर कार्यवाही हेतु plan तैयार किया जाये व on site emergency plan बनाया जाये।

बोर्ड को उपरोक्त शर्तों में किसी भी प्रकार का परिवर्तन करने का अधिकार होगा।

भवदीय

(एसओएसओ पाल)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि:- सदस्य सचिव महोदय को उनके अनुमोदन के क्रम में सूचनाार्थ सादर प्रेषित।

मुख्य पर्यावरण अधिकारी



INDUSTRY INSPECTION REPORT

		Date of Inspection: 28-10-2020												
1.	Name of the unit with complete Postal address:	M/s India Glycols Limited (Chemical Unit) A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar Uttarakhand												
2.	Spatial Co-ordinates (Longitude & Latitude) in Decimal format only.	29°10'30.39" N, 79°00'13.96" E												
3.	Name of the Contact person with designation, Telephone & e-mail	Dr. Ashutosh Gautam (Head - Environment) Mob. 9837242463 Email: ashutosh.gautam@indiaglycols.com												
4.	Date/Year of Commissioning	1989												
5.	Name of SPCBs Regional Office	Regional Office, Kashipur, U.S. Nagar, Uttarakhand Pollution Control Board (UKPCB)												
6.	Industry Operational Status	Operational												
7.	Water Consent: (Validity with date/ Expired/ Applied for renewal/First time Applied / Never Applied)	CCA (Consolidated Consent to Operate & Authorization) is valid up to 31 st March 2023 and amendment order of CCA dated 26.05.2018. Annexure -8.1.												
	Air Consent: (Validity with date/ Expired/ Applied for renewal/First time Applied / Never Applied)	CCA (Consolidated Consent to Operate & Authorization) is valid up to 31 st March 2023 and amendment order of CCA dated 26.05.2018. refer Annexure -8.1.												
	Hazardous Waste Authorization: (Validity with date/ Expired/ Applied for renewal/First time Applied / Never Applied)	CCA (Consolidated Consent to Operate & Authorization) is valid up to 31 st March 2023 and amendment order of CCA dated 26.05.2018. refer Annexure -8.1.												
	NOC from CGWA: (Validity with date/ Expired/ Applied for renewal/First time Applied / Never Applied)	Unit has obtained NOC for abstraction of ground water from CGWA up to 25.10.2023 Details are attached as Annexure-8.2.												
8.	Consented Production capacity (TPD) for each product:	<table border="0"> <tr> <td>1. Diethylene Glycol</td> <td>- 800MT per month</td> </tr> <tr> <td>2. EO Derivatives, Condensates</td> <td>- 5000 MT per month</td> </tr> <tr> <td>3. Ethylene Oxide</td> <td>- 4583 MT per month</td> </tr> <tr> <td>4. Mono Ethylene Glycols</td> <td>- 10000MT per month</td> </tr> <tr> <td>5. Power</td> <td>- 27.50 MWH</td> </tr> <tr> <td>6. Triethylene/Heavy Glycol</td> <td>- 100MT per month</td> </tr> </table>	1. Diethylene Glycol	- 800MT per month	2. EO Derivatives, Condensates	- 5000 MT per month	3. Ethylene Oxide	- 4583 MT per month	4. Mono Ethylene Glycols	- 10000MT per month	5. Power	- 27.50 MWH	6. Triethylene/Heavy Glycol	- 100MT per month
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4. Mono Ethylene Glycols	- 10000MT per month													
5. Power	- 27.50 MWH													
6. Triethylene/Heavy Glycol	- 100MT per month													

9.	Manufacturing Process details (attach process flow chart for each product)	Manufacturing Process details alongwith Process flow charts are attached as per Annexure -8.3.				
10.	Present production status for each product (provided by unit)					
	Month	MEG	DEG	TEG/HG Production	Glycol Ether Production	Total EOD Production
	April, 20	4082.807	292.03	9.248	4.708	594.186
	May, 20	4074.348	66.358	10.331	1.974	2431.986
	June, 20	1383.957	37.395	5.946	13.748	1829.709
	July, 20	4940.42	42.748	15.271	3409.793	3759.338
	August, 20	3617.968	16.518	24.429	2845.853	3708.491
	September, 20	3665.093	56.851	10.426	2124.092	3969.738
	Upto 27 October, 2020	2810.443	211.100	8.520	3241.940	5235.860
	Total	24575.036	723.173	84.171	11642.108	21529.308
	Unit: Metric Ton					
11.	Raw materials consumed (Tons per Ton of product) – Provided by unit	Name of RAW Materials	Name of products	Consumption of Raw Material per Unit of Output		
		Alcohol	Eq. EO	1.207-1.271 MT/MT		
			G. Ether	0.58 KL/MT		
		E.O.	G. Ether	0.052 MT/MT		
			Ethoxylates	0.57 MT/MT		
12.	Total water requirement (m ³ /day) (Water balance sheet provided by Unit)	Particulars	Water requirement (design basis)	Water requirement (actual-avg. Sep-Oct 2020)		
		Process	460.80	239.0		
		Cooling (make-up)	1982.40	1028.0		
		Boiler	446.40	212.08		
		Domestic	56.64	56.64		
		Total:	2946.24	1535.72		
		Water Balance is attached as Annexure -8.4.				
13.	Specific water consumption (kl/unit of product)	4.37 KL / MT of Product (design basis) 4.07 KL / MT of Product (actual-avg. Sep-Oct. 2020)				
14.	Source of water (Bore well/ surface / others)	Bore well (Total -- 05 no.)				
	Flow meter installed at bore well	Yes (Copy of Logbook is attached as per Annexure-8.5)				
15.	Waste water Generation (m ³ /day)	As per consent (m ³ /day)	Present status (m ³ /day) Avg.			
	Process effluent	540.0 259.0	Average: October- 442.09 m ³ /d September- 442.03 m ³ /d August- 444.29 m ³ /d			
	Domestic Waste water		45.0 m ³ /d			

	Total		799.0				
16.	Waste Water (effluent) Discharged (m ³ /day)		As per consent		Present status (m ³ /day)		
	Process effluent Discharged		540		460.8 m ³ /day (19.2 m ³ /hr at the time of visit)		
	Domestic waste water discharged		259		Recycle		
	Total Effluent Discharged:		799		460.8 m ³ /day		
	Specific Effluent Discharged (kl/unit of product)				0.80		
17.	Final Discharge Point of Treated Waste Water		Wastewater is treated through Distillation Column followed by aerobic biological treatment and finally passes through MGF/ACF and discharge through OCEMS in industrial drain and finally reached to Bahella-Kosi-Ramganga river.				
18.	Description of Effluent Treatment Facilities components with design details (Attach Flow chart)		Description of Effluent Treatment Facilities components with design details is attached as Annexure -8.6.				
19.	Source of air pollution	Chimney Details	APC Equipment			Emission Quality	
			Stipulated	Provided	PM	SO ₂	NO _x
	Boiler /Heaters Stacks	-		ESP, Bag Filter & Cyclone dust collector	Stack was not monitored during joint inspection. However, unit has provided stack emission monitoring reports from MoEF & CC approved Lab which are attached as per Annexure-8.7.		
20.	Details of DG Set		Capacity		Exhaust pipe height		Emission Std.
			3.0 MW x 02 Nos.		45 M		--
			4.0 MW x 02 Nos.		45 M		--
21.	Fuel Consumption		Type of fuel		Consumption (2019-20)		Used in
			Coal		176822 MT		Boilers
			Furnace Oil (RFO)		7504.737 MT		Heaters
22.	Type of waste generated		Quantity generated		Storage		Disposal
	Chemical Sludge:		As reported by unit representative, no chemical sludge is generated within the premises. The ETP sludge is being used as manure.				
	ETP Sludge:						
	Other e.g. used oil, empty barrels etc. (specify):						
	Time Duration		Category of waste			Quantity	
April-2019-March 2020		Schedule-1-1.6- Spent Catalyst			54.662 MT		
May 2019-March 2020		Schedule-1-33.1- Empty Barrels/Containers/Liners Contaminated			22337 Nos.		

		with Hazardous Chemical/Wastes			
	April 2019- March 2020	Schedule-I-5.1 – Used/Spent Oil in drums	90.22 MT		
	May 2019- March 2020	Schedule-I-5.2 – Wastes or residues containing oil	121.14 MT		
	June 2019	Schedule-I-20.2/33.2 – Spent Solvents (Waste Chemicals)	4.95 MT		
	Total Quantity:	Hazardous waste quantity is given in Form-4 (Annexure-8.8)			
	Ash Generation (As provided by Unit)	265.24 MTPD	Used by cement industry & remaining is being used for filling of lagoon.		
23.	ETP Sludge Test Report:	Analysis report of ETP sludge from third party is attached as Annexure –8.9.			
24.	Annual return (Form-4)	Yes (Annual Return submitted in Form 4 for the Period April 2019 to March 2020 is attached as per Annexure –8.10.			
25.	Common / hazardous waste treatment Storage and Disposal Facility Manifest (Form-10)- Copy attached at Annexure- 8.11	Date	Waste Description	Quantity	
		Schedule	Item		
		27.10.2020	Schedule-I-5.1	Used/Spent Oil	35Nos.
		06.10.2020	Schedule-I-5.2	Wastes or residues containing oil	2.0m ³
		04.10.2020	Schedule-I-33.1	Discarded containers/barrels/liners	402 Nos.
		03.10.2020	Schedule-I-33.1	Discarded containers/barrels/liners	1244 Nos.
		01.10.2020	Schedule-I-33.1	Discarded containers/barrels/liners	276 Nos.
	01.10.2020	Schedule-I-5.1	Used/Spent Oil	35 nos.	

OCEMS (Online Continuous Effluent Monitoring System)

OCEMS status	Installed – Yes	Connected – Yes
OCEMS panel readings	pH- 6.94, TSS- 26 mg/L, BOD-20 mg/L and COD- 136.8 mg/L	
OCEMS last calibration details	Last calibration by NEVCO Engineers Pvt Ltd. on 08.09.2020 partner for Xylem WTW.	

Observations:

<ul style="list-style-type: none"> The Unit, M/s India Glycols Ltd., U.S.Nagar, Uttarakhand, is involved in the manufacturing of Mono Ethylene Glycol (MEG), Di Ethylene Glycol, Tri Ethylene Glycol, Ethylene oxides and Ethylene oxide derivatives (EOD) from ethanol. Crude glycols are manufactured through dehydration reaction to convert ethanol to ethylene, oxidation reaction to convert ethylene to raw ethylene oxide and finally hydrolysis to produce crude glycols which are then purified through distillation to produce Mono Ethylene Glycol (MEG), Di Ethylene Glycol, Tri Ethylene Glycol, Ethylene oxides and Ethylene oxide derivatives (EOD). Installed capacity of MEG plant is 120000 TPA, DEG plant is 9600 TPA, Tri Ethylene Glycol/ Heavy glycol is 1200 TPA, Ethylene oxides is 55000 TPA and Ethylene oxide derivatives (EOD) is 60000 TPA. As per data provided by the unit, Glycol production was 113743.14 MT in 2017-18 and 121132.14 MT in 2018-19 The unit has installed 5 bore wells to meet, its fresh water requirement. During joint inspection on 28.10.2020, the flow meter readings of the totalizers and instantaneous flow was recorded as below Borewell-1 (Chem. Plant)- 207587 m³ (74.78m³/hr)

Borewell-2 (Chem. Plant)- 861426 m³ (59.53m³/hr)
 Borewell-3 (Chem. Plant)- 162764 m³ (25.05m³/hr)
 Borewell-4 (Chem. Plant)- 229944 m³ (157.42m³/hr)
 Borewell-5 (Chem. Plant)- 319878 m³ (0.0m³/hr)

- As per the logbook provided by unit, during April-2020 to October 2020, the average fresh water consumption is 1748.55 m³/day.
- Unit has obtained NOC for abstraction of 3056 m³/day ground water from CGWA up to 25.10.2023.
- The Unit has an effluent treatment plant (ETP) of 540 KL capacity to treat the trade effluent generated from chemical section of the unit.
- The ETP provided is based on biological treatment upto tertiary level of treatment. The ETP comprises of collection cum equalization tank (170 m³ capacity), aeration tank (800 m³ capacity), secondary clarifier (800 m³ capacity), clear water tank, multi grade filter, activated carbon filter and sludge bed.
- Joint team collected samples from inlet, outlet and aeration tank of ETP to check the compliance status. The analysis report is summarized below:

Parameters	Source				Consented values for discharge
	ETP Inlet	ETP Outlet	Final discharge point of storm water drain	Aeration tank	
pH	6.1	7.5	6.8		between 6.5-8.5
COD (mg/L)	571	BDL	8		250
BOD (mg/L)	363	BDL	3		100
TSS (mg/L)	21	11	BDL		-
TDS (mg/L)	384	288	308		-
MLSS (mg/L)	-	-	-	1834	-
MLVSS (mg/L)	-	-	-	1309	-
Oil & Grease (mg/L)	BDL	BDL	-	-	10
Sulphate (mg/l)	-	-	37	-	-
Detergent (mg/l)	1.82	BDL	-	-	-
Chloride (mg/l)			21	-	-
As (mg/L)	BDL	BDL	-	-	0.2
Cd (mg/L)	BDL	BDL	-	-	-
Co (mg/L)	BDL	BDL	-	-	-
Cr Total (mg/L)	BDL	BDL	-	-	1.0
Pb mg/L)	BDL	BDL	-	-	0.1
Cu (mg/L)	BDL	BDL	-	-	2.0
Zn (mg/L)	0.03	BDL	-	-	5.0
Fe (mg/L)	4.58	0.10	-	-	-
Mn (mg/L)	0.04	BDL	-	-	-
Ni (mg/L)	BDL	BDL	-	-	-
Sb (mg/L)	BDL	BDL	-	-	-
Se (mg/L)	BDL	BDL	-	-	-
V (mg/L)	BDL	BDL	-	-	-

- As reported by unit representative, the effluent discharged from VOC column is taken into collection cum equalization tank of ETP and the outlet value of VOC column is considered as inlet of ETP.
- During visit the instantaneous flow at outlet of VOC column was 18.1 m³/hr and totalizer reading was 3179.9 m³.
- Unit has provided flow meter and OCEMS at the outlet point of ETP and connected to CPCB and UKPCB server. Instantaneous flow at outlet of ETP was 19.1 m³/hr and totalizer reading was 76652.6 m³.
- During joint inspection the OCEMS value was noted as pH- 6.94, TSS- 26 mg/L, BOD-20 mg/L and COD- 136.8 mg/L. The unit has provided latest calibration certificate of OCEMS dated 08.09.2020 done by NEVCO Engineers Pvt Ltd.
- Dewatering system is not provided in sludge drying bed.
- As per consent condition, the storm water of the unit have to be channelized through separate drains passing through a HDPE lined pit having holding capacity of 10 minutes (hourly average) of rainfall.
- Joint team collected sample of wastewater logged in storm water drain.



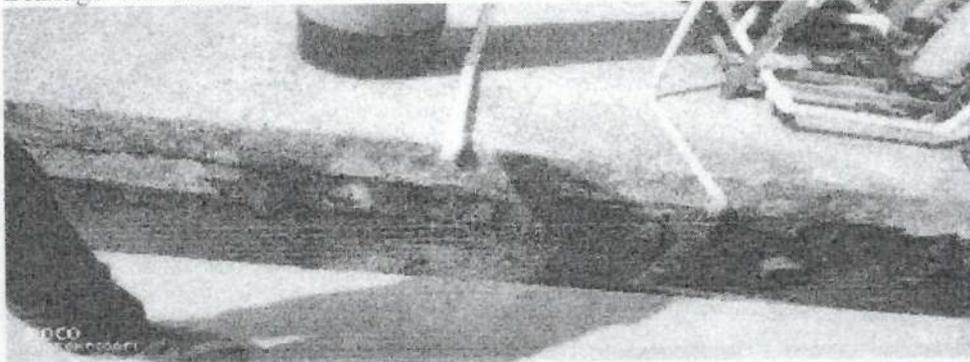
- The analysis results of sample collected from the storm water drain is presented in table below:

Parameters	pH	Total Solid (mg/L)	BOD (mg/L)	COD (mg/L)	TDS (mg/l)	Chloride (mg/l)	Sulphate (mg/l)
Value	7.3	444	63	125	420	37	56

- The values of the sample from storm water drain where water logging was observed was found to be having BOD value of 63 mg/l with lots of sludge deposition in the channel.
- A common energy meter was found installed for biogas digester and ETP. During visit, the meter reading was noted as 613294 KWH.
- The unit has installed a sewage treatment plant (STP) of 10 KL capacity for the treatment of domestic wastewater generated within the premises of chemical section based on FAB technology.
- The STP is based on biological treatment upto tertiary level comprises of collection tank, aeration tank, lamella clarifier, multi grade filter and sludge filter press.
- Flow meter at inlet and outlet point of STP was not provided by the unit. However, unit has provided a rotameter at outlet of STP.
- The BOD value at inlet of STP is low (11 mg/l), which does not show the characteristics of sewage and indicates possibilities of dilution with fresh water.
- The MLSS level in aeration tank of STP is low (32 mg/l) indicating unstabilised condition of STP. It is suspected that STP is not operated regularly.

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- Leakage was also observed from collection tank of STPn.



- As reported by unit representative, treated domestic wastewater is used in cooling towers.
- Joint team also collected samples from the industrial drain outside the Unit at upstream and downstream location of the industry premises. The analysis result is presented as:

Location	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)
Industrial drain U/s of IGL campus	7.2	291	119	58
Industrial drain D/s of IGL campus	7.9	100	47	21

- The treated effluent is being discharged into storm water drain, which meets to industrial drain outside the premises of the unit, which meets to Bahella river.
- Joint team collected samples from Bahella river at up-stream and down-stream locations of the unit. The analysis results are presented as table below.

Table: Characteristics of water in Bahella river

Parameters	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	NH ₃ -N (mg/l)	Chloride (mg/l)	NO ₃ (mg/l)	As (mg/l)	Cd (mg/l)	Co (mg/l)	Cr (mg/l)	Cu (mg/l)	Fe (mg/l)	Mn (mg/l)	Ni (mg/l)	Pb (mg/l)	Sb (mg/l)	Se (mg/l)	V (mg/l)	Zn (mg/l)
Bahela River U/s of IGL at Kundeshwar	7.9	13	6.5	23	4	38	0.6	BDL	BDL	BDL	BDL	BDL	0.34	0.05	BDL	BDL	BDL	BDL	BDL	0.02
Bahela River D/s of IGL at Iohia Pull	7.9	11	4.7	12	7	38	0.9	BDL	BDL	BDL	BDL	BDL	0.62	0.15	BDL	BDL	BDL	BDL	BDL	0.04

- Ground water samples were collected by joint team within the premises of the unit. The analysis results of ground water samples collected are presented below:

Table: Characteristics of Groundwater sample collected

Parameters	Bore well-4 Chemical Unit	Piezo-metric well -2 (Near Ethanol plant)	Hand-pump in Compost Yard Near Lagoon	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.9	8.0	8.0	6.5-8.5
COD (mg/l)	BDL	10	BDL	-
Conductivity (µmho/cm)	362	505	344	
Total hardness as CaCO ₃ (mg/l)	194	204	164	600

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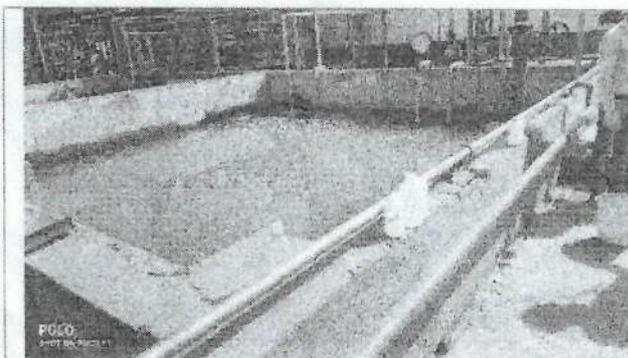
Total alkalinity as CaCO ₃ (mg/l)	183	155	171	600
Chloride (mg/l)	9	45	11	1000
Fluoride (mg/l)	0.3	0.3	-	1.5
As (mg/l)	BDL	BDL	BDL	0.05
Cd (mg/l)	BDL	BDL	BDL	0.003
Co (mg/l)	BDL	BDL	BDL	-
Cr (mg/l)	BDL	BDL	BDL	0.05
Cu (mg/l)	BDL	BDL	BDL	1.5
Fe (mg/l)	0.25	0.17	0.07	0.3
Mn (mg/l)	BDL	0.02	BDL	0.3
Ni (mg/l)	BDL	BDL	BDL	0.02
Pb (mg/l)	BDL	BDL	BDL	0.01
Sb (mg/l)	BDL	BDL	BDL	-
Se (mg/l)	BDL	BDL	BDL	0.01
V (mg/l)	BDL	BDL	BDL	-
Zn (mg/l)	0.35	0.02	0.02	15

- Unit has well equipped NABL Accredited Laboratory (Certificate No. TC - 7777). Analysis is being carried out by in-house as well as MoEF & CC approved Lab.

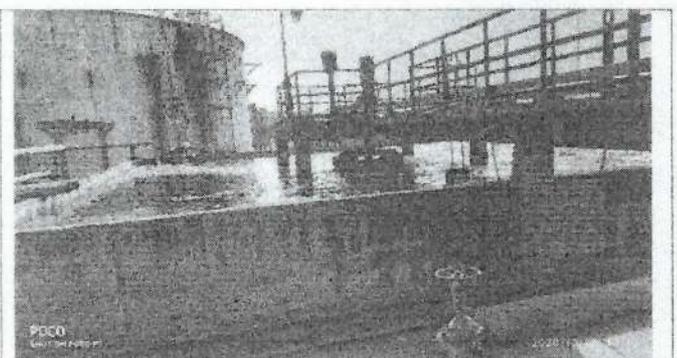
Recommendations/Suggestion:

1. The unit shall provide flow meter at inlet point of ETP, inlet and outlet of STP to monitor the wastewater flow.
2. Unit shall provide dewatering system in sludge filter bed in ETP system and filtrate should be taken back to collection tank for further treatment.
3. The unit shall ensure that, untreated/partially treated effluent/sewage shall not be discharged into storm water drain.
4. Collection tank of STP shall be repaired and unit shall ensure, no untreated sewage discharge into storm water drain.
5. The Unit shall improve operation and maintenance of STPs.

Photographs indicating locations

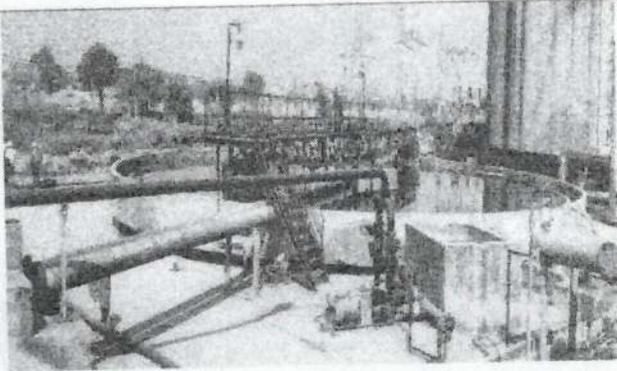


1. Collection tank of ETP

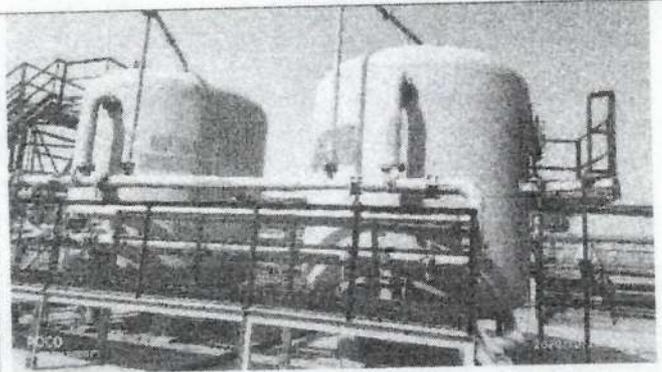


2. Aeration tank

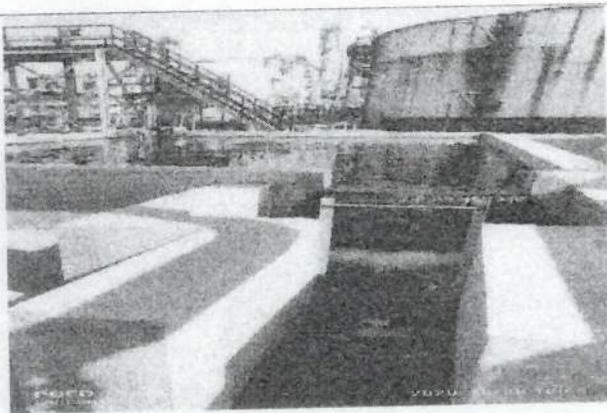
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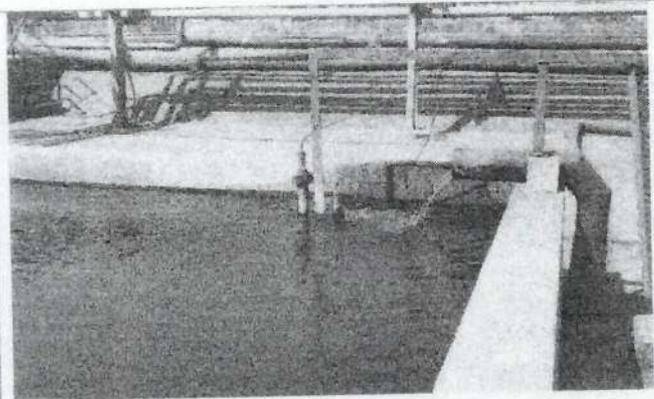
3. Clarifier



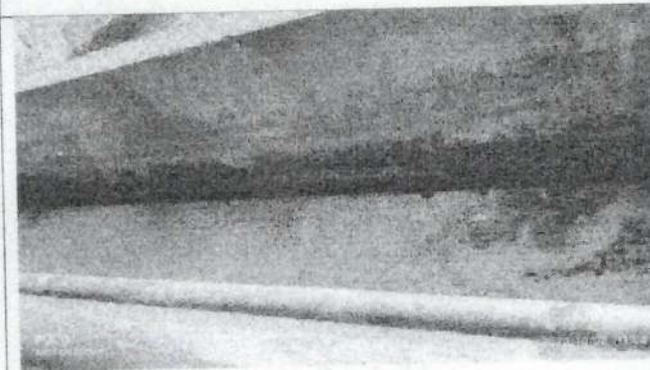
4. MGF and ACF



5. Treated water tank



6. OCEMS installed



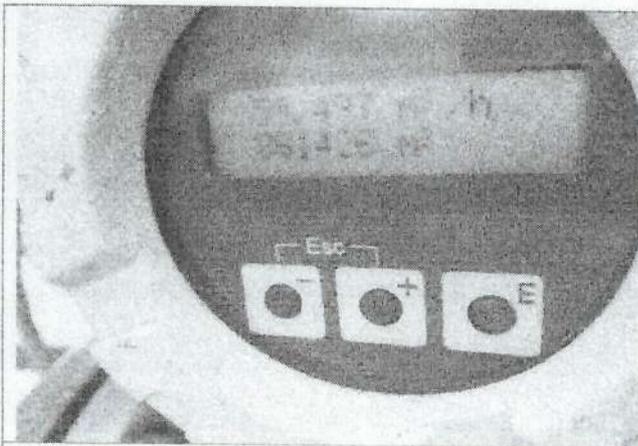
7. Sludge bed



8. Blockage in storm water drain

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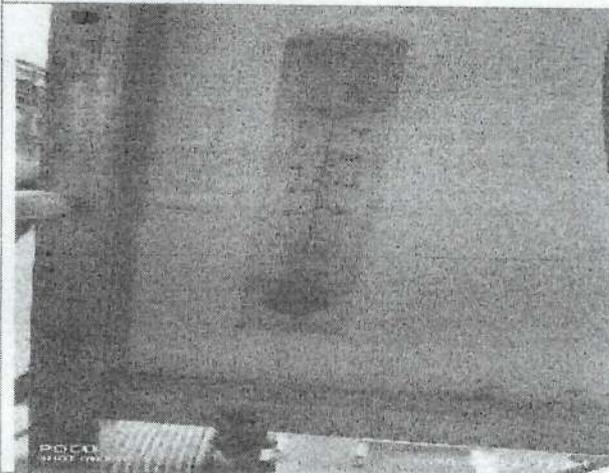
W. King *Pres.*



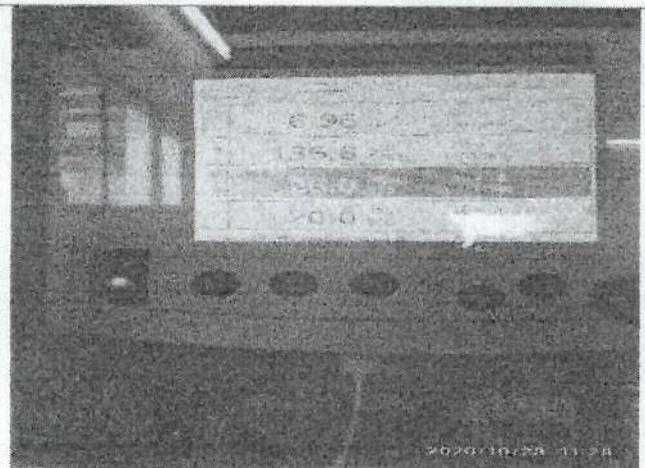
9. Flow meter at Borewell



10. STP installed in Chemical section



11. Rotameter at outlet of STP



12. OCEMS Concentrator

Signature of the inspecting officials

Sr. No.	Name of the Officials	Signature
1.	Mrs. Reena Satavan, Sc.'D', CPCB, Delhi	
2.	Dr. R. K. Singh, Sc.'D', CPCB, Delhi	
3.	Dr. Ajeet, Assistant Scientific Officer, RO Kashipur, UKPCB	
4.	Dr. Firoz Ahmad, RA-III, CPCB, Delhi	
5.	Ms. Anshul Kumari, RA-III, CPCB, Delhi	
6.	Mrs. Shivangi Goswami, RA-II, CPCB, Delhi	



HEAD OFFICE
Uttarakhand Environment Protection and Pollution Control Board
29/20, Nimi Road, Dalanwala, Dehra Dun (Uttarakhand)

Phone : 0135-2658086, Fax : 2718092. Web : www.ueppcb.uk.gov.in. E-mail : msukpcb@yahoo.com

UEPPCB/HO/Con/I-9/2018/ 82

Date : 18.4.2018
REGD. POST

To,

M/s India Glycols Ltd-(MEG Plant),
 Plot No: A-1,
 Industrial Area, Bazpur Road,
 Tehsil-Kashipur, Distt-U.S.Nagar.

Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) under Section-25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-5" of the "Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and HW Rules respectively).

PCB ID - 10052	Inward ID - 238299
CCA (Renewal)	
Consent No. 38037/ 278	Date : 26.03.2018

CCA is hereby granted to M/s India Glycols Ltd-(MEG Plant) located at Plot No: A-1, Industrial Area, Bazpur Road, Tehsil-Kashipur, Distt-U.S.Nagar subject to the provisions of the Water Act, Air Act and Hazardous & Other Wastes Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for a period up to 31.03.2023 and valid for manufacturing of following products with Capital Investment / Net Assets Values ₹ 116.30Cr :-

S. No.	Last CCA		Present CCA (Renewal)	
	Product	Quantity (Per Month)	Product	Quantity (Per Month)
1	Diethylene Glycol	800MT	Diethylene Glycol	800MT
2	EO Derivatives, Condensates (Ethoxylates, Formulation) Products	5000MT	EO Derivatives, Condensates (Ethoxylates, Formulation) Products	5000MT
3	Ethylene Oxide	4583MT	Ethylene Oxide	4583MT
4	Mono Ethylene Glycols	10000MT	Mono Ethylene Glycols	10000MT
5	Power	27.50MWH	Power	27.50MWH
6	Triethylene/Heavy Glycol	100MT	Triethylene/Heavy Glycol	100MT

2. Specific Conditions under Water Act :-

- (i) The daily quantity of effluent discharge (KLD) :-

	Last CCA	Present CCA (Renewal)
Trade Effluent	540	540
Sewage	259 (100% reuse)	259(100% reuse)

- (ii) Trade Effluent Treatment and Disposal: The applicant shall operate Effluent Treatment Plant (540KLD Capacity) consisting of primary, secondary and tertiary treatment as is required with reference to influent quantity and quality.

In case of stoppage of functioning of ETP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (iii) The treated effluent shall be recycled to the maximum extent to achieve **Zero Discharge** and remaining treated effluent shall be reuse in gardening disposed in nearby drain leading to Bahella River Quality of the treated effluent shall meet to the following general and specific standards as prescribed under **Environment (Protection) Rules, 1986** and applicable to the unit from time-to-time :-

1	pH	Between	6.5 to 9.0
2	Suspended solids	Not to exceed	100mg/l
3	BOD (3 days 27°C)	Not to exceed	30 mg/l
4	COD	Not to exceed	250 mg/l
5	Oil & Grease	Not to exceed	10 mg/l

- (iv) **Sewage Treatment and Disposal:** The applicant shall provide comprehensive STP (260KLD Capacity) as is required with reference to influent quantity and quality.

In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (iii) The treated sewage shall be reuse in gardening and the same shall be maintained continuously so as to achieve the quality of the treated effluent to the following standards. As per notified standards for Sewage Treatment Effluent discharge following standards shall be meet within five years from date of notifications.

S.No.	Parameters	Present Standard for STPs	Standard for STPs to be achieved within five years.
1.	pH	5.5 to 9.0	6.5 to 9.0
2.	BOD (mg/L)	Not more than 30	< 30
3.	TSS (mg/L)	Not more than 100	<100
4.	Fecal Coliform (MPN/100ml)	-	<1000

3. Conditions under Air Act :-

- (i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :

S. No	Stack attached with	Stack height (Mt)	Type of Fuel	Fuel Quantity	Emission Control Equipment	Emission standards not to exceed
1	D.G. Set (3MW) x 2 & (4MW) x 2	45	RFO	900.0Kg	Green Belt	-
2	Boiler (12.5TPH)	45	Biogas	48.0 KNM ³ /D	Dust Collector	PM-150mg/NM ³
3	Boiler (80TPH)	80	Coal	374.0MT	ESP	PM-150mg/NM ³
4	Boiler (12.5) TPH	45	RFO/FO	10-12MT	Dust collector	PM-150mg/NM ³
5	Boiler (20TPH)	45	Biogas/Coal	98.0MT	Bag Filter	PM-150mg/NM ³
6	Boiler (45TPH)	68	Biogas/Coal	54KNM ³ /166 MT	ESP	PM-150mg/NM ³
7	Boiler (30TPH)	45	Biogas/Coal	150	ESP	PM-150mg/NM ³
8	Boiler (50TPH)	100	Slop	425-450MT	Cyclonic Dust Collector	PM-150mg/NM ³

9	Thermic Fluid Heater (3Nos.)	30, 45 & 45	RFO/Biogas	-	-	PM-150mg/NM ³
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In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (ii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

Standards for Noise level in db(A) Leq	Industrial Area		Commercial Area		Residential Area		Silence Zone	
	Day time	Night time	Day time	Night time	Day time	Night time	Day time	Night time
	75	70	65	55	55	45	50	40

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

4. Conditions under Hazardous & Other Wastes Rules, 2016:-

- (i) Number of authorization and date of issue : 278 dt 18/11/18
- (ii) The **Factory Manager** of **M/s India Glycols Ltd-MEG Plant, U.S.Nagar** is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.
- (iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

S. No.	Category (Schedule-I & Schedule-II)	Quantity of Waste for which authorization is being issued	Mode of Disposal
1	Schedule I – 20.2	520MTA	Incinerable
2	Schedule I – 36.1	350MT	Secure Land fillable
3	Schedule I – 1.6	103MT	Reprossible/ Recyclable.
4	Schedule I – 5.1	100MT	Recyclable
5	Schedule I – 33.1	30000MT	Recyclable
6	Schedule I – 3.3	150MTA	Incinerable
7	Schedule I – 35.2	50MT	Secure Land fillable
8	Schedule I - 35.4	100MT	Secure Land fillable
9	Schedule I – 33.2	100MT	Secure Land fillable
10	Schedule I – 5.2	350MT	Recyclable
11	Schedule I – 35.1	150MT	Secure Land fillable

- (iv) The authorization shall be in force for a period up to 31.03.2023.
- (v) The authorization is subject to the conditions stated below and the such conditions as may be specified in the rules for the time being in force under **Environment (Protection) Act, 1986.**

Terms and conditions of authorization :-

- (i) The authorization shall comply with the provisions of the **Environment (Protection) Act, 1986**, and the rules made there under.
- (ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.
- (iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.
- (iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
- (v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.
- (vi) An application for the renewal of an authorization shall be made as laid down under these rules.

- (vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.
5. This CCA is valid for hydrolysis, distillation and different chemical reaction processes only.
 6. **Compulsory documents to be submitted by the Industry/Unit :-**
 - (i) Annual return in **Form-4** and **Waste Disposal Manifest in Form-10** under **Hazardous & Other Wastes Rules, 2016** and **Third Party Audit Report**.
 - (ii) Environment Statement in **Form-V** of **Environment (Protection) Rules, 1986**.
 - (iii) Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.
 7. Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.
 8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.
 9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the **Water Act, Air Act and Hazardous & Other Wastes Rules, 2016** will result in legal action under the aforesaid Acts and Rules.


Member Secretary

Copy to :- **Regional Officer, Uttarakhand Environment Protection and Pollution Control Board, Kashipur, Distt-U.S.Nagar** for information and compliance of the same.


Chief Environment Officer

Annexure

Specific Conditions:

1. The applicant shall provide ISI mark water meter to each water supply source and shall regularly submit returns of water consumption in the prescribed form and pay the cess as specified under **Section-3 of Cess Act**. The unit shall
2. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
3. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
4. The industry shall ensure interlocking of air pollution control devices and production processes.
5. A solid waste generated from the industry has to be disposed in manner so that contamination of surface water bodies/ground water/soil etc. does not take place.
6. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
7. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the **Central Pollution Control Board**.
8. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of **Water Act, Air Act and Environment (Protection) Act and Rules** made thereunder.

9. The industry shall ensure **all safety measures** and shall undertake **periodical assessment** by the competent authority.
10. Unit shall ensure manifest system in **Form-10 of Hazardous & Other Wastes Rules, 2016** while disposing hazardous waste.
11. Hazardous waste should not be stored beyond a period of **90 days**.
12. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangement in such a way so that no waste water is discharged in water stream or water bodies.
13. The Unit shall strictly comply with the provisions of Water, Air & E(P) Acts and Rules/Notifications made thereunder.
14. The Unit shall ensure appropriate operation and maintenance of Air Pollution Control System so as to stack emission remains within norm.
15. The Unit shall submit time bound action plan for zero liquid discharge within a month to the Board's Offices and shall ensure the same within six month time period.
16. The Unit shall provide STP of appropriate capacity as directions by Board vide letter dated 17.02.2016.

General Conditions :-

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF and shall report to the UEPPCB.
2. The applicant shall however, not without the prior consent of the **Board** bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.
3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the **Board**, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.
6. The industry shall provide uninterrupted entry to the STP's/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
7. The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.
10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The **Board** reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the **Board**.
14. Any unauthorized change in personnel, equipment as working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the **Board** to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.

17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on **Display Board of size 6x4 feet** out side the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in **Form-3** and shall submit annual return in **Form-4** on or before the 30th day of June following to the financial year to which that return relates.
20. In case of any accident, complete details in the light of **Form-14** of the Hazardous Rules shall be submitted to this Board at the earliest.
21. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
22. Before the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed **physical and chemical analysis of hazardous waste sample** and report to the **Board**.
23. Dried hazardous sludge from the process in the plant shall be **stored in double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.**
24. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and 'Hazardous' shall be displayed at appropriate position both in Hindi and English.
25. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be **sold only to Registered Recyclers/Re-processors.**
26. In case of any transportation of hazardous waste, the details in **Form-10** of the **Hazardous & Other Wastes Rules, 2016** shall be submitted to the **Board**.


16.4.18
Chief Environment Officer

HEAD OFFICE

Uttarakhand Environment Protection and
Pollution Control Board
29/20, Nemi Road, Dalanwala, Dehradun, Uttarakhand



उत्तराखण्ड पर्यावरण संरक्षण एवं प्रदूषण नियंत्रण बोर्ड
29/20, नेमी रोड, डालनवाला, देहरादून (उत्तराखण्ड)

Phone: (0135) 2658086; Fax: (0135) 2718092; Web: www.ueppcb.uk.gov.in

Ref: UEPPCB/HO/Con-I-9/2018/ 359

Date: 26.5.2018

Speed Post

To,

M/S India Glycol Ltd.(MEG Plant),
Plot No. A-1, Industrial Area,
Bazpur Road, Kashipur (US Nagar)

Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) under Section-25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2)" of the "Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and Hazardous & Other Wastes Rules respectively) – Amendment in Consent order No. 38037/278, Inward No. 238299.

PCB ID - 10052	Inward ID - 238299
CCA (Renewal)	
Consent No. 38037/278	Date 01.04.2015

Kindly refer to this office letter ref. no. UEPPCB/HO/Con-I-9/2018/82 Dated 18.04.2018 and your subsequent letter dated 25.04.2018 (received on 26.04.2018) regarding amendment in CCA order. The Point No. 2(iii) of Page No. 2; and Point No. 15 (Specific Conditions) of Page No. 5 of above said CCA order are hereby amended as given below:

2. Specific Conditions under Water Act:-

(iii) The treated effluent shall be recycled to the maximum extent. Treated water shall meet to the following specific and general parameters as prescribed under the Environment (Protection) Rules, 1986 as amended, and finally shall be disposed in to nearby drain leading to river Bahella:

1.	pH	Between	6.5-8.5
2.	BOD (3Days 27 °C)	Not to exceed	100 mg/L
3.	COD	Not to exceed	250 mg/L
4.	Oil and Grease	Not to exceed	10 mg/L
5.	Bioassay Test*	-	Minimum 90% survival after 96 hour in 100% effluent
6.	Nitrate (as N)	Not to exceed	10 mg/L
7.	Arsenic (as As)	Not to exceed	0.2 mg/L
8.	Chromium (Hexavalent)	Not to exceed	0.1 mg/L
9.	Chromium Total	Not to exceed	1.0 mg/L
10.	Lead (As Pb)	Not to exceed	0.1 mg/L
11.	Cynide (as CN)	Not to exceed	0.2 mg/L
12.	Zinc (as Zn)	Not to exceed	5.0 mg/L
13.	Mercury (as Hg)	Not to exceed	0.01 mg/L
14.	Copper (as Cu)	Not to exceed	2.0 mg/L
15.	Nickel (as Ni)	Not to exceed	2.0 mg/L
16.	Phenolics (as C ₆ H ₅ OH)	Not to exceed	5.0 mg/L
17.	Sulphide	Not to exceed	2.0 mg/L

*Bioassay test shall be conducted as per IS:6582 -1971.

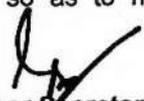
Storm water shall not be allowed to mix with scrubber water and / or floor washing.

Storm water shall be channelized through separate drains passing through a HDPE lined pit having holding capacity of 10minutes (hourly average) of rainfall.

Specific Conditions:

15. The Unit shall ensure appropriate operation and maintenance of ETP so as to maintain prescribed outlet discharge parameters all the time.

Rest of the conditions shall remain unchanged.


Member Secretary

Copy to:- Regional Officer, Uttarakhand Environment Protection and Pollution Control Board,
Kashipur, U.S.Nagar for information.


Chief Environment Engineer

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भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

Annexve-8.2

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	M/s India Glycols Ltd (Chemical Plant)		
Project Address:	Sand Khera, Kashipur, Udham Singh Nagar, Uttarakhand		
Village:	Sand Khera	Block:	Kashipur
District:	Udam Singh Nagar	State:	Uttarakhand
Pin Code:	244713		
Communication Address:	M/s India Glycols Ltd (Chemical Plant), A1, Industrial Area, Bazpur Road, Kashipur, Udham Singh Nagar, Uttarakhand - 244713		
Address of CGWB Regional Office:	Central Ground Water Board Uttarakhand Region, 419-A, Kanwali Road, Baluwala, Near Urja Bhawan, Dehradun, Uttarakhand - 248001.		

1. NOC No.:	CGWA/NOC/IND/REN/1/2020/5749									
2. Application No.:	21-4/20/UT/IND/2008	3. Category:	Semi critical							
4. Project Status:	Existing Project	5. NOC Type:	1 st Renewal							
6. Valid from:	26/10/2020	7. Valid up to:	25/10/2023							
8. Ground Water Abstraction Permitted:										
	Fresh Water		Saline Water							
	Dewatering		Total							
	m ³ /day	m ³ /year	m ³ /day							
	m ³ /day	m ³ /year	m ³ /day							
	m ³ /day	m ³ /year	m ³ /day							
	m ³ /year	m ³ /year	m ³ /year							
	3056.00	954285.00	3056.00							
			954285.00							
9. Details of ground water abstraction /Dewatering structures										
	Total Existing No.:5					Total Proposed No.:0				
	DW	DCB	BW	TW	MP	DW	DCB	BW	TW	MP
Abstraction Structure*	0	0	0	5	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit										
10. Ground Water Abstraction/Restoration Charges paid (Rs.):	7157137.00									
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers					Monitoring Mechanism				
						Manual	DWLR**	DWLR With Telemetry		
**DWLR - Digital Water Level Recorder	2					0	1	1		

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

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Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m³/day through certified auditors within three months of completion of the same to CGWA.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.
- 11) Firm shall submit Water Audit Report prepared by certified auditors by 31/12/2020.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

ANNEXURE – 8.3
(Manufacturing Process Details)

BRIEF PROCESS AND FLOW DIAGRAM

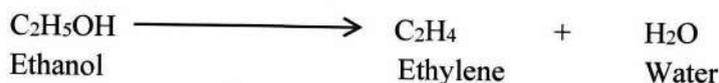
The Mono-Ethylene Glycols and Ethylene oxide & derivatives are manufactured from Agro based waste product i.e. Molasses. First Alcohol is manufactured from molasses in distillery and then alcohol is converted to chemicals like MEG & Ethylene oxide derivatives & condensate.

(i) MEG

MEG is being produced in IGL plant from molasses. The feed stock for MEG is Ethanol which is produced from molasses fermentation and distillation.

Ethanol is first purified for Sulphur in Sulphur removing section to bring down Sulphur content to less than 0.5 PPM.

Sulphur free ethanol is sent to ethanol feed vaporizer. This vaporized feed is mixed with steam and sent to pre heater which runs on fuel oil. The heated feed then enters the reactor which has a catalyst bed. The following reaction takes place in the reactor.



Reactor effluent is cooled in order to remove water vapors from it and make it ethylene rich. Cycle gas containing ethylene along with a ballast make up and ethylene dichloride (EDC) a reaction inhibitor are mixed. The gas mixture is pre-heated and then flows through the ethylene oxide reactor which contains silver catalyst. The following reaction takes place.



Ethylene oxide is absorbed in water. Ethylene oxide reacts non catalytically to form MEG (Mono Ethylene Glycol) and higher monologues of glycols. The major by product of glycols are Di-ethylene glycol and Tri-ethylene glycol. Rest is all Poly-glycols.

The glycol, solution from the reactor is evaporated till 85% conc. and then sent to drying column. After drying the glycol solution is distilled in MEG column where MEG upto the desired specification is separated. The bottom products are further distilled under vacuum to produce DEG, TEG and Heavy glycols. The evaporated water is collected and recycled after treatment.

PROCESS DESCRIPTION

Our main raw material is Ethyl alcohol while atmospheric air will be liquefied to get oxygen. Biogas generated from effluent treatment along with coal shall be used for steam generation. Slop generated from Falling Film Evaporator Plant shall also be used as a fuel in Boilers for steam generation. Our main raw material and finished products are

either liquid or solid. In the process closed loop, Ethylene and Ethylene Oxide will be in gas and liquid form respectively. In brief the Process is as follows:

ETHANOL DEHYDRATION

Ethanol (94.5 Vol. %) is brought into this section and then vaporized in ethanol feed vaporizer. The ethanol vapor is combined with steam from the third effect condenser and the resulting dehydration feed mixture is preheated to reaction temp. by passage through a feed exchanger and then a heater. The hot vapor mixture flows through the ethanol dehydration feed where ethanol is converted to ethylene. Heat is recovered from the reactor effluent in the feed/effluent. A portion of the reactor effluent, containing a mixture at ethylene and steam is to the stripping column. Another portion flows to the glycol stripper reboiler and remainder passes through the ethanol feed vaporizer and then to the dehydration excess steam condenser.

E.O. REACTION & SCRUBBING

Ethylene formed in the ethanol dehydration reactor, enters the rich in cycle gas line before the scrubber and K.O. drum. Oxygen enters from battery limits and is mixed with lean cycle gas before entering a preheating unit (the gas-gas exchanger). The gas mixture flows from the gas-gas exchanger to reactor where a partial conversion of ethylene to ethylene oxide occurs over a solid catalyst.

After heat is recovered in the reactor gas cooler and gas-gas exchanger, the oxide is scrubbed from the reactor exit gas using lean cycle water, and the rich cycle water is sent to the ETO Stripping and re-absorption section. A small stream of lean cycle gas is sent through cycle gas.

CO₂ REMOVAL SYSTEM

CO₂ produced by reaction is removed by treating a portion of H. C. cycle gas from the recycle gas compressor with a hot potassium carbonate solution. The carbonate is converted to potassium bicarbonate by reaction at atmospheric pressure using stripping steam. The CO₂ lean cycle gas is then recombined with the bulk of the oxide-lean cycle gas.

EO STRIPPING & REABSORPTION

Rich cycle water containing ethylene oxide, solution is preheated before passing into the stripping column where the ethylene oxide is stripped out. The lean cycle water is then pumped through a series of heat exchangers. At this point, a bleed stream is taken and sent to the cycle water treating unit to purge the glycol.

The vapour necessary to strip ethylene oxide from cycle water is provided by steam generated from the lean cycle water in the MEG column condenser and by a portion of the steam/ethylene mixture from the ethanol dehydration reactor. The ethylene oxide

is reabsorbed and steam is condensed over head vapour from the reabsorber consisting mainly of ethylene, is combined with the ethylene from dehydration excess steam condenser, the make up nitrogen ballast gas from OSBL and the flash vapour from the regenerator flash drum. The combined stream is then compressed and fed to the scrubber. The reabsorber bottoms are sent to glycol reaction and evaporation section.

GLYCOL REACTION AND EVAPORATION

ETO solution from reabsorber is sent to glycol feed stripper for removal of col. This col. free stream is pre-heated and fed to the glycol reactor. The reactor effluent is fed to the first stage of a triple effect evaporator system. The over head vapour from the third effect evaporator is used to generate L.P. Steam for ethanol dehydration. The crude glycol from bottom of the third effect evaporator is sent to the drying column for further processing.

GLYCOL DRYING AND PURIFICATION

The crude wet glycol is dried by vacuum distillation in the drying column. The drying column bottoms are fed to the MEG column where MEG product is taken as over heads. The product is cooled and stored. The MEG column bottoms are sent to the MEG/DEG splitter.

MEG, DEG AND HEAVY GLYCOL SEPARATION

A mixture of glycols from the MEG column bottoms is distilled in the MEG/DEG splitter wherein successive operations MEG is taken over head and the recycled to the drying column and DEG is taken over-head as a product.

While taking MEG overhead for recycle, the MEG/DEG splitter bottoms containing DEG and higher glycols, are stored and cooled in the crude DEG tank. Contents of the crude DEG tank are later distilled in the splitter, taking DEG product over head. DEG product cooled and stored. TRI-Ethylene Glycol (TEG) and heavier glycols from the MEG/DEG splitter bottoms are pumped and the MEG column bottom is accumulated in the MEG column bottoms tank. There is no effluent from plant.

(ii) FORMULATION

Sulphation Reaction

It is Sulphation process of Alcohol by addition of Chloro Sulphonic Acid in control rate at lower temperature & vacuum conditions, followed by Neutralization step by Base material at lower Temperature.

Lauryl Alcohol + Chloro Sulphonic Acid \longrightarrow Lauryl Ether Sulphate + Hydrochloric Acid

Lauryl Ether Sulphate + Sodium Hydroxide \longrightarrow Sodium Lauryl Ether Sulphate + Water

Calcium Alkyl Benzene Sulphonic Acid + Ethoxylated par product \longrightarrow Agro Emulsifier

ESTRIFICATION

- Esterification of Acid and Alcohol at high temperature.
- Esterification of Tri Glyceride and Heavy Glycols at high temperature followed by dilution.
- Esterification of Tri Glyceride and Poly Ethylene Glycols at high temperature followed by dilution.
- Esterification reaction of Crude edible Oil and Heavy Glycols at high temperature.
- Esterification of alcohol with acid at 90-100 0C in vacuum condition followed by Polymerization and dilution.



IG SURF – 1080

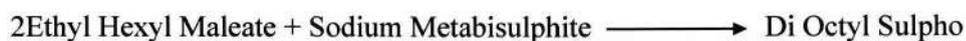


DEFOAMER BASE

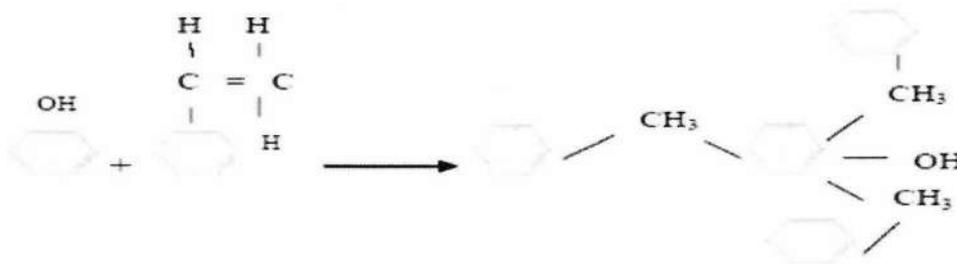
a) IGS 1025 ABE



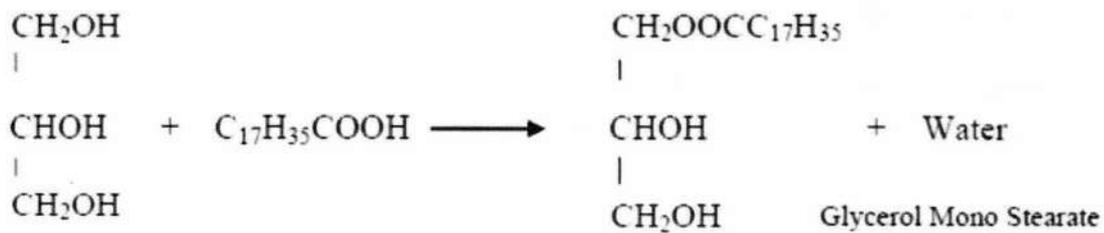
b) IGS 1025 BBE



STYRENATED PHENOL



Polymerization reaction of Aromatic Alcohol & Styrene:



TRANSESTERIFICATION



FATTY ALKANOLAMIDES



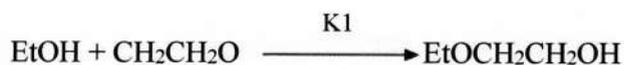
OTHERS

- Succinate formation by anhydride & linear alcohol reaction at high temperature.
- Sulpho Succinate preparation by SMBS reaction

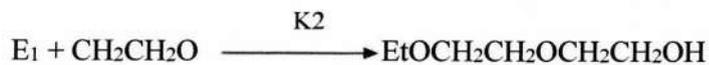
(iii) GLYCOL ETHER

The production of Glycol Ether from Alcohol & Ethylene Oxide is obtained by a series of consecutive, competitive and irreversible reactions. The reaction can be schematized as follows:

Mono Ethylene Glycol Ethyl Ether (MEGEE) is formed by the reaction of Ethylene Oxide with Ethanol in the presence of catalyst. The reaction is given below –



Diethylene Glycol Ethyl Ether (DEGEE) is obtained by the reaction of MEGEE with Ethylene Oxide in the presence of catalyst. The reaction is as below-



Triethylene Glycol Ethyl Ether (TEGEE) is obtained by the reaction of DEGEE with Ethylene Oxide in the presence of catalyst. The reaction is as below-

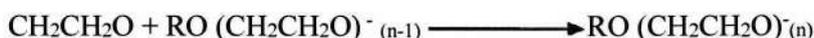


The opening of the epoxy ring of Ethylene Oxide precedes the reaction of the alcohol with Ethylene Oxide.

If the reaction is base catalysed, the reaction mechanism can be schematized as follows:

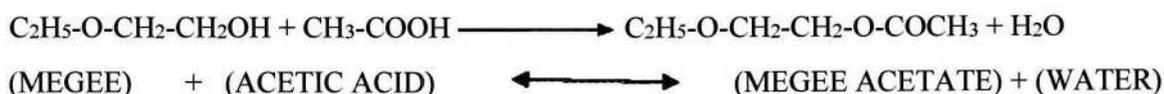


With Tertiary Amine as catalyst the proposed reaction mechanism can be schematized as follows:



(iv) GLYCOL ETHER ACETATE

Mono Ethylene Glycol Ether Acetate is formed by the reaction of Mono Ethylene Glycol Ethyl Ether (MEGEE) with Acetic Acid in the presence of catalyst & proceeds by continuous operation mode. The reaction is given below:



This reaction is carried out in presence of catalytic amount of p-TSA.

The said reaction is reversible and therefore it is necessary to remove the water continuously to force the reaction in forward direction. Since MEGEE & Acetic Acid both are soluble in water, Toluene is added as azeotropic agent to facilitate water removal from the system.

(v) ETHOXYLATES

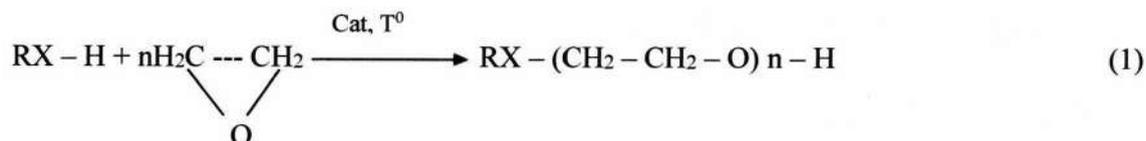
Ethoxylation Process consists of reaction between Ethylene Oxide and various chain starters containing at least one active hydrogen atom (Alkyl Phenols, fatty alcohols, fatty acids, Sorbitan Esters, Natural Oils, and Ethylene Glycols etc.).

The reaction is carried out under controlled conditions, in the presence of an acid/alkali catalyst to form E.O. derivatives of varying chain lengths, depending upon the quantity of the EO reacted.

The reaction of E.O. with various chain starters is highly exothermic and the reaction heat must be removed continuously to avoid runaway reaction.

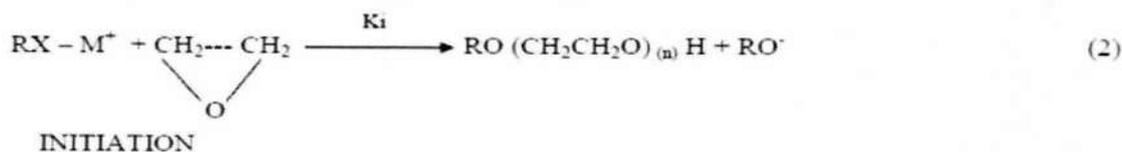
The Ethoxylated products are obtained by a polyaddition prefixed number of moles of Ethylene Oxide to so called chain starters containing hydrogen atom in the molecule.

This reaction can be expressed by the following equation:

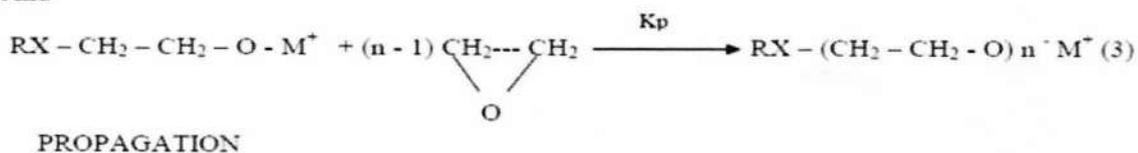


Where R & X are the lipophilic radicals and the functional group containing active hydrogen atom respectively.

The Ethoxylation could be divided in two steps:



And



There are different types of catalysts for the Ethoxylation Process (reaction 1) hydroxides, acids, alcoholates, carbonates etc. for the industrial Ethoxylates production hydroxides are mainly used, especially the potassium hydroxide and the sodium hydroxide.

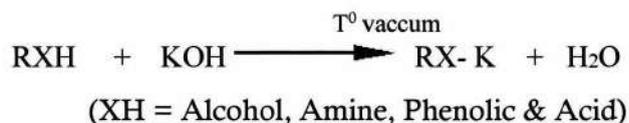
The acid catalysts are not applied in the industrial production due to the formation of by products such as polythene glycols and dioxane.

The Ethylene Oxide is highly reactive substance either in basic or in acid conditions; the epoxy ring is opening easily. This reactivity is following also examining the chemical bond length and angles in the molecule.

The reaction of Ethylene Oxide is exothermic, liberating 22 KCL for each E.O. mole.

The reaction of Ethylene Oxide in the presence of basic catalyst consists of the following phases:

ALCOHOLATE FORMATION (DEHYDRATION)

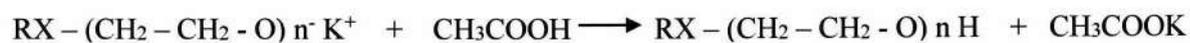


The formed water is removing by vaccum, shifting the equilibrium to the right side.

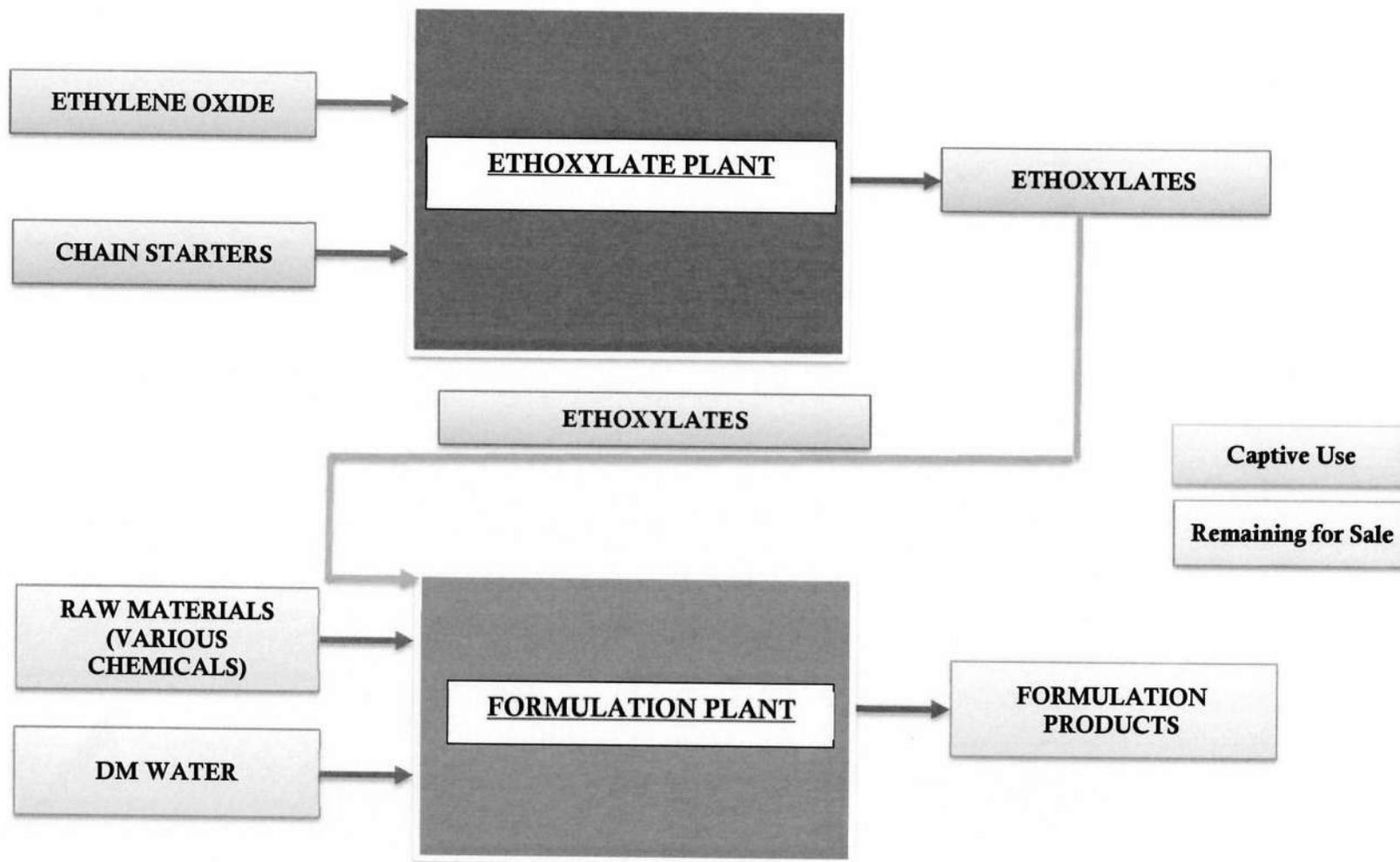
Epoxy ring opening and Polyaddition:



Neutralization



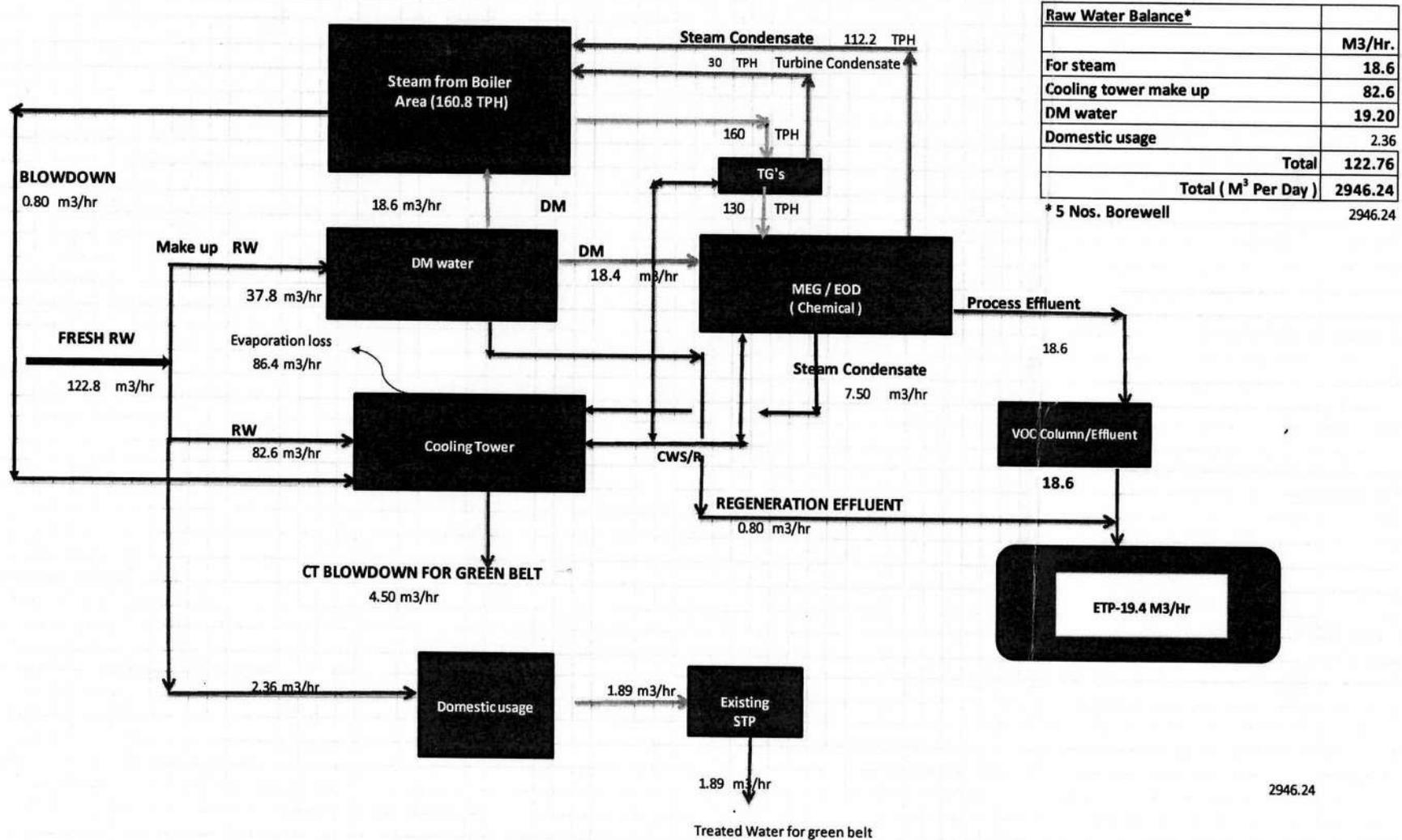
PROCESS FLOW DIAGRAM OF EOD DIVISION



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WATER BALANCE

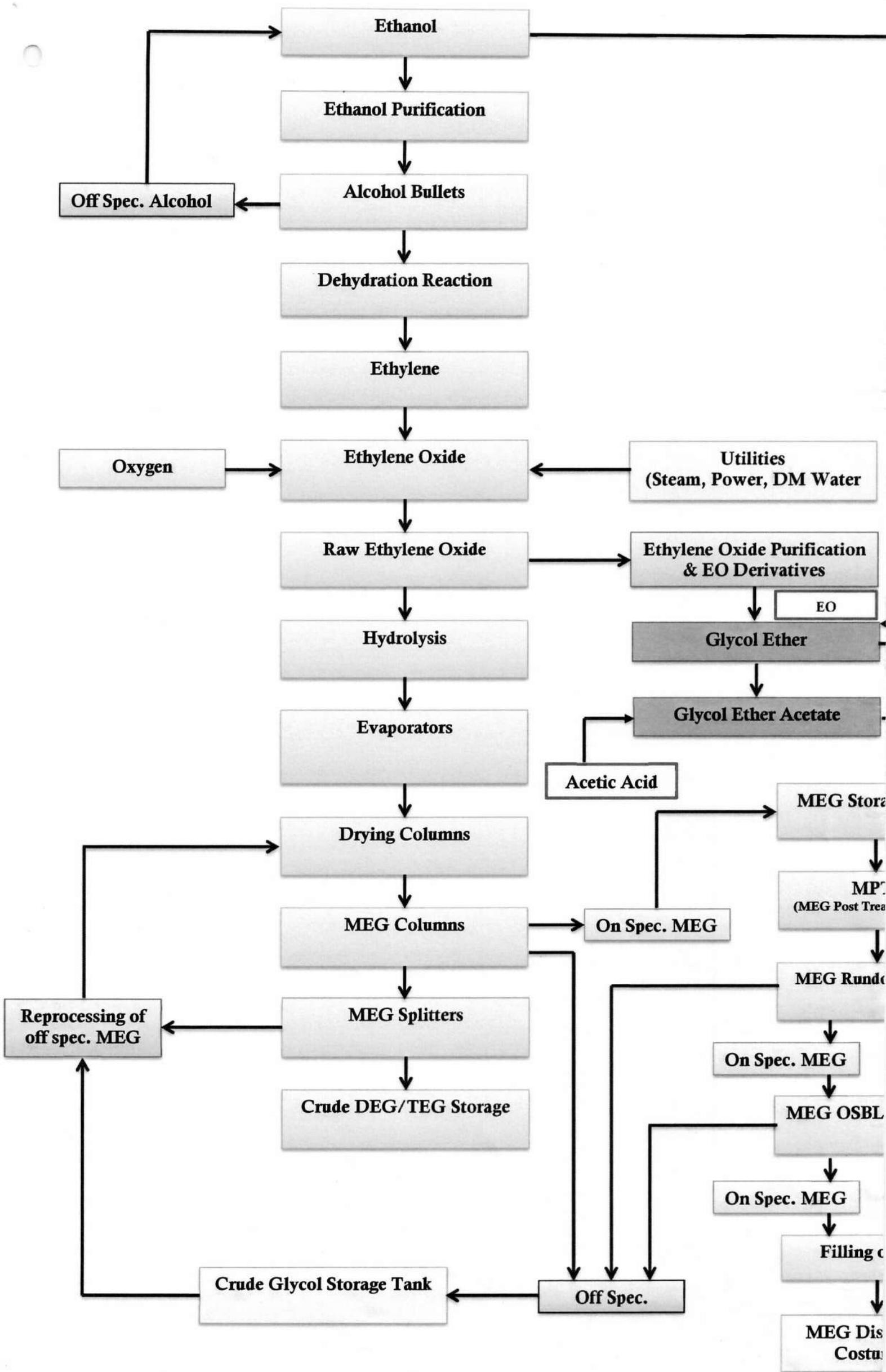
GLYCOLS + EOD DIVISIONS



Raw Water Balance*	
	M ³ /Hr.
For steam	18.6
Cooling tower make up	82.6
DM water	19.20
Domestic usage	2.36
Total	122.76
Total (M³ Per Day)	2946.24

* 5 Nos. Borewell 2946.24

2946.24



ANNEXURE - 8.5

(Logbook details of all borewells from Jan-2020 to Oct-2020)

Average Total Consumption

		April 2020 = 1920.25 m ³ /day (24 days)
46086	→	May 2020 = 1591.64 m ³ /day (31 days)
49341		June 2020 = 2505.63 m ³ /day (19 days)
47607		July 2020 = 1777.6 m ³ /day (28 days)
49774		August 2020 = 1662.74 m ³ /day (31 days)
51545		September 2020 = 1744.07 m ³ /day (30 days)
52322.2		October 2020 = 1332.1 m ³ /day (28 days)
37299		<hr style="width: 100%;"/>
333974.2 m ³		12534.03 m ³ /day 191 days

Avg = 1748.55 m³/day.
~~Avg = 6662 m³/day~~
~~12534.03~~ =

GWA NOC
 valid from 26/10/2020 } three
 valid upto - 25/10/2023 } years

NOC for -
 3056 m³/day
 954285 m³/year

Avg. water consumption for 191 days April - October = 1748.55

INDIA GLYCOLS LIMITED, KASHIPUR

Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
01-01-2020	135741	136055	314	707306	707630	324	104794.8	105090.8	296	128804	129114	310	218798	219128	480	1724	
21-1-2020	136055	136379	324	707630	707945	315	105090.8	105394.8	304	129114	129418	304	219278	219790	512	1759	
31-1-2020	136379	136727	348	707945	708239	294	105394.8	105712.8	318	129418	129674	256	219790	220272	482	1698	
4-1-2020	136727	137077	350	708239	708617	378	105712.8	106038.8	326	129674	129974	300	220272	220806	534	1834	
5-1-2020	137077	137412	335	708617	708935	318	106038.8	106353.8	315	129974	130238	264	220806	221290	484	1716	
6-1-2020	137412	137757	345	708935	709280	345	106353.8	106633.8	280	130238	130518	280	221290	221838	548	1798	
7-1-2020	137757	138133	376	709280	709634	354	106633.8	106929.8	296	130518	130702	184	221838	222388	550	1760	
8-1-2020	138133	138535	402	709634	709952	318	106929.8	107233.8	304	130702	130848	146	222388	222906	518	1738	
9-1-2020	138535	138895	360	709952	710268	316	107233.8	107515.8	312	130848	131148	250	222906	223451	545	1783	
10-1-2020	138895	139233	338	710268	710593	325	107515.8	107841.8	296	131148	131434	286	223451	223847	396	1641	
11-1-2020	139233	139561	328	710593	710905	312	107841.8	108141.8	300	131434	131738	304	223847	224397	550	1794	
12-1-2020	139561	139925	364	710905	711227	322	108141.8	108419.8	278	131738	131978	240	224397	224891	494	1698	
13-1-2020	139925	140335	410	711227	711565	338	108419.8	108731.8	312	131978	132223	245	224891	225409	518	1823	
14-1-2020	139229	132313	384	711565	711927	362	108731.8	109063.8	332	132223	132417	194	225409	225955	546	1818	
15-1-2020	132313	132695	382	711927	712267	340	109063.8	109339.8	278	132417	132699	282	225955	226517	562	1842	
16-1-2020	132695	133060	365	712267	712581	314	109339.8	109645.8	306	132699	133018	319	226517	227009	492	1796	
17-1-2020	133060	133414	354	712581	712886	305	109645.8	109941.8	296	133018	133281	263	227009	227544	535	1808	
18-1-2020	133414	133759	345	712886	713234	348	109941.8	110257.8	318	133281	133523	242	227544	228108	564	1817	
19-1-2020	133759	134133	374	713234	713646	412	110257.8	110504.8	245	133523	133781	258	228108	228586	478	1767	
20-1-2020	134133	134495	362	713646	713972	326	110504.8	110768.8	264	133781	134095	314	228586	229126	540	1806	
21-1-2020	134495	134849	354	713972	714286	314	110768.8	111070.8	302	134095	134349	254	229126	229670	544	1742	
22-1-2020	134849	135227	378	714286	714574	288	111070.8	111384.8	314	134349	134604	260	229670	230150	480	1746	
23-1-2020	135227	135601	374	714574	714914	340	111384.8	111658.8	274	134609	134919	310	230150	230604	454	1800	
24-1-2020	135601	135937	336	714914	715209	295	111658.8	111966.8	304	134919	135109	190	230604	231198	594	1709	
25-1-2020	135937	136361	424	715209	715624	415	111966.8	112276.8	310	135109	135323	214	231198	231716	518	1847	
26-1-2020	136361	136735	374	715624	715940	316	112276.8	112534.8	258	135323	135623	300	231716	232271	555	1803	
27-1-2020	136735	137091	356	715940	716254	314	112534.8	112850.8	316	135623	135903	280	232271	232667	396	1862	
28-1-2020	137091	137463	372	716254	716578	324	112850.8	113134.8	284	135903	136188	285	232867	233455	588	1793	
29-1-2020	137463	137820	357	716578	716811	233	113134.8	113424.8	290	136188	136388	200	233455	234065	610	1823	





INDIA GLYCOLS LIMITED, KASHIPUR

Ground Water Abstraction Record

Chemical Plant

Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
02-2-2020	138590	138926	396	717494	718014	520	114014-B	114436-B	422	137113	137439	326	235239	235701	462	2126	
03-2-2020	138926	139414	428	718014	718530	516	114436-B	114672-B	436	137439	137719	280	235701	236183	482	2142	
04-2-2020	139414	139846	432	718530	719028	498	114672-B	115276-B	604	137719	138029	310	236183	236687	504	2146	
05-2-2020	139846	140290	444	719028	719431	403	115276-B	115732-B	456	138029	138471	442	236687	237202	515	2262	
06-2-2020	140290	140706	416	719431	719787	356	115732-B	116116-B	384	138471	138893	422	237202	237674	472	2850	
07-2-2020	140706	141144	438	719787	720218	431	116116-B	116642-B	526	138893	139303	410	237674	238134	460	2265	
08-2-2020	141144	141570	426	720218	720612	394	116642-B	117092-B	450	139303	139741	438	238134	238652	518	2228	
09-2-2020	141570	142026	456	720612	721047	435	117092-B	117492-B	400	139741	140105	364	238652	239152	500	2135	
10-2-2020	142026	142404	378	721047	721557	510	117492-B	117852-B	360	140105	140523	418	239152	239608	456	2136	
11-2-2020	142404	142828	424	721557	721941	384	117852-B	118264-B	412	140523	140923	390	239608	240100	492	2108	
12-2-2020	142828	143228	400	721941	722341	400	118264-B	118644-B	380	140923	141337	414	240100	240610	510	2114	
13-2-2020	143228	143664	436	722341	722725	384	118644-B	118992-B	348	141337	141687	350	240610	241062	452	1970	
14-2-2020	143664	144074	410	722725	723143	418	118992-B	119382-B	390	141687	141971	284	241062	241542	480	1982	
15-2-2020	144074	144458	384	723143	723515	372	119382-B	119744-B	362	141971	142327	356	241542	242042	500	2014	
16-2-2020	144458	144908	450	723515	723923	408	119744-B	120166-B	422	142327	142747	420	242042	242506	464	2124	
17-2-2020	144908	145320	412	723923	724335	412	120166-B	120486-B	320	142747	143147	400	242506	243012	506	2050	
18-2-2020	145320	145782	462	724335	724753	418	120486-B	120924-B	438	143147	143421	274	243012	243487	475	2067	
19-2-2020	145782	146214	432	724753	725205	452	120924-B	121342-B	418	143421	143837	416	243487	243935	448	2166	
20-2-2020	146214	146572	358	725205	725687	482	121342-B	121748-B	406	143837	144229	392	243935	244455	520	2158	
21-2-2020	146572	146997	425	725687	726189	502	121748-B	122130-B	382	144229	144638	409	244455	244891	436	2154	
22-2-2020	146997	147347	350	726189	726660	471	122130-B	122495-B	365	144638	145014	375	244891	245376	485	2046	
23-2-2020	147347	147725	378	726660	727016	356	122495-B	122925-B	430	145014	145449	435	245376	245840	464	2113	
24-2-2020	147725	148175	450	727016	727331	315	122925-B	123277-B	352	145449	145851	402	245840	246192	352	1821	
25-2-2020	148175	148557	382	727331	727671	340	123277-B	123705-B	428	145851	146151	300	246192	246607	415	1865	
26-2-2020	148557	148973	416	727671	728081	410	123705-B	124060-B	355	146151	146566	415	246607	247061	454	2050	
27-2-2020	148973	149318	345	728081	728409	328	124060-B	124445-B	385	146566	146826	260	247061	247543	482	1851	
28-2-2020	149318	149710	392	728409	728717	308	124445-B	124908-B	463	146826	147248	422	247543	248083	540	2116	
29-2-2020	149710	150138	428	728717	729121	404	124908-B	125312-B	404	147248	147708	460	248083	248603	520	2214	
30-2-2020	150138	150548	410	729121	729537	416	125312-B	125744-B	432	147708	148120	412	248603	249163	560	2190	
		11958				12043			11730			11006		13924		60661	





INDIA GLYCOLS LIMITED, KASHIPUR

Ground Water

Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
3-2020	150548	150860	312	729537	729923	386	125744.8	126104.8	360	148120	148480	360	249152	249511	359	1806	
3-2020	150860	151210	350	729923	730275	352	126104.8	126452.8	348	148480	148894	414	249511	250057	546	1980	
3-2020	151210	151534	324	730275	730623	348	126452.8	126808.8	356	148894	149274	380	250057	250474	417	1823	
3-2020	151534	151870	336	730623	730993	370	126808.8	127222.8	414	149274	149644	370	250474	250936	462	1954	
3-2020	151870	152272	402	730993	731319	326	127222.8	127702.8	480	149644	150046	402	250936	251410	474	2084	
3-2020	152272	152674	402	731319	731699	380	127702.8	127947.8	245	150046	150426	380	251410	251860	450	1807	
3-2020	152674	152952	278	731699	732051	352	127947.8	128258.8	306	150426	150822	396	251860	252345	485	1868	
3-2020	152952	153320	368	732051	732393	342	128258.8	128578.8	325	150822	151237	415	252345	252810	465	1914	
3-2020	153320	153670	350	732393	732773	380	128578.8	128918.8	340	151237	151567	330	252810	253289	479	1879	
3-2020	153670	154010	340	732773	733173	400	128918.8	129324.8	406	151567	151962	395	253289	253748	459	2000	
3-2020	154010	154375	365	733173	733511	338	129324.8	129680.8	356	151962	152378	416	253748	254206	458	1953	
3-2020	154375	154695	320	733511	733912	401	129680.8	130008.8	328	152378	152784	406	254206	254706	500	1931	
3-2020	154695	155011	316	733923	734241	328	130008.8	130434.8	426	152784	153155	371	254706	255030	324	1805	
3-2020	155011	155371	360	734241	734666	425	130434.8	130697.8	263	153155	153597	442	255030	255302	272	1892	
3-2020	155371	155745	374	734666	735008	342	130697.8	131069.8	372	153597	153947	350	255302	255947	645	1903	
3-2020	155745	156107	362	735008	735420	412	131069.8	131444.8	375	153947	154375	428	255947	256375	428	1975	
3-2020	156107	156489	382	735420	735806	386	131444.8	131846.8	423	154375	154730	355	256375	256810	435	1981	
3-2020	156489	156837	348	735806	736172	366	131846.8	132268.8	362	154730	155128	398	256810	257258	448	1918	
3-2020	156837	157132	295	736172	736572	400	132268.8	132610.8	402	155128	155444	316	257258	257664	406	1824	
3-2020	157132	157483	351	736572	736944	372	132610.8	132945.8	335	155444	155704	260	257664	258228	564	2079	
3-2020	157483	157857	374	736944	737336	392	132945.8	133312.8	367	155704	156204	500	258228	258774	546	1981	
3-2020	157857	158159	302	737336	737786	450	133312.8	133692.8	380	156204	156562	358	258774	259258	484	1972	
3-2020	158159	158487	328	737786	738161	375	133692.8	133988.8	296	156562	156966	404	259258	259758	500	1905	
3-2020	158487	158811	324	738161	738561	400	133988.8	134373.8	385	156966	157363	397	259758	260398	640	2176	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-2020	158811	158811	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	



INDIA GLYCOLS LIMITED, KASHIPUR

Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
1-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
2-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
3-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
4-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
5-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
6-4-2020	158841	158841	0	738561	738561	0	134373.8	134373.8	0	157363	157363	0	260398	260398	0	0	
7-4-2020	158841	159152	315	738561	739236	675	134373.8	134538.8	165	157363	157717	354	260398	260792	394	1903	
8-4-2020	159152	159466	310	739236	739936	700	134538.8	134708.8	170	157717	158263	546	260792	261192	400	2126	
9-4-2020	159466	159778	312	739936	740590	654	134708.8	134866.8	158	158263	158647	384	261192	261587	395	1903	
10-4-2020	159778	160098	320	740590	741274	684	134866.8	135018.8	152	158647	158951	304	261587	261991	404	1864	
11-4-2020	160098	160403	305	741274	741946	672	135018.8	135182.8	164	158951	159315	364	261991	262385	394	1899	
12-4-2020	160403	160720	317	741946	742615	669	135182.8	135358.8	174	159315	159667	352	262385	262787	402	1914	
13-4-2020	160720	161036	316	742615	743309	694	135358.8	135524.8	168	159667	160097	430	262787	263171	384	1992	
14-4-2020	161036	161361	325	743309	743971	662	135524.8	135682.8	158	160097	160475	378	263171	263576	405	1928	
15-4-2020	161361	161675	314	743971	744656	685	135682.8	135854.8	172	160475	160857	382	263576	263968	392	1945	
16-4-2020	161675	161997	322	744656	745358	702	135854.8	136009.8	155	160857	161337	480	263968	264368	400	2059	
17-4-2020	161997	162312	315	745358	746042	684	136009.8	136173.8	164	161337	161677	340	264368	264752	384	1887	
18-4-2020	162312	162630	318	746042	746750	708	136173.8	136351.8	178	161677	162129	452	264752	265134	382	2038	
19-4-2020	162630	162944	314	746750	747408	658	136351.8	136505.8	154	162129	162513	384	265134	265544	410	1920	
20-4-2020	162944	163254	310	747408	748084	676	136505.8	136681.8	176	162513	162827	314	265544	265924	380	1856	
21-4-2020	163254	163578	324	748084	748784	700	136681.8	136843.8	162	162827	163151	324	265924	266324	400	1910	
22-4-2020	163578	163892	314	748784	749478	694	136843.8	136997.8	154	163151	163493	342	266324	266710	386	1890	
23-4-2020	163892	164208	316	749478	750130	652	136997.8	137149.8	152	163493	163801	308	266710	267110	400	1828	
24-4-2020	164208	164526	318	750130	750779	649	137149.8	137314.8	165	163801	164183	382	267110	267496	386	1880	
25-4-2020	164526	164834	308	750779	751463	684	137314.8	137498.8	184	164183	164491	308	267496	267908	412	1916	
26-4-2020	164834	165140	306	751463	752158	695	137498.8	137666.8	168	164491	164809	318	267908	268293	385	1872	
27-4-2020	165140	165452	312	752158	752831	673	137666.8	137860.8	194	164809	165171	362	268293	268693	400	1941	
28-4-2020	165452	165762	310	752831	753530	699	137860.8	138028.8	168	165171	165513	342	268693	269093	400	1919	
29-4-2020	165762	166070	308	753530	754192	662	138028.8	138184.8	156	165513	165835	322	269093	269498	405	1853	
30-4-2020	166070	166311	271	754192	754961	769	138184.8	138373.8	189	165835	166149	314	269498	269798	300	1843	
Total			7500			16400			4000			8782			9400	4422	



Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
1-5-2020	166341	166556	215	754961	755561	600	138373.8	138493.2	120	166149	166445	296	269798	270098	300	1531	
2-5-2020	166552	166766	210	755561	756145	584	138493.2	138617.2	124	166445	166829	384	270098	270384	286	1588	
3-5-2020	166766	166980	214	756145	756760	615	138617.2	138732.2	115	166829	167113	284	270384	270698	314	1542	
4-5-2020	166980	167200	220	756760	757360	600	138732.2	138852.2	120	167113	167421	308	270698	270988	290	1538	
5-5-2020	167200	167400	200	757360	757974	614	138852.2	138970.2	118	167421	167833	412	270988	271288	300	1644	
6-5-2020	167400	167592	192	757974	758562	588	138970.2	139070.2	100	167833	168173	340	271288	271582	294	1520	
7-5-2020	167592	167802	204	758562	759162	600	139070.2	139184.2	114	168173	168581	408	271582	271882	300	1626	
8-5-2020	167802	168026	224	759162	759766	604	139184.2	139282.2	98	168581	168935	354	271882	272170	288	1568	
9-5-2020	168026	168242	216	759766	760360	594	139282.2	139390.2	108	168935	169281	346	272170	272455	285	1549	
10-5-2020	168242	168457	215	760360	760965	605	139390.2	139515.2	125	169281	169706	425	272455	272769	314	1684	
11-5-2020	168457	168665	208	760965	761557	592	139515.2	139615.2	100	169706	170082	376	272769	273069	300	1576	
12-5-2020	168665	168860	195	761557	762165	608	139615.2	139721.2	116	170082	170404	322	273069	273354	285	1526	
13-5-2020	168860	169078	218	762165	762765	600	139721.2	139826.2	135	170404	170738	334	273354	273632	278	1565	
14-5-2020	169078	169283	205	762765	763337	572	139826.2	139998.2	132	170738	171076	338	273632	273926	294	1541	
15-5-2020	169283	169483	200	763337	763951	614	139998.2	140100.2	102	171076	171420	344	273926	274240	314	1574	
16-5-2020	169483	169697	214	763951	764556	605	140100.2	140214.2	114	171420	171830	410	274240	274525	285	1628	
17-5-2020	169697	169902	205	764556	765156	600	140214.2	140340.2	126	171830	172160	330	274525	274825	300	1561	
18-5-2020	169902	170126	224	765156	765766	610	140340.2	140470.2	130	172160	172507	347	274825	275137	312	1623	
19-5-2020	170126	170344	218	765766	766358	592	140470.2	140588.2	118	172507	172841	334	275137	275411	274	1536	
20-5-2020	170344	170550	206	766358	766972	614	140588.2	140714.2	126	172841	173183	342	275411	275665	254	1542	
21-5-2020	170550	170764	214	766972	767567	595	140714.2	140850.2	136	173183	173501	318	275665	275933	268	1531	
22-5-2020	170764	170984	220	767567	768167	600	140850.2	140960.2	110	173501	173874	373	275933	276248	315	1618	
23-5-2020	170984	171184	200	768167	768782	615	140960.2	141060.2	100	173874	174218	344	276248	276502	254	1513	
24-5-2020	171184	171396	212	768782	769385	603	141060.2	141188.2	128	174218	174583	365	276502	276804	302	1610	
25-5-2020	171396	171614	218	769385	769985	600	141188.2	141320.2	132	174583	174963	380	276804	277088	284	1614	
26-5-2020	171614	171814	200	769985	770584	599	141320.2	141425.2	105	174963	175349	386	277088	277382	294	1584	
27-5-2020	171814	172037	223	770584	771199	615	141425.2	141528.2	98	175349	175721	372	277382	277687	305	1613	
28-5-2020	172037	172249	212	771199	771817	618	141528.2	141657.2	128	175721	176085	364	277687	277987	300	1622	
29-5-2020	172249	172445	196	771817	772399	582	141657.2	141789.2	132	176085	176480	395	277987	278284	297	1608	
30-5-2020	172445	172655	210	772399	772993	594	141789.2	141913.2	124	176480	176855	375	278284	278544	265	1568	
31-5-2020	172655	173021	366	772993	773561	568	141913.2	142173.2	260	176855	177210	355	278544	278998	454	1998	



Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference														
1-6-2020	173021	173406	385	773561	774141	1080	142173	142373	200	77210	177565	355	277998	279498	500	2520	
2-6-2020	173406	173786	380	774641	775741	1100	142373	142573	196	77565	177971	406	279498	279980	482	2564	
3-6-2020	173786	174181	395	775741	776816	1075	142573	142773	204	77971	178371	400	279980	280492	512	2586	
4-6-2020	174181	174581	400	776816	777898	1082	142773	142973	200	78371	178747	376	280492	280987	495	2553	
5-6-2020	174581	174963	382	777898	778998	1100	142973	143158	185	78747	179162	415	280987	281487	500	2582	
6-6-2020	174963	175359	396	778998	780071	1073	143158	143362	204	79162	179544	382	281487	281969	482	2537	
7-6-2020	175359	175771	412	780071	781066	995	143362	143576	214	79544	179946	402	281969	282445	476	2499	
8-6-2020	175771	176143	372	781066	782171	1105	143576	143784	208	79946	180330	384	282445	282947	502	2571	
9-6-2020	176143	176528	385	782171	783265	1094	143784	143999	215	180330	180715	385	282947	283422	475	2554	
10-6-2020	176528	176913	425	783265	784265	1000	143999	144197	198	180715	181089	374	283422	283884	462	2459	
11-6-2020	176913	177361	408	784265	785363	1098	144197	144402	205	181089	181491	402	283884	284339	455	2568	
12-6-2020	177361	177759	398	785363	786469	1106	144402	144618	216	181491	181886	395	284339	284811	472	2587	
13-6-2020	177759	178125	416	786469	787564	1095	144618	144829	211	181886	182272	386	284811	285323	512	2620	
14-6-2020	178125	178570	395	787564	788999	1435	144829	145229	200	182272	182677	405	285323	285877	504	2939	
15-6-2020	178570	178991	421	788999	790253	1254	145229	14553	224	182677	183057	380	285877	286295	418	2747	
16-6-2020	178991	179375	384	790253	791498	1245	14553	14561	208	183057	183429	372	286295	286782	487	2696	
17-6-2020	179375	179747	372	791498	792782	1284	14561	14564	203	183429	183833	404	286782	287284	502	2765	
18-6-2020	179747	180105	358	792782	793961	1179	14564	145865	201	183833	183987	154	287284	288258	974	2866	
19-6-2020	180105	180341	236	793961	793961	0	145865	146023	158	183987	183987	0	288258	288258	0	394	
20-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
21-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
22-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
23-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
24-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
25-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
26-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
27-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
28-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
29-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
30-6-2020	180341	180341	0	793961	793961	0	146023	146023	0	183987	183987	0	288258	288258	0	0	
Total			7320			20400			3850			6777			9260	47607	



INDIA GLYCOL LIMITED, KASHIPUR

Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
1-7-2020	180341	180341	0	793961	793961	0	146023.8	146023.8	0	183987	183987	0	288258	288258	0	0	
2-7-2020	180341	180341	0	793961	793961	0	146023.8	146023.8	0	183987	183987	0	288258	288258	0	0	
3-7-2020	180341	180341	0	793961	793961	0	146023.8	146023.8	0	183987	183987	0	288258	288258	0	0	
4-7-2020	180341	180599	258	793961	794619	658	146023.8	146181.8	158	183987	183987	0	288258	288258	0	0	
5-7-2020	180599	180873	274	794619	795271	652	146181.8	146343.8	162	183987	184389	402	288258	288583	325	1801	
6-7-2020	180873	181157	284	795271	795956	685	146343.8	146499.8	156	184389	184747	358	288583	288991	408	1774	
7-7-2020	181157	181412	255	795956	796609	653	146499.8	146664.8	165	184747	185122	376	288991	289225	234	1805	
8-7-2020	181412	181672	260	796609	797284	675	146664.8	146826.8	162	185122	185507	385	289225	289543	318	1785	
9-7-2020	181672	181931	262	797284	797938	654	146826.8	146998.8	172	185507	185917	410	289543	289843	300	1807	
10-7-2020	181931	182189	255	797938	798638	700	146998.8	147158.8	155	185917	186285	368	289843	290155	312	1768	
11-7-2020	182189	182481	292	798638	799280	642	147158.8	147317.8	164	186285	186675	390	290155	290485	330	1840	
12-7-2020	182481	182701	220	799280	799914	634	147317.8	147477.8	160	186675	187030	355	290485	290837	352	1745	
13-7-2020	182701	182951	250	799914	800592	684	147477.8	147638.8	161	187030	187436	406	290837	291189	352	1762	
14-7-2020	182951	183216	265	800592	801230	632	147638.8	147801.8	163	187436	187844	408	291189	291533	344	1762	
15-7-2020	183216	183464	248	801230	801894	664	147801.8	147976.8	175	187844	188186	342	291533	291837	304	1651	
16-7-2020	183464	183722	258	801894	802546	652	147976.8	148166.8	190	188186	188604	418	291837	292257	420	1725	
17-7-2020	183722	183960	238	802546	803246	700	148166.8	148368.8	202	188604	189030	426	292257	292483	226	1744	
18-7-2020	183960	184260	300	803246	803901	655	148368.8	148588.8	220	189030	189465	435	292483	292803	320	1791	
19-7-2020	184260	184495	235	803901	804539	638	148588.8	148830.8	242	189465	189832	367	292803	293117	314	1743	
20-7-2020	184495	184753	258	804539	805244	705	148830.8	149118.8	288	189832	190269	437	293117	293409	292	1749	
21-7-2020	184753	185021	268	805244	805944	700	149118.8	149422.8	304	190269	190693	424	293409	293739	330	1745	
22-7-2020	185021	185267	246	805944	806576	632	149422.8	149822.8	400	190693	191077	384	293739	294069	330	1766	
23-7-2020	185267	185567	300	806576	807206	630	149822.8	150298.8	476	191077	191457	380	294069	294381	312	1670	
24-7-2020	185567	185829	262	807206	807855	649	150298.8	150847.8	549	191457	191821	364	294381	294709	328	1698	
25-7-2020	185829	186103	274	807855	808567	712	150847.8	151580.8	733	191821	192215	394	294709	295035	326	1711	
26-7-2020	186103	186347	244	808567	809202	635	151580.8	152345.8	765	192215	192555	340	295035	295341	306	1744	
27-7-2020	186347	186601	254	809202	809852	650	152345.8	153155.8	810	192555	192949	384	295341	295665	324	1652	
28-7-2020	186601	186879	278	809852	810504	652	153155.8	154017.8	862	192949	193349	400	295665	295987	322	1696	
29-7-2020	186879	187159	280	810504	811122	618	154017.8	154999.8	982	193349	193713	364	295987	296317	330	1728	
30-7-2020	187159	187463	304	811122	811780	658	154999.8	156077.8	1078	193713	194075	362	296317	296663	346	1688	
31-7-2020	187463	187741	278	811780	812461	681	156077.8	157278.8	1201	194075	194440	364	296663	296988	325	1729	
Total																2997	



Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference		
1-8-2020	187741	187991	250	812461	813111	650	149223.2	149923.2	700	194821	195193	372	297498	297798	300	1682	
2-8-2020	187991	188255	264	813111	813775	664	149923.2	150648.2	725	195193	195551	358	297798	298102	304	1705	
3-8-2020	188255	188529	274	813775	814429	654	150648.2	151360.2	712	195551	195925	374	298102	298386	284	1698	
4-8-2020	188529	188775	246	814429	815123	694	151360.2	152060.2	700	195925	196201	276	298386	298700	314	1720	
5-8-2020	188775	189075	300	815123	815807	684	152060.2	152778.2	718	196201	196659	458	298700	298990	290	1760	
6-8-2020	189075	189339	264	815807	816405	598	152778.2	153496.2	718	196659	197065	406	298990	299290	300	1686	
7-8-2020	189339	189643	304	816405	817023	618	153496.2	154200.2	704	197065	197459	394	299290	299576	286	1706	
8-8-2020	189643	189927	284	817023	817777	754	154200.2	154946.2	746	197459	197849	390	299576	299894	318	1782	
9-8-2020	189927	190191	264	817777	818365	588	154946.2	155698.2	752	197849	198257	408	299894	300188	294	1716	
10-8-2020	190191	190476	285	818365	819008	643	155698.2	156412.2	714	198257	198657	400	300188	300488	300	1742	
11-8-2020	190476	190776	300	819008	819650	642	156412.2	157128.2	716	198657	198967	310	300488	300774	286	1638	
12-8-2020	190776	191038	262	819650	820232	582	157128.2	157837.2	709	198967	199289	322	300774	301092	318	1609	
13-8-2020	191038	191306	268	820232	820886	654	157837.2	158557.2	720	199289	199580	291	301092	301366	274	1616	
14-8-2020	191306	191610	304	820886	821536	650	158557.2	159245.2	688	199580	199923	343	301366	301670	304	1680	
15-8-2020	191610	191886	276	821536	822181	645	159245.2	159945.2	700	199923	200241	318	301670	301946	276	1615	
16-8-2020	191886	192159	273	822181	822845	664	159945.2	160638.2	693	200241	200549	308	301946	302210	264	1627	
17-8-2020	192159	192359	200	822845	823517	672	160638.2	161347.2	709	200549	200895	346	302210	302468	258	1604	
18-8-2020	192359	192542	183	823517	824182	665	161347.2	162015.2	668	200895	201237	342	302468	302782	314	1629	
19-8-2020	192542	192747	205	824182	824832	650	162015.2	162741.2	726	201237	201552	315	302782	303077	295	1590	
20-8-2020	192747	192943	196	824832	825474	642	162741.2	163411.2	670	201552	201890	338	303077	303391	314	1590	
21-8-2020	192943	193101	158	825474	826162	688	163411.2	164146.2	735	201890	202326	436	303391	303639	248	1635	
22-8-2020	193101	193355	254	826162	826815	653	164146.2	164868.2	722	202326	202750	424	303639	303939	300	1747	
23-8-2020	193355	193641	286	826815	827489	674	164868.2	165572.2	704	202750	203195	445	303939	304193	254	1759	
24-8-2020	193641	193841	200	827489	828149	660	165572.2	166277.2	705	203195	203659	464	304193	304507	314	1753	
25-8-2020	193841	194031	190	828149	828829	680	166277.2	166977.2	700	203659	204073	414	304507	304767	260	1644	
26-8-2020	194031	194203	172	828829	829463	634	166977.2	167711.2	734	204073	204503	430	304767	305020	253	1622	
27-8-2020	194203	194203	0	829463	830097	634	167711.2	168439.2	728	204503	204927	424	305020	305305	285	1471	
28-8-2020	194203	194203	0	830097	830725	628	168439.2	169149.2	710	204927	205346	419	305305	305569	264	1421	
29-8-2020	194203	194203	0	830725	831367	642	169149.2	169843.2	694	205346	205758	412	305569	305885	316	1492	
30-8-2020	194203	194381	178	831367	831985	618	169843.2	170526.2	683	205758	206156	398	305885	306145	260	1569	
31-8-2020	194381	194741	360	831985	832661	676	170526.2	171233.2	707	206156	206566	410	306145	306498	353	2036	



Ground Water Abstraction Record

Chemical Plant

Date	Borewell No. 1			Borewell No. 2			Borewell No. 3			Borewell No. 4			Borewell No. 5			Total Water (M ³)	Remarks
	Initial	Final	Difference														
1-9-2020	194711	194958	215	832621	833261	700	153423.8	153508	84.2	206566	207046	480	306198	306768	270	1749.2	
2-9-2020	194958	195166	210	833361	834015	684	153508	153588	80	207046	207542	496	306768	307032	264	1784	
3-9-2020	195166	195366	200	834015	834745	700	153588	153682	94	207542	208020	478	307032	307332	300	1772	
4-9-2020	195366	195606	240	834745	835419	674	153682	153784	102	208020	208520	500	307332	307596	264	1780	
5-9-2020	195606	195802	196	835419	836099	680	153784	153862	78	208520	208992	472	307596	307870	274	1700	
6-9-2020	195802	196002	200	836099	836803	704	153862	153962	100	208992	209464	472	307870	308120	250	1726	
7-9-2020	196002	196216	214	836803	837457	654	153962	154037	75	209464	209944	510	308120	308895	275	1728	
8-9-2020	196216	196410	194	837457	838150	702	154037	154119	82	209944	210439	465	308395	308659	264	1707	
9-9-2020	196410	196610	200	838159	838845	684	154119	154215	96	210439	210921	482	308659	308939	280	1742	
10-9-2020	196610	196794	184	838843	839577	704	154215	154289	74	210921	211391	470	308939	309239	300	1732	
11-9-2020	196794	197009	215	839577	840225	678	154289	154393	104	211391	211856	465	309239	309507	268	1730	
12-9-2020	197009	197207	198	840225	840933	708	154393	154457	64	211856	212256	400	309507	309787	280	1650	
13-9-2020	197207	197421	214	840933	841605	672	154457	154529	72	212256	212706	450	309787	310055	268	1676	
14-9-2020	197421	197637	216	841605	842297	692	154529	154609	80	212706	213162	456	310055	310316	255	1699	
15-9-2020	197637	197857	220	842297	843007	710	154609	154703	94	213162	213646	484	310316	310580	270	1778	
16-9-2020	197857	198081	224	843007	843692	685	154703	154803	100	213646	214146	500	310580	310842	262	1771	
17-9-2020	198081	198266	185	843692	844382	690	154803	154865	62	214146	214608	462	310842	311142	300	1699	
18-9-2020	198266	198440	174	844382	845082	700	154865	154961	96	214608	214992	384	311142	311426	284	1638	
19-9-2020	198440	198634	194	845082	845794	712	154961	155041	80	214992	215526	534	311426	311710	274	1794	
20-9-2020	198634	198838	204	845794	846514	660	155041	155141	100	215526	216024	498	311710	311960	250	1722	
21-9-2020	198838	199052	214	846514	847106	652	155141	155215	74	216024	216542	518	311960	312245	285	1743	
22-9-2020	199052	199245	193	847106	847830	724	155215	155299	84	216542	217056	514	312245	312517	272	1787	
23-9-2020	199245	199432	187	847830	848516	716	155299	155399	100	217056	217514	458	312517	312813	296	1757	
24-9-2020	199432	199639	207	848516	849254	708	155399	155503	104	217514	218016	502	312813	313113	300	1821	
25-9-2020	199639	199863	224	849254	849969	715	155503	155617	114	218016	218511	495	313113	313373	260	1808	
26-9-2020	199863	200081	218	849969	850651	682	155617	155725	108	218511	219035	524	313373	313667	294	1826	
27-9-2020	200081	200315	234	850651	851345	694	155725	155809	84	219035	219520	485	313667	313967	300	1797	
28-9-2020	200315	200511	196	851345	852061	716	155809	155881	72	219520	220048	528	313967	314221	254	1766	
29-9-2020	200511	200866	355	852061	852735	674	155881	155942	61	220048	220520	472	314221	314501	280	1842	
30-9-2020	200866	201180	314	852735	853324	589	155942	155980	38	220520	221031	511	314501	314697	196	1648	
			6489			20663			2556			14465			8199	52322.2	
Total																	



ANNEXURE – 8.6

(Description of Effluent Treatment Facilities)

EFFLUENT TREATMENT OF GLYCOL/EOD EFFLUENT

Waste Water

During manufacturing process of EO/EG, effluent gets generated from the process as condensate in the Plant. Dehydration condensate contains mainly volatile compounds and acids. The effluent generation from EOD is basically from reactor washing during product change and process condensates. The effluent/ waste water generated from Chemical Plant is around 20 – 22 m³/hr (540 M³/day max). The effluent is sent to ETP through three pits having oil & grease trap.

Waste Water Treatment

M/s India Glycols Limited has adopted Oil skimming, VOC distillation column, activated sludge process followed by multi-grade sand filter & activated carbon filter. The schematic diagram is shown in Figure – 01. The details of ETP are described in the following paragraphs:

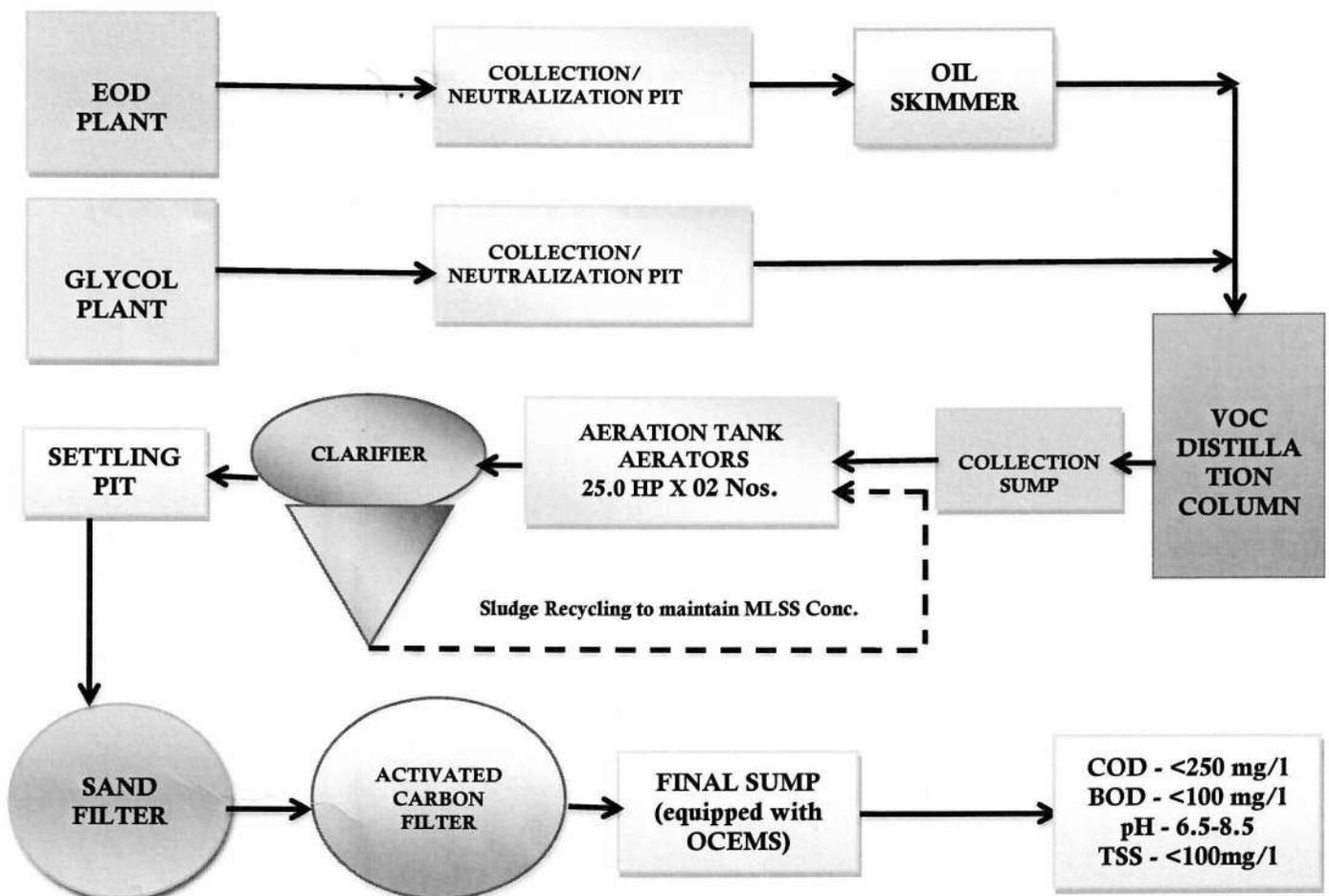


Fig. – 01: Schematic Diagram of Effluent Treatment Plant

Following is the characteristics of process waste water-

Effluent Characteristics:

pH	:	4.2
COD	:	1200 – 1500 mg/1
BOD	:	300 – 400 mg/1
Conductivity	:	40 – 60 micro mho/cm
TSS	:	Nil

Organic Loading in this stream are due presence of some volatile impurities. We have installed a vacuum distillation column for removing the above components to the maximum extent.

In this process, generated effluent/process condensate is being sent to the column where distillation is carried out in vacuum. Where it is treated/distilled by using external heat. Concentrated impurities are taken from the top of the column and sent to MEG heater/alcohol column to recover the alcohol. Effluent is being sent to ETP.

Following is the characteristics of treated condensate/bottom of the column-

Ethanol	:	ND
Aldehyde	:	ND
Conductivity	:	40 – 60 micro mho/cm
pH	:	4.2
COD	:	600 – 650 mg/1
Conductivity	:	30 – 40 micro mho/cm

Treated Condensate, which have COD in the range of 600 – 650 mg/1, is taken from the bottom of the column and sent to the existing ETP for polishing & disposal.

Aeration Tank

After VOC Column the effluent is collected in a collection cum feed tank (Volume-127.4 m3) and effluent is sent to Aeration Tank of 900.0 KL holding capacity where 02 No. Fuchs (Wall mounted type) aerator of 25 HP each are installed to provide the required oxygen according to organic load to aerate the effluent. Aerators are being operated in such a fashion so that the required oxygen level is maintained for the entire volume of aeration tank.

Process Parameters:

Process parameters

Holding Capacity	:	900 M ³
Effective Volume	:	800 M ³
Type of Aerators	:	Fuchs (Wall mounted)
No. of Aerators	:	02
Motor H.P.	:	25
O ₂ transfer rate	:	1.5 Kg O ₂ /HP/Hr. @ 80 % efficiency
MLSS maintained	:	2400 – 2600 mg/Ltr.
Retention time	:	1.48 days approx.
O ₂ maintained	:	3.0 ppm

Clarifier

The overflow from aeration tank is passed through clarifier to separate the sludge. The sludge from clarifier is recycled back to aeration tank to maintain the required MLSS concentration.

Process Parameters:

Side Water Depth (SWD)	:	3.0 Meter
Diameter	:	20.02 Meter
Make	:	Voltas
Type	:	Centrally driven

Settling pit

Over flow from the clarifier comes into settling pit (effective volume 39.0 M³) where settling of remaining sludge particles take place. After settling down effluent goes to the multi-grade sand filter and activated carbon filter.

Multi Grade Sand filter

The sand filter contains three layers of sand viz. coarse, medium and fine. The coarse sand is at the bottom of filter for supporting the medium sand and fine sand which is the top most layer. Only the top layer is filtering layer while the bottom layers are supporting. The normal flow of water is from top to bottom. The sand filter unit is designed for rapid filtration of the effluent. The sand filter retains all sediment particles over 50 um in size.

The build-up of particulate solids causes an increase in the pressure lost across the bed for a given flow rate. When the pressure loss or flow is unacceptable and the filter is not working effectively any longer, the bed is backwashed to remove the accumulated particles. The treated effluent is pumped backwards through the bed until it is fluidized. The smaller particulate solids are washed away with the treated effluent and captured in the settling pit.

Specifications:

Filtration Media	:	Quartz Silica Sand with Graded Multilayer Under bed
Working Diameter	:	3200 mm
Operating Pressure	:	1.5 – 3.0 kg/cm ²
Bed Depth	:	1200 mm
Type	:	Down Flow Vertical Cylinder

Activated Carbon Filter

The Activated carbon Filter is designed to remove free chlorine, organic matter, odour and Colour present in waste water. Due to its high degree of micro porosity, activated carbons provide a huge surface area. Activated carbon filter operates through adsorption. Adsorption is directly related to the surface area of the media. This great surface area furnishes a huge adsorption area for organic as well as chlorine molecules to attach themselves.

Specifications:

Filtration Media	:	Activated Carbon Media
Working Diameter	:	3200 mm
Operating Pressure	:	1.5 – 2.5 kg/cm ²
Bed Depth	:	1200 mm
Type	:	Down Flow Vertical Cylinder

Final Collection Pit

After polishing in Multi Grade Sand Filter and Activated Carbon Filter effluent is collected in final collection pit (Volume 58 M3) where Online Continuous Monitoring System (OCEMS) has been installed to monitor the discharge parameters.

Characteristics of final discharge:

pH	:	6.5 to 9.0
TSS	:	<100 mg/l
BOD	:	<30 mg/l
COD	:	<250 mg/l
O & G	:	<10 mg/l

Water Pollution:

Details of Treated effluent discharged (MEG Plant) and their parameters are as follows:

Sl. No.	Name of the Pollutant (s)	Parameters	
		After Treatment	UKPCB Standards
1.	COD (mg/l)	40 – 150 mg/l	< 250 mg/l
2.	BOD (mg/l)	10 – 30 mg/l	< 100 mg/l
3.	TSS (mg/l)	25 – 50 mg/l	< 100 mg/l
4.	pH	7.1 – 8.0	6.5 – 8.5
5.	Temp °C	Ambient	Ambient
6.	Oil & Grease (mg/l)	Nil	< 10 mg/l
7.	Phenolic Compounds (mg/l)	N/D	< 5.0 mg/l
8.	Nickel as Ni (mg/l)	N/D	< 2.0 mg/l
9.	Sulphide as S (mg/l)	N/D	2.0 mg/l

PHOTOGRAPHS OF ETP & INSTALLED MONITORING DEVICES

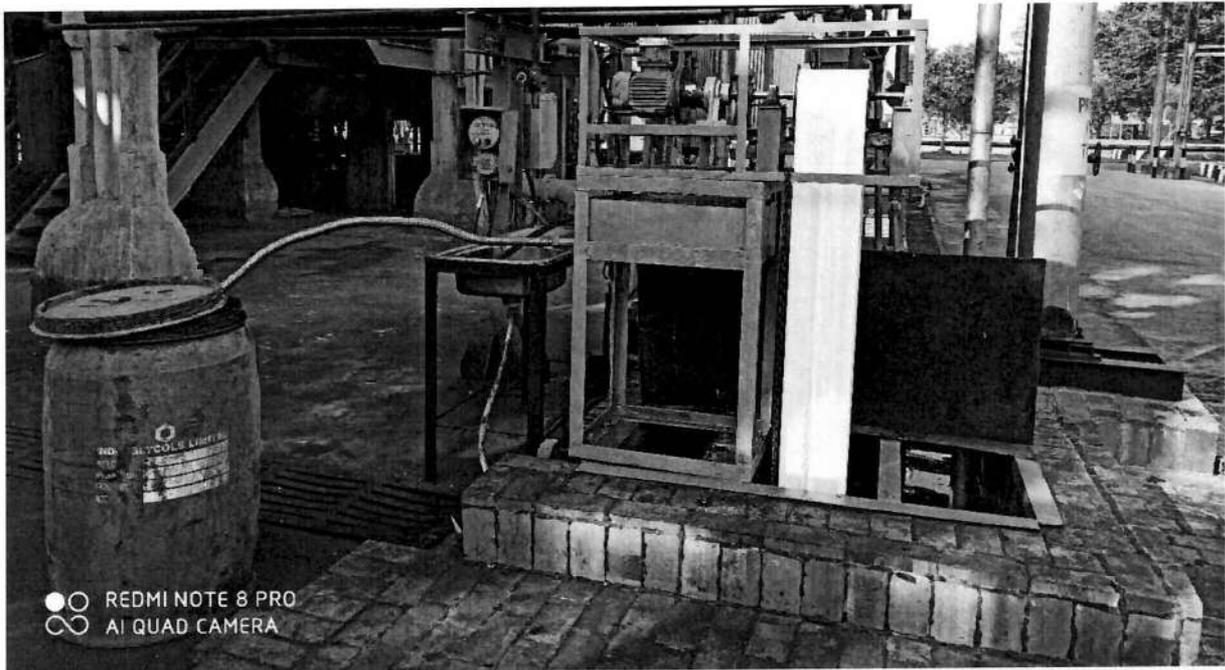


Fig. - 02: Oil Skimmer at effluent collection pit

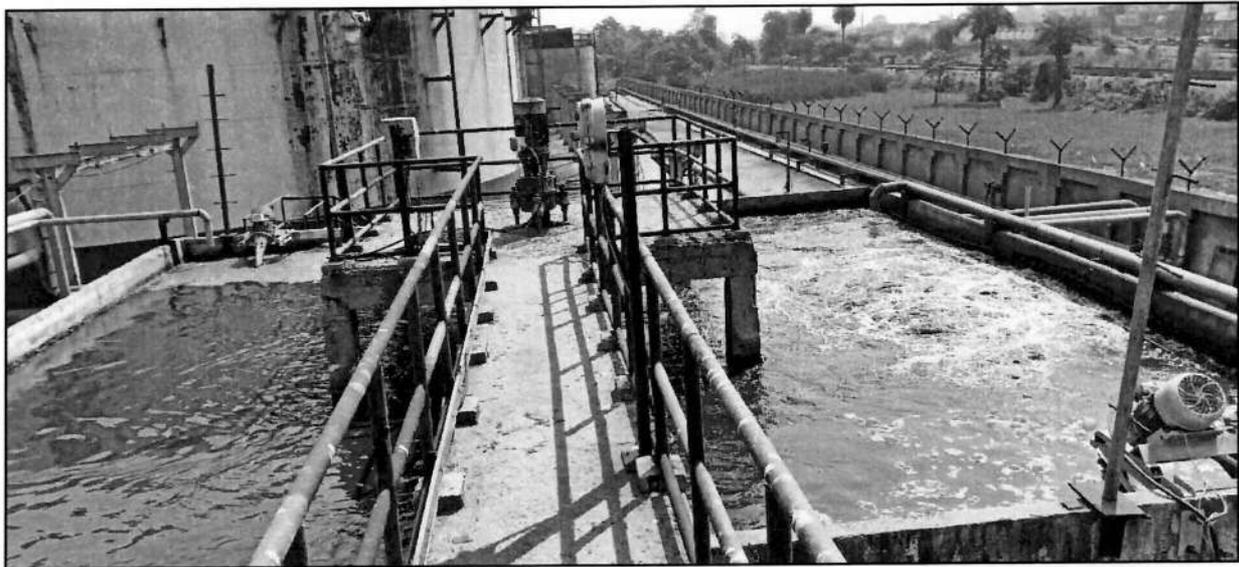


Fig - 03: Aeration Tank



Fig. – 04: Central Driven Clarifier



Fig. – 05: Settling Pit

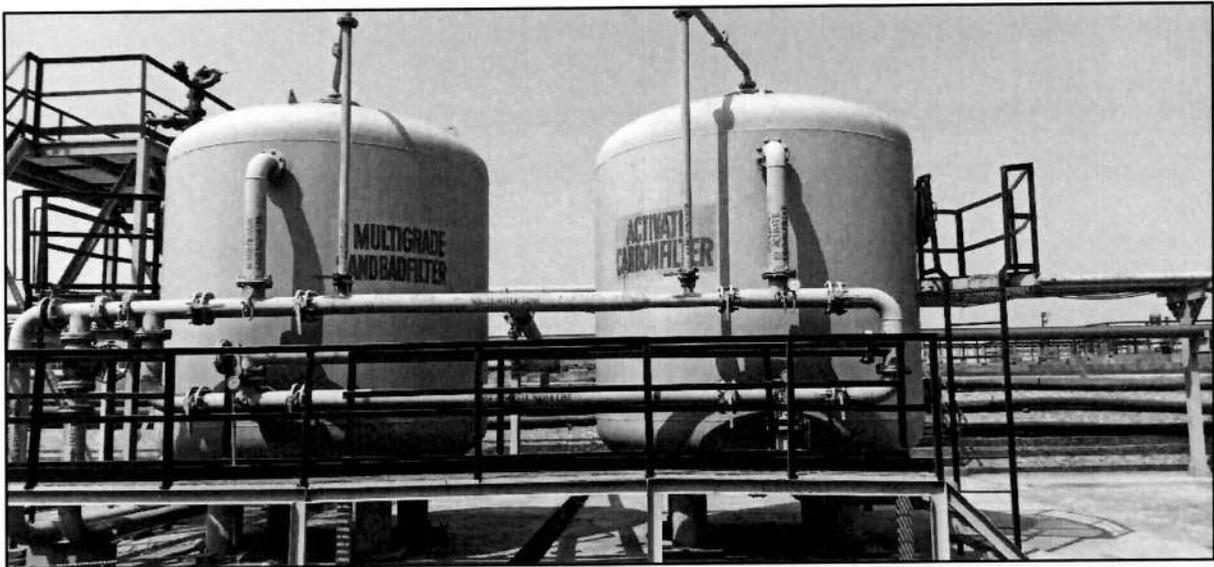


Fig. – 06: Multi Grade Sand Filter & Activated Carbon Filter

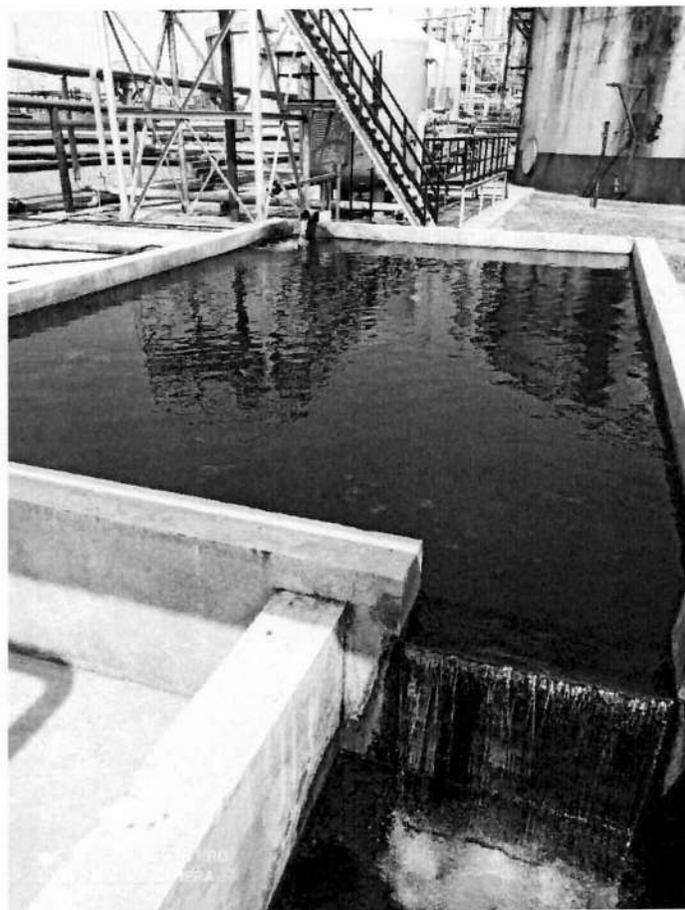
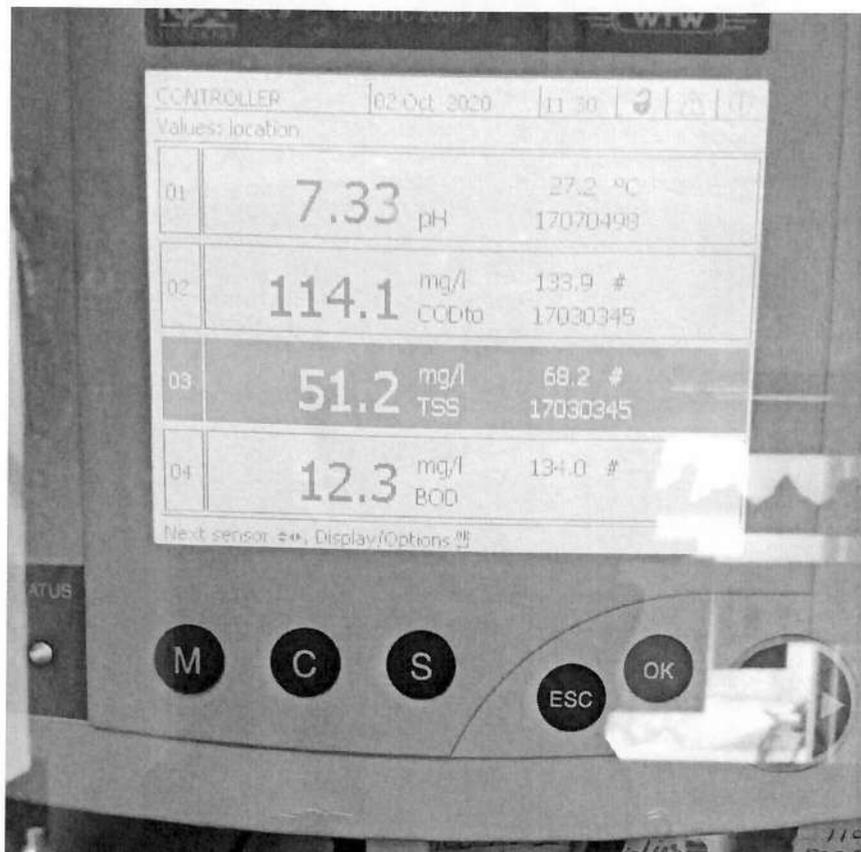


Fig. – 07: Final Collection Pit

On-line Monitoring SYSTEM

M/s India Glycols Limited has installed On-line continuous effluent monitoring system (OCEMS) & connected with UKPCB/CPCB server.



ANNEXURE - 8.7

(Stack emission monitoring reports)



Analyzing for an Assured Future

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-050920-03	10/09/2020

Issued To: M/s India Glycols Limited
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	NTL
Sample description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Location	:	IJT 80 T Boiler
Sampling Plan & Procedure	:	IS:11255
Analysis Duration	:	05/09/2020 to 10/09/2020
Stack Temperature (°C)	:	114
Capacity (TPH/KVA/Kg/Hr)	:	80 TPH
Type of Fuel used	:	Coal
Operating Load	:	Normal
Type of Stack	:	RCC circular
Diameter of Stack (meter)	:	1.5
Height of Stack from Ground level (meter)	:	80.0
Average Flow Rate (LPM)	:	15
Average Velocity of Emission (m/sec)	:	10.6

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM) @ 12% CO ₂ Correction	IS:11255(Part-1)1985	88.20	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	52.40	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7) 2005	65.80	mg/Nm ³	Limit Not Specified

Notes:

- The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only
- Responsibility of the Laboratory is limited to the invoiced amount only
- This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory
- This test report will not be used for any publicity/legal purpose.
- The test samples will be disposed of after two weeks from the date of issue of test report, unless until specified by the customer.

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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-050920-09	10/09/2020

Issued To: **M/s India Glycols Limited**
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	NTL
Sample description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Location	:	TBW Boiler
Sampling Plan & Procedure	:	IS:11255
Analysis Duration	:	05/09/2020 to 10/09/2020
Stack Temperature (°C)	:	110
Capacity (TPH/KVA/Kg/Hr)	:	45 TPH
Type of Fuel used	:	Coal
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack (meter)	:	1.5
Height of Stack from Ground level (meter)	:	68.0
Average Flow Rate (LPM)	:	13
Average Velocity of Emission (m/sec)	:	10.1

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM) @12% CO ₂ Correction	IS:11255(Part-1)1985	78.24	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	46.80	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7) 2005	77.45	mg/Nm ³	Limit Not Specified

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
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TEST CERTIFICATE

Test Report of Stack Emission	Report Code ST-050920-07	Date of Issue 10/09/2020
----------------------------------	-----------------------------	-----------------------------

Issued To: M/s India Glycols Limited
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	NTL
Sample description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Location	:	Slop Boiler - 1
Sampling Plan & Procedure	:	IS:11255
Analysis Duration	:	05/09/2020 to 10/09/2020
Stack Temperature (°C)	:	124
Capacity (TPH/KVA/Kg/Hr)	:	50 TPH
Type of Fuel used	:	Coal + Slop
Operating Load	:	Normal
Type of Stack	:	RCC circular
Diameter of Stack (meter)	:	2.5
Height of Stack from Ground level (meter)	:	81.0
Average Flow Rate (LPM)	:	26
Average Velocity of Emission (m/sec)	:	10.8

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM) @12% CO ₂ Correction	IS:11255(Part-1)1985	58.20	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	66.40	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7)2005	75.31	mg/Nm ³	Limit Not Specified

Notes:

- The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only
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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-050920-04	10/09/2020

Issued To: **M/s India Glycols Limited**
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	NTL
Sample description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Location	:	MEG Heater (B-110)
Sampling Plan & Procedure	:	IS:11255
Analysis Duration	:	05/09/2020 to 10/09/2020
Stack Temperature (°C)	:	116
Capacity (TPH/KVA/Kg/Hr)	:	-
Type of Fuel used	:	FO + Biogas
Fuel Consumption (per hour)	:	0.25 + 200
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack(meter)	:	0.838
Height of Stack from Ground level(meter)	:	30.0
Average Flow Rate (LPM)	:	28
Average Velocity of Emission (m/sec)	:	10.8

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM)	IS:11255(Part-1)1985	58.18	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	41.26	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7) 2005	65.50	mg/Nm ³	Limit Not Specified

Notes:

- The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-050920-05	10/09/2020

Issued To: **M/s India Glycols Limited**
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By : NTL
 Sample description : Stack Emission
 Sampling Time : 30 minutes
 Sampling Location : MEG Heater (B-110 A)
 Sampling Plan & Procedure : IS:11255
 Analysis Duration : 05/09/2020 to 10/09/2020
 Stack Temperature (°C) : 117
 Capacity (TPH/KVA/Kg/Hr) : -
 Type of Fuel used : FO + Biogas
 Fuel Consumption (per hour) : 0.25 + 200
 Operating Load : Normal
 Type of Stack : Metal circular
 Diameter of Stack(meter) : 0.850
 Height of Stack from Ground level(meter) : 45.0
 Average Flow Rate (LPM) : 14
 Average Velocity of Emission (m/sec) : 10.5

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM)	IS:11255(Part-1)1985	63.25	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	52.12	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7) 2005	75.06	mg/Nm ³	Limit Not Specified

Notes:

- The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
- Responsibility of the Laboratory is limited to the invoiced amount only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
- This test report will not be used for any publicity/legal purpose.
- The test samples will be disposed of after two weeks from the date of issue of test report, unless until specified by the customer.

CHECKED BY

AUTHORIZED SIGNATORY



Laboratory : GT-20, Sector-117, Noida, Gautam Budh Nagar - 201301
 E. : noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com

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NOIDA TESTING LABORATORIES

(An ISO : 9001 : 2015, ISO 14001:2015 & ISO 45001:2018 & NABL Accredited Laboratory)

MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB & HSPCB Recognized Laboratory

+91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

Analyzing for an Assured
Future.

TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-050920-06	10/09/2020

Issued To: **M/s India Glycols Limited**
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	NTL
Sample description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Location	:	MEG Heater (B-110 B)
Sampling Plan & Procedure	:	IS:11255
Analysis Duration	:	05/09/2020 to 10/09/2020
Stack Temperature (°C)	:	121
Capacity (TPH/KVA/Kg/Hr)	:	-
Type of Fuel used	:	FO + Biogas
Fuel Consumption (per hour)	:	0.25 + 200
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack (meter)	:	0.850
Height of Stack from Ground level (meter)	:	45.0
Average Flow Rate (LPM)	:	14
Average Velocity of Emission (m/sec)	:	10.8

TEST RESULT

S. No.	Parameter	Test Method	Results	Units	Emission Limits
1.	Particulate Matter (PM)	IS:11255(Part-1)1985	62.35	mg/Nm ³	150
2.	Sulphur dioxide (as SO ₂)	IS:11255(Part-2)1985	45.60	mg/Nm ³	Limit Not Specified
3.	Nitrogen Oxide (as NO _x)	IS:11255(Part-7) 2005	78.12	mg/Nm ³	Limit Not Specified

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed of after two weeks from the date of issue of test report, unless until specified by the customer.

CHECKED BY

AUTHORIZED SIGNATORY



ANNEXURE – 8.8

Annual Return as Form 4 (Period April 2019 to March 2020)



INDIA GLYCOLS LIMITED



Works & Registered Office : A-1, Industrial Area, Bazpur Road, Kashipur - 244713, Distt. Udham Singh Nagar (Uttarakhand)
Tel. No.: +91 5947 269000 / 269500 / 275320, +91 9411108202, Fax No.: +91 5947 275315, 269535
Website : www.indiaglycols.com

Date: 11th May, 2020

Ref: AG/UKPCB/Hazardous Waste Authorization/IGL-KSP/2020/

To,

**The Regional Officer
Uttarakhand Pollution Control Board
Chamunda Complex, Ramnagar Road
Kashipur – 244713, District U.S. Nagar
Uttarakhand**

Subject: Submission of Annual Return in Form – 4.

Dear Sir,

Please find enclosed herewith the duly filled Annual Return in **Form – 4 (for the period April 2019 to March 2020)** in compliance of Authorization granted by UKPCB under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (**Authorization No. 278 dated 18.04.2018**).

This is for your kind information and records please.

With best regards,

Sincerely Yours,
for M/s INDIA GLYCOLS LIMITED

(Dr. Ashutosh Gautam)
Head (Environment)



Encls: Form – 3 & Form – 4 alongwith the Annexures

**CC: Member Secretary, UKPCB, “Goura Devi Paryavaran Bhawan”, 46B, I.T. Park,
Sahastradhara Road, Dehradun – 248001, Uttarakhand**

FORM - 4

[See rules 6 (5), 13 (8), 16 (6) and 20 (2)]

**FORM FOR FILING ANNUAL RETURNS
(FOR THE PERIOD APRIL 2019 TO MARCH 2020)**

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

1.	Name and address of Facility	:	M/s India Glycols Limited A - 1, Industrial Area, Bazpur Road, Kashipur - 244713 District Udham Singh Nagar, Uttarakhand
2.	Authorization No. and Date of issue	:	278 dt. 18.04.2018
3.	Name of the authorized person and full address with Telephone, Fax Number and e-mail	:	Dr. Ashutosh Gautam Head (Environment) M/s India Glycols Limited A - 1, Industrial Area, Bazpur Road, Kashipur, District Udham Singh Nagar, Uttarakhand Tel. No: 05947 - 269124 Mob. No.9837242463 Fax:+91 5947 - 275315 Email: ashutosh.gautam@indiaglycols.com
4.	Production during the Year (Product wise), wherever applicable	:	As per <u>Annexure - 1.</u>

Part A. To be filled by Hazardous Waste Generators

1.	Total quantity of waste generated category wise	:	As per <u>Annexure - 2.</u>
2.	Quantity dispatched i) To disposal facility ii) To recycler or co-processors or pre-processor iii) Others	:	As per <u>Annexure - 2.</u>
3.	Quantity utilized in-house, if any	:	Nil
4.	Quantity in storage at the end of the year	:	Nil

(Signature)

Part B. To be filled by Treatment, Storage and Disposal Facility Operators

1.	Total quantity received	:	-NA-
2.	Quantity in stock at the beginning of the year	:	
3.	Quantity treated	:	
4.	Quantity disposed in landfills as such and after treatment	:	
5.	Quantity incinerated (if applicable)	:	
6.	Quantity processed other than specified above -	:	
7.	Quantity in storage at the end of the year	:	

Part C. To be filled by Recyclers or Co-Processors or Other Users

1.	Quantity of waste received during the year i) domestic sources ii) imported (if applicable)	:	-NA-
2.	Quantity in stock at the beginning of the year	:	
3.	Quantity recycled or co-processed or used	:	
4.	Quantity of products dispatched (wherever applicable)	:	
5.	Quantity of waste generated	:	
6.	Quantity of waste disposed	:	
7.	Quantity re-exported (wherever applicable)	:	
8.	Quantity in storage at the end of the year	:	

Date: 11.05.2020

Place: Kashipur



**Signature of the Occupier or
Operator of the disposal facility**



(Dr. Ashutosh Gautam)
Head (Environment)

Annexue - 1

INDIA GLYCOLS LIMITED
Year 19-20
Production of MEG (Chemical Plant)

PRODUCTION

Unit: MT

MONTH	MEG Production	DEG Production	TEG/HG Production	Glycol Ether Production	Ethoxylate Production	Formulation Production	Total EOD Production
April'19	5321.055	279.142	12.106	1124.089	1,877.000	1,517.000	3394.000
May'19	10657.488	460.071	47.102	2096.856	5,286.000	2,399.000	7685.000
June'19	8382.173	210.902	28.769	1966.974	4,822.000	2,270.000	7092.000
July'19	8571.501	250.857	34.120	2550.066	4,684.000	2,772.000	7456.000
August'19	6276.982	70.669	0.465	2500.950	4,240.000	2,984.000	7224.000
September'19	6009.805	5.286	10.990	2331.257	3,807.000	2,333.000	6140.000
October'19	6424.926	149.000	1.154	2432.300	3,535.000	2,586.000	6121.000
November'19	5700.447	39.629	19.002	2395.036	3,748.000	2,281.000	6029.000
December'19	5226.176	23.732	6.030	2483.300	3,649.000	2,509.000	6158.000
January'20	5357.972	7.569	25.816	2388.117	3,358.000	2,718.000	6076.000
February'20	5033.611	7.254	12.991	889.788	3,951.000	2,751.000	6702.000
March'20	3556.519	23.965	10.247	1630.800	3,240.000	2,553.000	5793.000
Total	76518.655	1528.076	208.792	24789.533	46197.000	29673.000	75870.000



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ITEM DISPATCHED UNDER HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016.

(PERIOD APRIL 2019 - MARCH 2020)

A. SPENT CATALYST - SILVER

(SCHEDULE - I - 1.6)

Sr. No.	Date/Month	Type of Hazardous Waste	Authorized Dealer (Recycler/re processor)	Total Quantity	
				Containers (Nos.)	Quantity (MT)
1.	08.04.2019	Spent Catalyst	M/s Choksi Heraeus Pvt. Ltd. A 195-196, 'F' Road, M.I.A., Madri, Udaipur-313003, Rajasthan	76	13.600
2.	08.04.2019	Spent Catalyst	M/s Choksi Heraeus Pvt. Ltd. A 195-196, 'F' Road, M.I.A., Madri, Udaipur-313003, Rajasthan	76	13.623
3.	09.04.2019	Spent Catalyst	M/s Hindustan Platinum Pvt. Ltd. C-122, TTC, Industrial Area, Pawane Village, Navi Mumbai - 400703	78	13.939
4.	09.04.2019	Spent Catalyst	M/s Hindustan Platinum Pvt. Ltd. C-122, TTC, Industrial Area, Pawane Village, Navi Mumbai - 400703	75	13.500
TOTAL				305 Nos.	54.662 MT

B. EMPTY BARRELS/CONTAINERS/LINERS CONTAMINATED WITH HAZARDOUS CHEMICALS/WASTES

(SCHEDULE - I - 33.1)

Sr. No.	Month	Type of Hazardous Waste	Authorized Dealer (Recycler)	Quantity (Nos.)
1.	April 2019	Empty HDPE Barrels, MS Drums, HDPE Canes	Shubham Machines Pvt. Ltd. C-117, B.S. Road Industrial Area, near RTO Office, Ghaziabad (UP)	1408
2.	May 2019	-do-	-do-	
3.	June 2019	-do-	-do-	1908
4.	July 2019	-do-	-do-	926
5.	August 2019	-do-	-do-	1232
6.	September 2019	-do-	-do-	3549
7.	October 2019	-do-	-do-	2659
8.	November 2019	-do-	-do-	1754
9.	December 2019	-do-	-do-	2116
10.	January 2020	-do-	-do-	998
11.	February 2020	-do-	-do-	2303
12.	March 2020	-do-	-do-	2328
		HDPE IBCs / Barrels	M/s Global Environmental Solution (Unit-2), Khasra No. 560, Vill. Lambakhera, P.O. Khanpur, Gadarpur, U.S. Nagar (UK)	1084 72
TOTAL				22337 Nos.

C. USED/SPENT OIL IN DRUMS**(SCHEDULE - I - 5.1)**

Sr. No.	Month	Type of Hazardous Waste	Authorized Dealer (Recycler)	Total Quantity	
				Barrels (Nos.)	Quantity (MT)
1.	April 2019	Used Oil in Drums	M/s Continental Petroleums Ltd. Plot No. A-166 & F-162-165, Behror - 301701, Rajasthan	35	7.00
2.	May 2019	-do-	-do-	35	7.00
3.	June 2019	-do-	-do-	35	7.00
4.	July 2019	-do-	-do-	35	8.61
5.	August 2019	-do-	-do-	35	7.00
6.	September 2019	-do-	-do-	35	7.99
7.	October 2019	-do-	-do-	70	16.02
8.	November 2019	-do-	-do-	35	7.00
9.	December 2019	-do-	-do-	35	7.00
10.	January 2020	-do-	-do-	35	8.60
11.	February 2020	-do-	-do-	35	7.00
12.	March 2020	-do-	-do-	--	--
TOTAL				420 Nos.	90.22 MT

D. WASTES OR RESIDUES CONTAINING OIL**(SCHEDULE - I - 5.2)**

Sr. No.	Month	Type of Hazardous Waste	Authorized Dealer (Recycler)	Total Quantity	
				Barrels (Nos.)	Quantity (MT)
1.	April 2019	FO sludge with drum	M/s K. Nandini Refineries, 6/1, Village- Hetamdandi, Amaria- 262121, Pilibhit (U.P.)	59	11.80
2.	May 2019	-do-	-do-	67	13.40
3.	June 2019	-do-	-do-	60	12.55
4.	July 2019	-do-	-do-	62	13.96
5.	August 2019	-do-	-do-	54	12.24
6.	September 2019	-do-	-do-	--	--
7.	October 2019	-do-	-do-	--	--
8.	November 2019	-do-	-do-	105	21.00
9.	December 2019	-do-	-do-	80	16.56
10.	January 2020	-do-	-do-	14	2.80
11.	February 2020	-do-	-do-	80	16.83
12.	March 2020	-do-	-do-	--	--
TOTAL				581 Nos.	121.14 MT

E. SPENT SOLVENTS (WASTE CHEMICALS)

(SCHEDULE - I - 20.2/33.2)

Sl. No.	Month	Type of Hazardous Waste	Authorized Dealer (TSDF)	Total Quantity	
				Barrels (Nos.)	Quantity (MT)
1.	June 2019	Waste Chemicals & Cotton rags	Bharat Oil & Waste Management Ltd., Mauza Mukimpur, Roorkee - Lakshar Road, Roorkee UK	8	4.95
TOTAL				8 Nos.	4.95 MT

ANNEXURE – 8.9
(ETP Sludge Test Report)



Analysing for an Assured Future

NOIDA TESTING LABORATORIES

(An ISO : 9001 : 2015, ISO 14001:2015 & ISO 45001:2018 & NABL Accredited Laboratory)
MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB & HSPCB Recognized Laboratory

+91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

Annexure - 8.9

TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Sludge Analysis	SS-050920-021	10/09/2020

Issued To: M/s India Glycols Limited
A-1, Industrial Area, Bazpur Road, Kashipur (Uttarakhand)- 244713

SAMPLING & ANALYSIS DATA

Sample Drawn On: 05/09/2020
Sample Drawn By: NTL
Sample Description: Sludge from Clarifier after aerobic treatment plant (MEG)

TEST RESULTS

A. TEST ON 10% WATER LEACHATES

<u>S.No.</u>	<u>TESTS</u>	<u>RESULTS</u>	<u>PROTOCOL</u>
01.	pH	7.12	APHA -22 nd , Ed
02.	Copper (as Cu) (mg/l)	BDL	APHA -22 nd , Ed
03.	Cadmium (as Cd) (mg/l)	BDL	APHA -22 nd , Ed
04.	Chromium (as Cr) (mg/l)	BDL	APHA -22 nd , Ed
05.	Zinc (as Zn) (mg/l)	1.02	APHA -22 nd , Ed
06.	Nickel (as Ni) (mg/l)	BDL	APHA -22 nd , Ed
07.	Lead (as Pb) (mg/l)	BDL	APHA -22 nd , Ed
08.	Oil & Grease (mg/l)	1.35	APHA -22 nd , Ed
09.	Cyanide (as CN) (mg/l)	BDL	APHA -22 nd , Ed
10.	Bio-assay test,	100	IS: 6582-1971
	(% Survival of fish after 96 hours)		

BDL: - Below Detection Limit, Detection limit: - 1.0 mg/l

B. CHARACTERIZATION STUDY

Reactivity:-

The sample was tested with respect to its reactivity with water. It does not evolve fumes, explosive gases, etc., on addition of water. Hence, the sample does not indicate reactive nature.

Ignitability:-

On ignition, the sample does not catch fire and hence the sample is not self-combustible.

Corrossivity:-

The pH of water leachate of the sample is found 7.65. The acceptable range is 2.0 to 12.5.

Toxicity:-

The toxicity characteristic of the sample was studied by conducting bio-assay test on the water leachate of the sample. Test observation revealed that none of the fish died during the tests. Hence, water leachate of the sample is free from acute toxicity.

Checked by

Authorized Signatory

Laboratory : GT-20, Sector-117, Noida, Gautam Budh Nagar
E. : noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com



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ANNEXURE – 8.10

(Form 10)

FORM 10
[See rules 19 (1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

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1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18
3.	Manifest Document No.	344-KSB200/00541 - Dt. 27/10/20
4.	Transporter's name and address : (including Phone No. and Email)	M/s Continental Petroleums Ltd. Plot No.-A-166 & F-162-165 BEHROR-301701 RAJSTHAN
5.	Type of vehicle	(Truck / Tanker / Special Vehicle)
6.	Transporter's registration No.	6/Behror/CH-27/R-174/94 DATED.09.03.94
7.	Vehicle registration No.	UK04CA/0726
8.	Receiver's Name and mailing address (including Phone No. and Email)	M/s Continental Petroleums Ltd. Plot No.-A-166 & F-162-165 BEHROR-301701 RAJSTHAN
9.	Receiver's authorization No.	6/Behror/CH-27/R-174/94 DATED.09.03.94
10.	Waste description	Schedule -1- 20.2 Spent Solvents Schedule -1- 3.3 Sludge & Filters contaminated with Oil Schedule -1- 33.1 Discarded Containers / Barrels / Liners Schedule -1- 33.2 Filters & Filter material Schedule -1- 5.1 Used / Spent Oil Schedule -1- 5.2 Wastes or Residues Containing Oil Schedule -1- 1.6 Spent Catalyst
11.	Total quantity No. of Containers m ³ or MT 35 Nos.
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid)
13.	Special handling instructions and additional information	

14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
For M/s India Glycols Ltd.



Name and Stamp :

Signature :

[Handwritten Signature]
27/10/2020

Day	Month	Year
27	10	2020

15. Transporter acknowledgement of receipt of Wastes



Name and Stamp :

Signature :

Day	Month	Year
27	10	2020

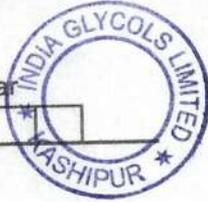
16. Receiver's certification for receipt of hazardous and other waste



Name and Stamp :

Signature :

Day	Month	Year



DISTRIBUTION OF MANIFEST FORM-10

- Copy-1 (White): To be forwarded by the sender to the State Pollution Control Board after signing all the seven copies.
- Copy-2 (Yellow): To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
- Copy-3 (Pink): To be retained by the receiver (actual user or treatment storage and disposal facility operator) after receiving the waste and the remaining four copies are to be duly signed by the receiver.
- Copy-4 (Green): To be handed over to the transporter by the receiver after receipt of waste.

FORM 10
[See rules 19 (1)]

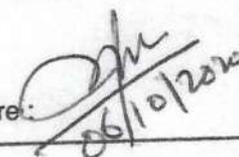
MANIFEST FOR HAZARDOUS AND OTHER WASTE

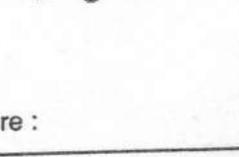
336

1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18
3.	Manifest Document No.	336-
4.	Transporter's name and address : (including Phone No. and Email)	K. Nandini Refineries 6/1 Hetamdandi, Amaria Pilibhit (U.P.) 262121
5.	Type of vehicle	(Truck / Tanker / Special Vehicle) UEPPCB/HO HAZ-AUTH-TRANS-K
6.	Transporter's registration No.	1/2019/316
7.	Vehicle registration No.	UK06CA-8621
8.	Receiver's Name and mailing address (including Phone No. and Email)	K. Nandini Refineries 6/1 Hetamdandi, Amaria Pilibhit (U.P.) 262121
9.	Receiver's authorization No.	UEPPCB/HO HAZ-AUTH TRANS-K
10.	Waste description	Schedule -1- 20.2 Spent Solvents Schedule -1- 3.3 Sludge & Filters contaminated with Oil Schedule -1- 33.1 Discarded Containers / Barrels / Liners Schedule -1- 33.2 Filters & Filter material Schedule -1- 5.1 Used / Spent Oil Schedule -1- 5.2 Wastes or Residues Containing Oil Schedule -1- 1.6 Spent Catalyst
11.	Total quantity No. of Containers 210 m ³ or MT 11 Nos.
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid)
13.	Special handling instructions and additional information	

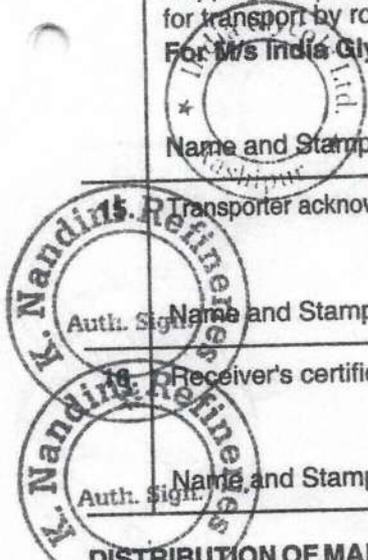
14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.

For M/s India Glycols Ltd.

Name and Stamp :  Signature: _____ Day Month Year
06 10 20 20

Transporter acknowledgement of receipt of Wastes
Name and Stamp :  Signature: _____ Day Month Year
06 10 20 20

Receiver's certification for receipt of hazardous and other waste
Name and Stamp : _____ Signature: _____ Day Month Year



DISTRIBUTION OF MANIFEST FORM-10

- Copy-1 (White): To be forwarded by the sender to the State Pollution Control Board after signing all the seven copies.
- Copy-2 (Yellow): To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
- Copy-3 (Pink): To be retained by the receiver (actual user or treatment storage and disposal facility operator) after receiving the waste and the remaining four copies are to be duly signed by the receiver.
- Copy-4 (Orange): To be handed over to the transporter by the receiver after accepting waste.

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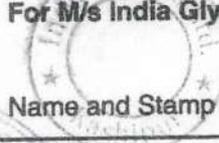
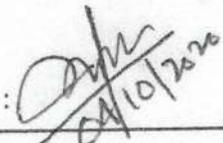
FORM 10
[See rules 19 (1)]

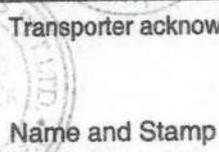
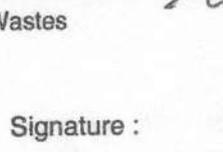
MANIFEST FOR HAZARDOUS AND OTHER WASTE

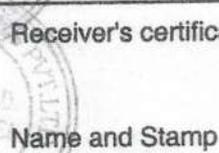
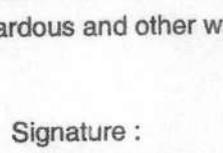
333

1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500														
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18														
3.	Manifest Document No.	333-K50200100448 Dt - 04.10.20														
4.	Transporter's name and address : (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind, Area, Ghaziabad (U.P.)														
5.	Type of vehicle	(Truck / Tanker / Special Vehicle) <input checked="" type="checkbox"/>														
6.	Transporter's registration No.	G-530/Haz-123/15 Dated- 19-8-2015														
7.	Vehicle registration No.	UP14 FT - 9711														
8.	Receiver's Name and mailing address (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind, Area, Ghaziabad (U.P.)														
9.	Receiver's authorization No.	G-530/Haz-123/15 Dated- 19-8-2015														
10.	Waste description	<table border="0"> <tr> <td>Schedule -1- 20.2</td> <td>Spent Solvents</td> </tr> <tr> <td>Schedule -1- 3.3</td> <td>Sludge & Filters contaminated with Oil</td> </tr> <tr> <td>Schedule -1- 33.1</td> <td>Discarded Containers / Barrels / Liners</td> </tr> <tr> <td>Schedule -1- 33.2</td> <td>Filters & Filter material</td> </tr> <tr> <td>Schedule -1- 5.1</td> <td>Used / Spent Oil</td> </tr> <tr> <td>Schedule -1- 5.2</td> <td>Wastes or Residues Containing Oil</td> </tr> <tr> <td>Schedule -1- 1.6</td> <td>Spent Catalyst</td> </tr> </table>	Schedule -1- 20.2	Spent Solvents	Schedule -1- 3.3	Sludge & Filters contaminated with Oil	Schedule -1- 33.1	Discarded Containers / Barrels / Liners	Schedule -1- 33.2	Filters & Filter material	Schedule -1- 5.1	Used / Spent Oil	Schedule -1- 5.2	Wastes or Residues Containing Oil	Schedule -1- 1.6	Spent Catalyst
Schedule -1- 20.2	Spent Solvents															
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Schedule -1- 5.1	Used / Spent Oil															
Schedule -1- 5.2	Wastes or Residues Containing Oil															
Schedule -1- 1.6	Spent Catalyst															
11.	Total quantity No. of Containers m ³ or MT 402 Nos.														
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid) <input checked="" type="checkbox"/>														
13.	Special handling instructions and additional information															

14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
For M/s India Glycols Ltd.

Name and Stamp :  Signature :  Day Month Year
04 10 2020

15. Transporter acknowledgement of receipt of Wastes
Name and Stamp :  Signature :  Day Month Year
04 10 2020

16. Receiver's certification for receipt of hazardous and other waste
Name and Stamp :  Signature :  Day Month Year

DISTRIBUTION OF MANIFEST FORM-10

- Copy-1 (White): To be forwarded by the sender to the State Pollution Control Board after signing all the seven copies.
- Copy-2 (Yellow): To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter.
- Copy-3 (Pink): To be retained by the receiver (actual user or treatment storage and disposal facility operator) after receiving the waste and the remaining four copies are to be duly signed by the receiver.
- Copy-4 (Orange): To be handed over to the transporter by the receiver after accepting waste

379

FORM 10
[See rules 19 (1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

332

1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18
3.	Manifest Document No.	332- KS0200100446 DT-03.10.20
4.	Transporter's name and address : (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind. Area, Ghaziabad (U.P.)
5.	Type of vehicle	(Truck / Tanker / Special Vehicle)
6.	Transporter's registration No.	G-530/Haz-123/15 Dated- 19-8-2015
7.	Vehicle registration No.	UK06CB-2544
8.	Receiver's Name and mailing address (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind. Area, Ghaziabad (U.P.)
9.	Receiver's authorization No.	G-530/Haz-123/15 Dated- 19-8-2015
10.	Waste description	Schedule -1- 20.2 Spent Solvents Schedule -1- 3.3 Sludge & Filters contaminated with Oil Schedule -1- 33.1 Discarded Containers / Barrels / Liners Schedule -1- 33.2 Filters & Filter material Schedule -1- 5.1 Used / Spent Oil Schedule -1- 5.2 Wastes or Residues Containing Oil Schedule -1- 1.6 Spent Catalyst
11.	Total quantity No. of Containers m ³ or MT 1244 Nos.
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid)
13.	Special handling instructions and additional information	

14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
For M/s India Glycols Ltd.

Name and Stamp : Signature : Day Month Year
03 10 2020

15. Transporter acknowledgement of receipt of Wastes
Name and Stamp : Signature : Day Month Year
03 10 2020

16. Receiver's certification for receipt of hazardous and other waste
Name and Stamp : Signature : Day Month Year

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376

FORM 10
[See rules 19 (1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

330

1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18
3.	Manifest Document No.	330 KSO200100438 Dt. 01/10/20
4.	Transporter's name and address : (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind, Area, Ghaziabad (U.P.)
5.	Type of vehicle	(Truck / Tanker / Special Vehicle)
6.	Transporter's registration No.	G-590/Haz-123/15 Dated- 19-8-2015
7.	Vehicle registration No.	UP2BT-8784
8.	Receiver's Name and mailing address (including Phone No. and Email)	Shubham Machines Pvt. Ltd. C-117, B.S. Road, Ind, Area, Ghaziabad (U.P.)
9.	Receiver's authorization No.	G-590/Haz-123/15 Dated- 19-8-2015
10.	Waste description	Schedule -1- 20.2 Spent Solvents Schedule -1- 3.3 Sludge & Filters contaminated with Oil Schedule -1- 33.1 Discarded Containers / Barrels / Liners Schedule -1- 33.2 Filters & Filter material Schedule -1- 5.1 Used / Spent Oil Schedule -1- 5.2 Wastes or Residues Containing Oil Schedule -1- 1.6 Spent Catalyst
11.	Total quantity No. of Containers m ³ or MT 276 Nos.
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid)
13.	Special handling instructions and additional information	

14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
For M/s India Glycols Ltd.

Name and Stamp :  Signature :  01/10/2020

Day Month Year
0 1 1 0 2 0 2 0

15. Transporter acknowledgement of receipt of Wastes

Name and Stamp :  Signature : _____

Day Month Year
0 1 1 0 2 0 2 0

16. Receiver's certification for receipt of hazardous and other waste

Name and Stamp :  Signature : _____

Day Month Year
[] [] [] [] [] [] [] []



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377

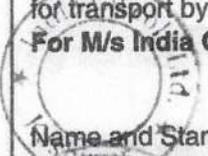
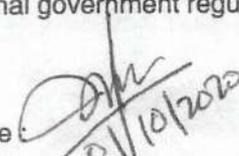
FORM 10
[See rules 19 (1)]

MANIFEST FOR HAZARDOUS AND OTHER WASTE

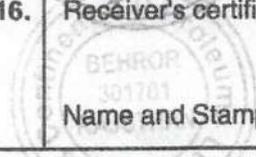
331

1.	Sender's name and mailing address (including Phone No. and Email)	India Glycols Limited A-1, Industrial Area, Bazpur Road, Kashipur - 244713 (Uttarakhand) Phone No. 05947 - 26900, 269500
2.	Sender's authorization No.	UEPPCB/HO/CON-I-9/2018/82 Consent No. 38037/278 Dt. 18/4/18
3.	Manifest Document No.	33) KS0200100436 Dt. 01/10/20
4.	Transporter's name and address : (including Phone No. and Email)	M/s Continental Petroleum Ltd. Plot No.-A-166 & F-162-165 BEHROR-301701 RAJSTHAN
5.	Type of vehicle	(Truck / Tanker / Special Vehicle)
6.	Transporter's registration No.	G/Behror/CH-27/R-174/94 DATED.09.03.94
7.	Vehicle registration No.	UK0GCA-0726
8.	Receiver's Name and mailing address (including Phone No. and Email)	M/s Continental Petroleum Ltd. Plot No.-A-166 & F-162-165 BEHROR-301701 RAJSTHAN
9.	Receiver's authorization No.	G/Behror/CH-27/R-174/94 DATED.09.03.94
10.	Waste description	Schedule -1- 20.2 Spent Solvents Schedule -1- 3.3 Sludge & Filters contaminated with Oil Schedule -1- 33.1 Discarded Containers / Barrels / Liners Schedule -1- 33.2 Filters & Filter material Schedule -1- 5.1 Used / Spent Oil Schedule -1- 5.2 Wastes or Residues Containing Oil Schedule -1- 1.6 Spent Catalyst
11.	Total quantity No. of Containers m ³ or MT 35 Nos.
12.	Physical form	(Solid / Semi - Solid / Sludge / Oily / Tarry / Slurry / Liquid)
13.	Special handling instructions and additional information	

14. Sender's Certificate :
I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorized, packed, marked, and labeled, and are in all respects in proper condition for transport by road according to applicable national government regulations.
For M/s India Glycols Ltd.

Name and Stamp :  Signature :  Day Month Year
0 1 1 0 2 0 2 6

15. Transporter acknowledgement of receipt of Wastes
Name and Stamp :  Signature : _____ Day Month Year
0 1 1 0 2 0 2 6

16. Receiver's certification for receipt of hazardous and other waste
Name and Stamp :  Signature : _____ Day Month Year

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**M/s Kashi Vishwanath Textile Mill (P) Limited, 5th KM Stone, Ramnagar Road,
Kashipur-244713 Uttarakhand**

1.	Name & Address of the Industry:	M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group) 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand
	Contact person Contact No. and E-mail	Mr. Shri Shakeel Siddiqui, V.P. Finance Phone : 9756201426 E-mail : finance.textile@spnggroup.com
	Co-ordinates	Latitude: 29.254784; Longitude: 79.001457
2.	Date of Visit:	27.10.2020
3.	Type of Industry Sector:	Textile
4.	Operational Status (In case of closed unit mention time since unit has been closed): In Operation / Not in Operation / Temporarily Closed / Permanently Closed (Mention whichever is applicable)	Operational
5.	Name of main Raw Material	Polyester, Acrylic Fiber, viscose fiber
6.	Name of Final Product (s)	Synthetic Polyester Yarn/ P.V. dyed Yarn, Recycled Polyester Yarn
7.	Consented Production Capacity	Synthetic Polyester Yarn/P.V. dyed Yarn - 968 MT/month Recycled Polyester Fiber - 2000 MT/month
8.	Actual Production	27.86 MT/Day as per the logbook from 15 th October 2020 – 27 th October 2020 (Annexure-9.1)
9.	Actual Production on the day of visit	23.98 MT/Day
10.	Manufacturing process	Grey Fiber- Dyeing- Mixing- Carding- Draw Frame- Speed Frame- Ring Spinning – Auto Cone Winding – Packing – Dispatch (Annexure-9.2)
11.	Consolidated Consent to operate and authorization under section-25 of the Water (Prevention and control of pollution) Act, 1974 and under section - 21 of the Air (Prevention and control of pollution) Act, 1981 and Authorization under Rule 6 (2) of Hazardous and other waste (Management and Transboundary Movement) Rules, 2016	Yes, Valid upto 31.03.2021 (Annexure-9.3)
12.	NOC from CGWA for abstraction of Ground Water (Yes / No)	Applied for renewal on 30.05.2017 (Annexure-9.4)



 (S.E. Chourasia)
 (C.B. Chourasia)

13.	Sources of Water Supply – In case of Bore well mention numbers	01 borewell
14.	Daily consumption of Fresh Water (KLD) (Average from Logbook if available)	344.61 KLD as per the logbook from 15 th October 2020 – 27 th October 2020 (Annexure-9.5)
15.	Status of Water meters at bore wells with Readings during Inspection. Whether Installed: Functional (Working) / Non-Operational / Defunct	Installed. Mechanical type flowmeter Totalizer, value: 13253 m ³
16.	Whether ETP exist (Yes /No)	Yes
17.	Operational status of ETP – Functional (Working) / Non-Operational / Defunct	Functional
18.	Designed Treatment Capacity of ETP (KLD)	800 KLD
19.	Details of Effluent Treatment Plant (ETP)	Receiving chamber- Equalization Tank- Physicochemical Treatment – Biological Treatment – Activated Carbon Filter-4 stage RO plant- MEE – MEE concentrate – Evaporators (Rotary drum) (Annexure-9.6)
20.	Flow Meter (s) at Inlet of ETP – (Yes /No) Outlet of ETP – (Yes /No)	Inlet: Yes Outlet: Yes
21.	Effluent Generation (KLD)	489.7 KLD as per the logbook from 15 th October 2020 – 27 th October 2020 (Annexure-9.7)
22.	Amount of Effluent Recycled to process	450.7 KLD as per the logbook from 15 th October 2020 – 27 th October 2020 (Annexure-9.8)
23.	Consented Discharge (KLD)	550 KLD (100 % re-use in manufacturing process)
24.	Actual Treated effluent discharge (KLD)	ZLD
25.	Treated effluent discharged on the day of visit (KLD)	No discharge
26.	Sample Collected from ETP (Yes/ No)	As mentioned in S. No. 31
27.	Mode of treated / untreated effluent disposal as observed during visit (River / Drain / Land). Mention the name of immediate receiving Drain / Land and mention point of ultimate disposal.	No discharge from the unit was observed during visit; Entire quantity of treated effluent is reused in process and RO reject (6.9 KLD as per the logbook from 15 th October 2020 – 27 th October 2020) is sent to single stage MEE followed by rotary drums 2 stage evaporators, where it gets converted into salt which is then packed and stored.
28.	Any Bypass observed. If yes, then collect samples for analysis and attach photographs. (Yes/ No)	No
29.	Status of installation of OCEMS	Installed and working

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30. Whether industry specific effluent discharge standards notified under Environment (Protection) Rule 1986 applicable.	Yes (but as per consent the unit is allowed to treat their effluent through ZLD system)					
31. Effluent Sample analysis results:						
Sample Location	pH	COD	BOD	TSS	TDS	Color
Holding tank near Dye house	4.2	1675	375	27	56	269
Untreated effluent collection tank at ETP Inlet	4.4	1405	250	BDL	160	165
MMTR outlet	7.4	701	183	BDL	872	210
ACF outlet	7.3	768	108	12	1116	296
RO-1 Feed	6.8	765	115	13	1068	287
RO-1 Permeate	7.0	24	2	BDL	BDL	NT
RO-1 Reject	6.5	2856	860	50	3836	1006
RO-3 Permeate	3.5	58	8.2	BDL	16	NT
RO-3 Reject	5.7	25840	9100	755	28468	7305
RO-4 Permeate	6.7	102	10	16	1048	10
RO-4 Reject	6.1	36480	12200	516	37728	12156
MEE condensate	7.9	23	3.4	29	1220	NT
ETP Aeration Tank: MLSS-2611 mg/l ; MLVSS-1767 mg/l						
All value are in mg/l except pH and color. Color measured in color units						

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[Signature]

32. Groundwater samples analysis results:

Parameters	Bore well within premises	BIS 10500:2012 (Permissible limit in absence of alternative source)
pH	7.3	6.5-8.5
Conductivity	326	-
COD	BDL	-
TDS	190	2000
Colour	BDL	15
Total Alkalinity	151	600
Total Hardness	156	600
Sulfate	09	400
Cl ⁻	08	1000
F ⁻	0.2	1.5
As	BDL	0.05
Cd	BDL	0.003
Co	BDL	-
Cr	BDL	0.05
Cu	BDL	1.5
Fe	0.10	0.3
Mn	BDL	0.3
Ni	BDL	0.02
Pb	BDL	0.01
Sb	BDL	-
Se	BDL	0.01
V	BDL	-
Zn	0.01	15

All units in mg/l except pH, color and conductivity; color measured in color units and conductivity in $\mu\text{mho/cm}$.

33. Sewage Sample analysis results:

Sample Location	pH	COD	BOD	TSS	TDS	Col or
STP Inlet	7.4	2912	840	2546	1536	455
STP Secondary clarifier outlet	7.4	69	24	44	476	58
STP Tertiary outlet	7.3	117	21	12	452	33
STP Aeration Tank: MLSS-103 mg/l ; MLVSS-100 mg/l						
All value are in mg/l except pH and color; color measured in color units						

34. Management of hazardous wastes	Agreement with recyclers/TSDF namely: Bharat Oil & Waste Management Ltd., Roorkee, UK
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35. **Observations by joint inspection team made during the visit –**

1. The unit is a textile dyeing industry using grey Polyester, Acrylic and viscose fibers as raw materials for manufacturing of Polyester Yarn and blended dyed yarn.
2. The unit and ETP both were found operational at the time of inspection.
3. The unit's Consolidated Consent to operate and Authorization (CCA) under section-25 of the Water (Prevention and control of pollution) Act, 1974 and under section-21 of the Air (Prevention and control of pollution) Act, 1981 and Authorization under Rule 6 (2) of Hazardous & other wastes (Management and Transboundary Movement) Rules, 2016 issued by UKPCB are valid till 31.03.2021.
4. The unit has installed an Effluent treatment plant (ETP) for treatment of trade effluent. ETP comprises of receiving chamber, equalization tank, physiochemical treatment, biological treatment MBR (Membrane based closed tank, identified as MTTR), Activated Carbon Filters (Fig.4) and 4 stage RO plant for treatment and reuse of effluent into the process.
5. The unit has installed Rotameter type flowmeters at MMTR outlet (reading: 30m³/hr), RO-1st Permeate (reading: 20 m³/hr), RO-3rd Permeate (reading: 06 m³/hr) and RO-4th Permeate (reading: 1.4 m³/hr).
6. The unit has one borewell for abstracting fresh water and installed flow meter on it. Logbook is maintained for this flow meter.
7. The unit has applied for NOC for withdrawal of groundwater from CGWA on dated 30.05.2017.
8. Unit has three Aeration tanks and all three were found operational.
9. Outlet of ETP (after ACF) is fed to the 04 stage Reverse Osmosis Treatment system. RO permeate from all 4 stage is collected in common collection tank and from there completely reused for the process requirement. Final reject from RO system is sent to single stage Multi Effect Evaporator (Fig.7) where the effluent gets converted into salt and collected into bags.
10. The unit has installed OCEMS and provided connectivity to CPCB/SPCB servers.
11. The unit has installed Sewage Treatment Plant for the treatment of sewage generated from residential colony and guesthouse. The installed capacity is 60 KLD.
12. The STP comprises of receiving chamber, bar screen, physical treatment, biological treatment (ASP based) and Tertiary treatment.
13. Analysis results of sample collected from STP inlet shows **COD- 2912 mg/l against typical range of 350-500 mg/l, BOD – 840 mg/l against typical range of 200-250 mg/l, TSS – 2546 mg/l against typical range of 350-500 mg/l, and Colour – 455 color unit.** Wastewater characteristics at STP inlet clearly indicate that RO reject is discharge into raw sewage. It also indicates that installed MEE is also not operating at designed capacity on regular basis.

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- 14. No flow meters were installed at STP inlet and outlet.
- 15. The analysis results of samples collected from STP outlet shows pH: 7.3 (against the norms of 5.5-9.0), BOD: 21 mg/l (against the norms of 30 mg/l) and TSS: 12 mg/l (against the norms of 100 mg/l).
- 16. The analysis results of samples collected from clarifier outlet indicate around 98 % reduction in BOD & COD and 70 % reduction in TDS which clearly indicate that clarifier water is diluted as there is no TDS reduction unit installed in STP and aeration tank is un-stabilized with MLSS: 103 mg/l and MLVSS: 100 mg/l
- 17. The analysis results of sample collected from aeration tank of STP shows MLSS: 103 mg/l and MLVSS: 100 mg/l. It reflects that the aeration tank of the unit is un-stabilized and diluted with fresh water. Without adequate MLVSS (i.e. 2000 mg/l) BOD reductions can't be achieved from 840 mg/l to 21 mg/l, so considering the STP outlet results, clearly indicate the possibility of freshwater dilution.
- 18. The unit is discharging effluent through STP after dilution with fresh water in violation of ZLD.
- 19. Sludge dewatering press installed at STP was found non-operational and it seems that it has not been used for a long time. (Fig.10)
- 20. Unit is in process of installing additional production plant (Fig.12) for manufacturing of Recycled Polyester Fiber and has also obtained the consent for the same.

<p>36. Recommendations</p>	<ul style="list-style-type: none"> • Non – compliance of ZLD • The unit is discharging effluent through STP after dilution with fresh water in violation of ZLD • It is clearly indicated by the analysis of STP inlet and secondary clarifier outlet that RO reject is discharged into STP and diluted water is mixed into the STP system. It is recommended that appropriate action as deemed fit shall be initiated against the unit by UKPCB. • The unit shall obtain renewal of NOC from CGWA for groundwater abstraction.
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Photographs: *M/s Kashi Vishwanath Textile, Kashipur.*

<p>Fig.1: Entry gate of unit</p>	<p>Fig.2: Manufacturing process area</p>	<p>Fig.3: ETP Aeration tank</p>
<p>Fig.4:ETP tertiary treatment (ACF)</p>	<p>Fig.5: RO treatment system</p>	<p>Fig.6: Final reject after RO-4</p>
<p>Fig.7: Evaporators (Rotary drum)</p>	<p>Fig.8: STP inlet tank</p>	<p>Fig.9: Tertiary treatment at STP</p>
<p>Fig.10: Sludge press at STP</p>	<p>Fig.11: Leaves and wooden chips as boiler fuel</p>	<p>Fig.12: New production facility under construction</p>

Handwritten signatures and initials.

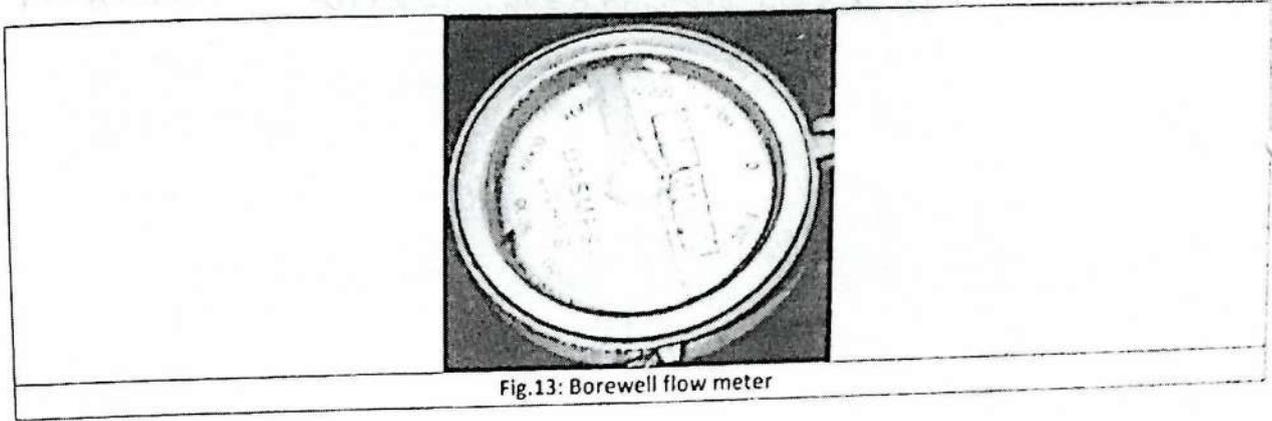


Fig.13: Borewell flow meter

Signature of the inspecting officials

Sr. No.	Name of the Officials	Signature
1.	Sh. C. B Chourasia, Sc.'E', CPCB, Delhi	<i>[Handwritten Signature]</i>
2.	Dr. Pankaj Kumar, Sc.'D', CPCB, Delhi	
3.	Sh. Naresh Goswami, Regional Officer, RO Kashipur, UKPCB	<i>[Handwritten Signature]</i>
4.	Dr. Abhas Kumar, Sc.'B', CPCB, Delhi	<i>[Handwritten Signature]</i>
5.	Sh. Ankit Shukla, SRF, CPCB, Delhi	<i>[Handwritten Signature]</i>

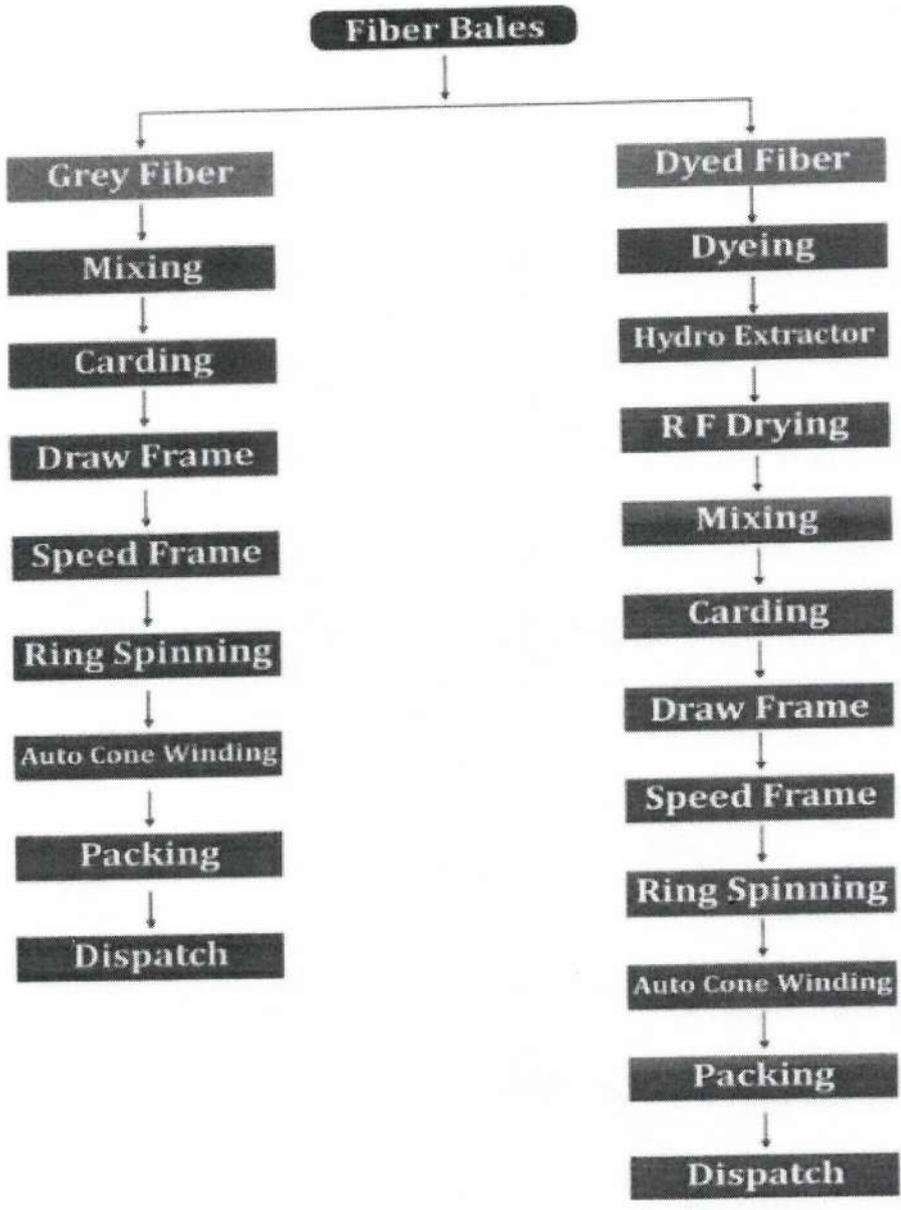
Kashi Vishwanath Textile Mill (P) Ltd.

Production Details (15.10.2020 To 27.10.2020)

Date	Polyester Gray	Polyester Dyed	PA DYED	Acrylic Dyed Yarn	Total
15/10/2020	-	5,720.30	18,349.90	-	24,070.20
16/10/2020	-	10,560.00	23,360.00	1,395.00	35,315.00
17/10/2020	-	11,867.80	16,180.30	-	28,048.10
18/10/2020	-	6,054.60	19,264.00	5,355.00	30,673.60
19/10/2020	-	3,959.20	17,024.00	4,590.00	25,573.20
20/10/2020	-	8,277.20	15,300.30	4,140.00	27,717.50
21/10/2020	-	14,030.00	17,684.90	-	31,714.90
22/10/2020	-	9,794.20	20,572.80	950.60	31,317.60
23/10/2020	-	10,421.40	17,902.00	947.60	29,271.00
24/10/2020	-	5,846.50	21,504.00	-	27,350.50
25/10/2020	-	6,592.00	20,253.40	-	26,845.40
26/10/2020	-	3,988.60	16,321.80	-	20,310.40
27/10/2020	3,648.00	4,694.00	15,639.50	-	23,981.50
Total	3,648.00	101,805.80	239,356.90	17,378.20	362,188.90



MANUFACTURING PROCESS FLOW DIAGRAM OF GREY/DYED YARN





HEAD OFFICE
 Uttarakhand Pollution Control Board
 "Gauri Devi Prayavaran Bhawan"
 46B, I.T. Park, Sahastradhara Road, Dehra Dun

UKPCB/HD/Con/S-3/2020/ 116

Date: 13-7-2020
REGD. POST

To,
 M/s Kashi Vishwanath Textile Mill Ltd.,
 Plot No.-82, 83, 84, 64, 122, 124, 48/1 & 48/2,
 5th KM Stone, Ramnagar Road,
 Kashipur, Distt- U.S.Nagar.

Consolidated Consent to Operate and Authorization hereinafter referred to as the CCA (Consolidated Consent & authorization) (Renewal) under Section-25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the "Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2)" of the "Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016" notified under "Environment (Protection) Act, 1986" as applicable (to be referred hereinafter as Water Act, Air Act and Hazardous & Other Wastes Rules, 2016 respectively.)

PCB ID - 13024	Inward ID - 255011
CCA (Renewal)	
Consent No. 40521/	Date :- 23-06-2020

CCA is hereby granted to M/s Kashi Vishwanath Textile Mill Ltd., located at Plot No.-82, 83, 84, 64, 122, 124, 48/1 & 48/2, 5th KM Stone, Ramnagar Road, Kashipur, Distt- U.S.Nagar. subject to the provisions of the Water Act, Air Act and Hazardous and Other Wastes Rules, 2016 and the orders that may be made further and subject to following terms and conditions :-

1. This CCA is granted for a period from up to 31.03.2021 and valid for manufacturing of following products with Capital Investment/Net Assets Values ₹ 61.43Cr :-

S. No	Last CCA		Present CCA (Renewal)	
	Product	Quantity (Per Month)	Product	Quantity (Per Month)
1	Synthetic Polyester Yarn/P.V dyed Yarn	968 MT	Synthetic Polyester Yarn/P.V dyed Yarn	968 MT
2	Recycled Polyester Fiber	2000 MT	Recycled Polyester Fiber	2000 MT

2. Specific Conditions under Water Act :-

(i) The daily quantity of effluent discharge (KLD) :-

	Last CCA	Present CCA (Renewal)
Trade Effluent	550 (100% re-use in manufacturing process)	550 (100% re-use in manufacturing process)
Sewage	45	45

(ii) Trade Effluent Treatment and Disposal : The applicant shall operate Effluent Treatment Plant (550KLD Capacity) consisting of primary, secondary and tertiary treatment as is required with reference to influent quantity and quality.

In case of stoppage of functioning of ETP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(iii) The treated effluent shall be recycled to achieve Zero Discharge. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under Environment (Protection) Rules, 1986 and applicable to the unit from time-to-time :

1	pH	Between	6.5 to 8.5
2	Total Suspended solids	Not to exceed	100mg/l
3	BOD (3 days 27°C)	Not to exceed	60 mg/l
4	COD	Not to exceed	250 mg/l
5	TDS	Not to exceed	2100 mg/l
6	SAR	Not to exceed	26mg/l
7	Colour	Not to exceed	150 PCU
8	Oil Grease	Not to exceed	10mg/l
9	Total Chromium	Not to exceed	2.0mg/L
10	Sulphide	Not to exceed	2.0mg/l
11	Phenolic Compound	Not to exceed	1.0mg/L
12	Ammonical Nitrogen	Not to exceed	1.0mg/L

- (ix) **Sewage Treatment and Disposal** The applicant shall provide comprehensive STP (15KLD Capacity) as is required with reference to influent quantity and quality.

In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (x) The treated sewage shall be reuse in gardening and the same shall be maintained continuously so as to achieve the quality of the treated effluent to the following standards notified under the Environment (Protection) Rules, 1986 as amended :-

S.No.	Parameters	Present Standard for STPs	Standard for STPs to be achieved within five years.
1	pH	5.5 to 9.0	6.5 to 9.0
2	BOD (mg/L)	Not more than 30	< 30
3	TSS (mg/L)	Not more than 100	<100
4	Fecal Coliform (MPN/100ml)	-	<1000

Conditions under Air Act :-

- (i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as is required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards :-

S. No	Stack attached with	Stack height (Mt)	Type of Fuel	Fuel Quantity	Emission Control Equipment	Emission standards not to exceed
1	Boiler (STPH) x 1	30	Agro Waste	2 Ton	Dust Collector	PM-800mg/NM ³
2	DG Set (1250 KVA) x 5	15	HSD	350 Ltr/day	Acoustic Enclosure	-
3	DG Set (610 KVA) x 3	30	HSD	400 Ltr/day	Natural Draft & Acoustic Enclosure	-
4	Fuel Heater (Thermoc) 30 Lac kcal/hr	30	Wood	104MT/hr	DUS	-
5	Boiler (STPH)	30	Agro Waste	2Ton/hr	DUS	-

In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

- (ii) Noise from the DG Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as

prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

Standards for Noise level in db(A) Log	Industrial Area		Commercial Area		Residential Area		Silence Zone	
	Day time	Night time	Day time	Night time	Day time	Night time	Day time	Night time
	75	70	65	55	55	45	50	40

Day time: from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m

1. **Conditions under Hazardous and Other Wastes Rules, 2016 :-**

- (i) Number of authorization and date of issue :
- (ii) The Factory Manager of M/s Kashi Vishwanath Textile Mill Ltd., U.S.Nagar is hereby granted an authorization to operate a facility for collection and storage of Hazardous wastes.
- (iii) The authorization is granted to operate a facility for generation, collection and storage of hazardous wastes within factory premises for following category of wastes :-

S.No.	Category (Schedule-I & Schedule-II)	Quantity of Waste for which authorization is being issued (MTA)	Mode of Disposal
1	Schedule I - 33.1	2.50	Recyclable
2	Schedule I - 5.1	0.20	Recyclable
3	Schedule I - 35.3	2.50	Secure land fill

- (iv) The authorization shall be in force for a period from up to 31.03.2021.
- (v) The authorization is subject to the conditions stated below and such conditions as may be specified in the rules for the time being in force under Environment (Protection) Act, 1986.

Terms and conditions of authorization :-

- (i) The authorization shall comply with the provisions of the **Environment (Protection) Act, 1986**, and the rules made there under.
 - (ii) The authorization and its renewal shall be produced for inspection at the request of an officer authorized by the SPCB/PCC.
 - (iii) The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the SPCB/PCC.
 - (iv) Any unauthorized changes in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
 - (v) It is the duty of the authorized person to take prior permission of the SPCB/PCC to close down the facility.
 - (vi) An application for the renewal of an authorization shall be made as laid down under these rules.
 - (vii) The unit shall comply with any other conditions specified in the guidelines issued by the MoEF or CPCB/SPCB from time to time.
3. This CCA is valid for mixing, carding, drawing, spinning & dyeing Processes only.
6. **Compulsory documents to be submitted by the Industry/Unit :-**
- (i) Annual return in Form-4 and Waste Disposal Manifest in Form-10 under Hazardous and Other Wastes Rules, 2016 and Third Party Audit Report
 - (ii) Environment Statement in Form-V of Environment (Protection) Rules, 1986.
 - (iii) Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.
- Unit has to apply for renewal of CCA well in advance of 60 days of expiry of this CCA.
8. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.
9. Unit has to comply with the other general conditions as annexed herewith. Non compliance of any provision of this CCA and provisions of the Water Act, Air Act and Hazardous and Other Wastes Rules, 2016 will result in legal action under the aforesaid Acts and Rules.


Member Secretary

Copy to: Regional Officer, Uttarakhand Pollution Control Board, Kashipur, Distt- U.S.Nagar
for information and compliance of the same.


Chief Environment Officer

Annexure

Specific Conditions :-

1. The applicant shall provide ISI mark water meter to each water supply source and shall regularly submit returns of water consumption in the prescribed form and pay the cess as specified under Section-3 of Cess Act.
2. The applicant shall submit audited balance sheet of the unit at the end of each financial year so that fee submitted by the applicant could be assessed.
3. The applicant shall provide ports in the chimney/stack and facilities such as ladder, platform etc. as per requirement for monitoring the air emissions and the same shall be open for inspection and use at all times by the Board's staff. The chimney/stack attached to various sources of emission shall be designated by numbers such as S-1, S-2 etc. and these shall be painted/ displayed to facilitate identification.
4. The industry shall ensure interlocking of air pollution control devices and production processes.
5. Solid wastes generated from the industry have to be disposed in manner so that contamination of surface water bodies/ground water etc. does not take place.
6. The industry shall take adequate measures to control of noise from its own source so as to comply with the standards as may be applicable.
7. The applicant shall develop three rows of green belt on the premises with plant species as suggested by the Central Pollution Control Board.
8. The industry shall strictly adhere with the specific and general conditions issued with CCA order. Any violation of stipulated conditions may attract legal action under the provisions of Water Act, Air Act and Environment (Protection) Act and Rules made thereunder.
9. The industry shall ensure all safety measures and shall undertake periodical assessment by the competent authorities.
10. Unit shall ensure manifest system in Form-10 of Hazardous and Other Wastes Rules, 2016 while disposing hazardous waste.
11. Hazardous waste should not be stored beyond a period of 90 days.
12. The Unit shall strictly comply with the directions issued by the UEPPCB vide Ref No. UEPPCB/HO/Gen-359/2015/8997-2276 dated 21.03.2015 reg. zero liquid discharge (ZLD) in textile units. The CCA is linked with above directions issued under section 33(A) of the Water (Prevention & Control of Pollution) Act, 1974 and in case of non compliance/non adherence by the unit with the prescribed activities and time schedule, the consent to operate/authorization (CCA) issued to the unit shall stand with drawn.
13. The industry situated nearby the River Ganga and its tributaries shall ensure the treatment facilities and disposal arrangements in such a way so that no waste water is discharged in water stream or water bodies.
14. The unit shall strictly comply with the provisions of Water, Air & E (P) Acts and Rules/Notifications made thereunder.
15. The Unit shall strictly comply with the directions issued by the Board under Section 33(A) of the (Water Prevention and Control of Pollution) Act, 1974 regarding Zero Liquid Discharge (ZLD) and Real Time Monitoring System at ETP outlet & data transmission to CPCB & UEPPCB, regularly.

General Conditions :-

1. The applicant shall get analyse the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF and shall report to the UEPPCB.
2. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outfit for the discharge of effluent or gases emission or sewage waste from the unit.

3. Treated waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.
4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If, at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the Board, legal action shall be initiated against the applicant.
5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof.
6. The industry shall provide uninterrupted entry to the STP/ETP's inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control measures.
The industry shall provide "Inspection Book" at the time of inspection to the Board's officials.
8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned officers. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.
9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.
10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.
11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point.
12. The Board reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.
13. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous waste without obtaining prior permission of the Board.
14. Any unauthorized change in personnel, equipment or working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.
15. It is the duty of the authorized person to take prior permission of the Board to close down the facility.
16. The authorization is valid for temporary storage of Hazardous Waste within premises only.
17. The authorized agency shall ensure that on-line data with regard to quantity and nature of hazardous chemicals being used in the plant as well as air emission and waste generated within premises is displayed on Display Board of size 6x4 feet outside the main factory gate within premises.
18. It is duty of the authorized person to take prior permission of this Board to close and cleanup the facility for treatment, storage and disposal of hazardous waste.
19. The applicant shall maintain record of hazardous waste in Form-3 and shall submit annual return in Form-4 on or before the 30th day of June following to the financial year to which that return relates.
20. In no case any hazardous waste shall be disposed off on land, in any drain, or into any water stream. All spillage must also be safely collected and stored.
21. In case the hazardous waste is stored or dumped in the facility, applicant must conduct a detailed physical and chemical analysis of hazardous waste sample and report to the Board.
22. Liquid hazardous sludge from the process in the plant shall be stored in double lined HDPE pit constructed with R.C.C. or such material which does not react with the waste contained in it.
23. The storage area should be fenced properly and Sign/Notice Board indicating 'Danger' and 'Hazardous' shall be displayed at appropriate position both in Hindi and English.
24. The industry shall store non-ferrous metal waste, used oil/spent oil waste in sealed drums placed on impervious floor under covered shed. Hazardous waste if required shall be sold only to Registered Recyclers/Re-processors.
25. In case of any transportation of hazardous waste, the details in Form-10 of the Hazardous and Other Wastes Rules, 2016 shall be submitted to the Board.


Chief Environment Officer



CIN : U51311DL1096PTC079814

Kashi Vishwanath TEXTILE MILL (P) LIMITED.
 5th Km. Stone, Ramnagar Road,
 Kashipur-244713 (Uttarakhand)
 ☎ +91-5947-278606, +91-5947-270609
 ☎ +91-5947-278606 ☎ +91-9927746666
 ✉ textile@spnggroup.com

Date: 06/06/2019

To,
 Asst. Hydrologist,
 Central Ground Water Board,
 Uttaranchal Region,
 419-A, Kanwali Road,
 Balliwala, Dehradun-248001

Sub: Submission of Reply to the shortcoming raised for obtaining NOC from CGWB for M/s Kashi Vishwanath Textile Mills Pvt. Ltd. located at Village Kharnasi, 5th Km stone, Ramnagar Road, Kashipur, Udham Singh Nagar, Uttarakhand

Reference: 1. Online Application No. 21-4/673/UT/IND/2017, dated 30th May, 2017
 2. Query raised via Email dated 24.05.2019

Dear Sir,

This is with respect to the above mentioned subject and reference; we are herewith submitting point wise reply to the queries raised for obtaining the CGWA NOC from Central Ground Water Board.

Hope this meets to your satisfaction. Kindly grant the NOC at the earliest.

Thanking you,
 For Kashi Vishwanath Textile Mill (P) Limited

(Shakeel A. Siddiqui)
 Vice President

Enclosed: As stated above

Shakeel Siddiqui
 10/06/19
 Ministry of Textiles, Govt. of India
 419-A Kanwali Road, Dehradun

Annexure-9.5
Bosewell

"9927976002" April-20

Surendra Gupta

Date: _____
Page: _____

Sign

Date Inlet Outlet Consumption

Sign

31/4

31/4

31/4

31/4

31/4

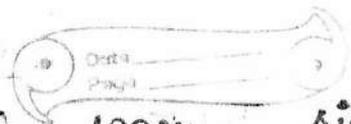
1/6/20	7452	7469	170000
2/4/20	7469	7488	190000
3/4/20	7488	7506	180000
4/4/20	7506	7526	200000
5/4/20	7526	7545	190000
6/4/20	7545	7583	380000
7/4/20	7583	7614	310000
8/4/20	7614	7657	370000
9/4/20	7657	7670	190000
10/4/20	7670	7690	200000
11/4/20	7690	7708	180000
12/4/20	7708	7729	210000
13/4/20	7729	7747	180000
14/4/20	7747	7772	250000
15/4/20	7772	7798	260000
16/4/20	7798	7818	200000
17/4/20	7818	7839	210000
18/4/20	7839	7862	230000
19/4/20	7862	7887	250000
20/4/20	7887	7919	320000
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22/4/20	7947	7978	310000
23/4/20	7978	7997	190000
24/4/20	7997	8018	210000
25/4/20	8018	8038	200000
26/4/20	8038	8055	170000
27/4/20	8055	8074	190000
28/4/20	8074	8103	290000
29/4/20	8103	8137	340000
30/4/20	8137	8166	290000

May - 20

Date _____
Page _____

Date	Inlet	Outlet	Consumption	Sign	Date
1/5/20	8166	8183	170000		1/6
2/5/20	8183	8201	180000	3 1/2	2/6
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4/5/20	8222	8238	160000		4/6
5/5/20	8238	8255	170000		5/6
6/5/20	8255	8275	200000		6/6
7/5/20	8275	8291	160000		7/6
8/5/20	8291	8306	150000		8/6
9/5/20	8306	8323	170000		9/6
10/5/20	8323	8341	180000	3 1/2	10/6
11/5/20	8341	8357	160000		11/6
12/5/20	8357	8373	160000		12/6
13/5/20	8373	8380	170000		13/6
14/5/20	8380	8421	310000		14/6
15/5/20	8421	8453	320000	3 1/2	15/6
16/5/20	8453	8475	220000		16/6
17/5/20	8475	8503	280000		17/6
18/5/20	8503	8524	210000		18/6
19/5/20	8524	8543	190000		19/6
20/5/20	8543	8563	200000		20/6
21/5/20	8563	8588	250000		21/6
22/5/20	8588	8609	210000		22/6
23/5/20	8609	8634	250000	3 1/2	23/6
24/5/20	8634	8664	300000		24/6
25/5/20	8664	8690	260000		25/6
26/5/20	8690	8720	300000		26/6
27/5/20	8720	8745	250000		27/6
28/5/20	8745	8771	260000		28/6
29/5/20	8771	8795	240000		29/6
30/5/20	8795	8822	270000	3 1/2	30/6
31/5/20	8822	8836	140000		31/6

June - 20



Sign	Date	Inbr	ourbr	Winn	Sign
	1/6/20	8826	8851	150000	
	2/6/20	8851	8878	270000	3/2
	3/6/20	8878	8910	320000	
	4/6/20	8910	8942	390000	
	5/6/20	8942	8976	340000	
	6/6/20	8976	9007	360000	
	7/6/20	9007	9033	280000	
	8/6/20	9033	9056	230000	
	9/6/20	9056	9077	210000	3/2
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	11/6/20	9107	9140	330000	
	12/6/20	9140	9169	290000	
	13/6/20	9169	9197	280000	
	14/6/20	9197	9219	220000	
	15/6/20	9219	9237	280000	
	16/6/20	9237	9258	210000	5/2
	17/6/20	9258	9285	270000	
	18/6/20	9285	9311	280000	
	19/6/20	9311	9338	270000	
	20/6/20	9338	9363	250000	
	21/6/20	9363	9382	190000	
	22/6/20	9382	9409	270000	5/2
	23/6/20	9409	9436	270000	
	24/6/20	9436	9462	260000	
	25/6/20	9462	9487	280000	
	26/6/20	9487	9505	180000	3/2
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	28/6/20	9520	9537	170000	
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July - 20

Date _____
Page _____

Date	Inlet	Outlet	Consumption	Sign	Date
117/20	9588	9626	380000		01/8/1
217/20	9626	9655	290000		02/8/1
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517/20	9712	9742	300000		5/8/2
617/20	9742	9760	180000		6/8/2
717/20	9760	9783	230000		7/8/2
817/20	9783	9805	220000		8/8/2
917/20	9805	9828	230000	5/4	9/8/2
1017/20	9828	9850	220000		10/8/2
1117/20	9850	9880	300000		11/8/2
1217/20	9880	9909	290000		12/8/2
1317/20	9909	9941	320000		13/8/2
1417/20	9941	9983	420000		14/8/2
1517/20	9983	10013	300000	5/4	15/8/2
1617/20	10013	10046	330000		16/8/2
1717/20	10046	10073	270000		17/8/2
1817/20	10073	10095	220000		18/8/2
1917/20	10095	10119	240000		19/8/2
2017/20	10119	10138	190000	5/4	20/8/2
2117/20	10138	10170	390000		21/8/2
2217/20	10170	10206	360000		22/8/2
2317/20	10206	10240	340000		23/8/2
2417/20	10240	10278	380000		24/8/2
2517/20	10278	10309	310000	5/4	25/8/2
2617/20	10309	10339	300000		26/8/2
2717/20	10339	10370	310000		27/8/2
2817/20	10370	10405	350000		28/8/2
2917/20	10405	10439	340000		29/8/2
3017/20	10439	10470	310000	5/4	30/8/2
3117/20	10470	10491	210000		31/8/2

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August-20

Date _____
Page _____

Sign	Date	Inlet	Outlet	Concl	Sign
	01/8/20	10491	10519	280000	
	02/8/20	10515	10550	310000	3/2
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	5/8/20	10600	10624	240000	3/2
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	7/8/20	10650	10680	300000	
	8/8/20	10680	10710	300000	
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	10/8/20	10735	10770	350000	3/2
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	12/8/20	10806	10840	340000	
	13/8/20	10840	10875	350000	
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	22/8/20	11087	11121	340000	
	23/8/20	11121	11148	270000	
	24/8/20	11148	11177	290000	
5/2	25/8/20	11177	11205	280000	3/2
	26/8/20	11205	11236	310000	
	27/8/20	11236	11264	280000	
	28/8/20	11264	11290	260000	
	29/8/20	11290	11327	370000	
5/2	30/8/20	11327	11345	180000	

September 20

Page

Date	Inlet	Outlet	COND.	Sign
01/9/20	11378	11406	330000	
02/9/20	11406	11436	300000	3/2
03/9/20	11436	11458	220000	
04/9/20	11458	11485	270000	
05/9/20	11485	11521	360000	
06/9/20	11521	11555	340000	
07/9/20	11555	11585	300000	
08/9/20	11585	11615	300000	
09/9/20	11615	11651	360000	
10/9/20	11651	11678	270000	3/2
11/9/20	11678	11707	290000	
12/9/20	11707	11740	330000	
13/9/20	11740	11777	370000	
14/9/20	11777	11814	370000	
15/9/20	11814	11855	410000	
16/9/20	11855	11885	300000	
17/9/20	11885	11907	220000	
18/9/20	11907	11937	300000	3/2
19/9/20	11937	11980	430000	
20/9/20	11980	12019	390000	
21/9/20	12019	12062	430000	
22/9/20	12062	12100	380000	
23/9/20	12100	12135	350000	
24/9/20	12135	12164	290000	
25/9/20	12164	12207	430000	
26/9/20	12207	12237	300000	3/2
27/9/20	12237	12267	300000	
28/9/20	12267	12299	220000	
29/9/20	12299	12327	280000	400
30/9/20	12327	12357	300000	3/2

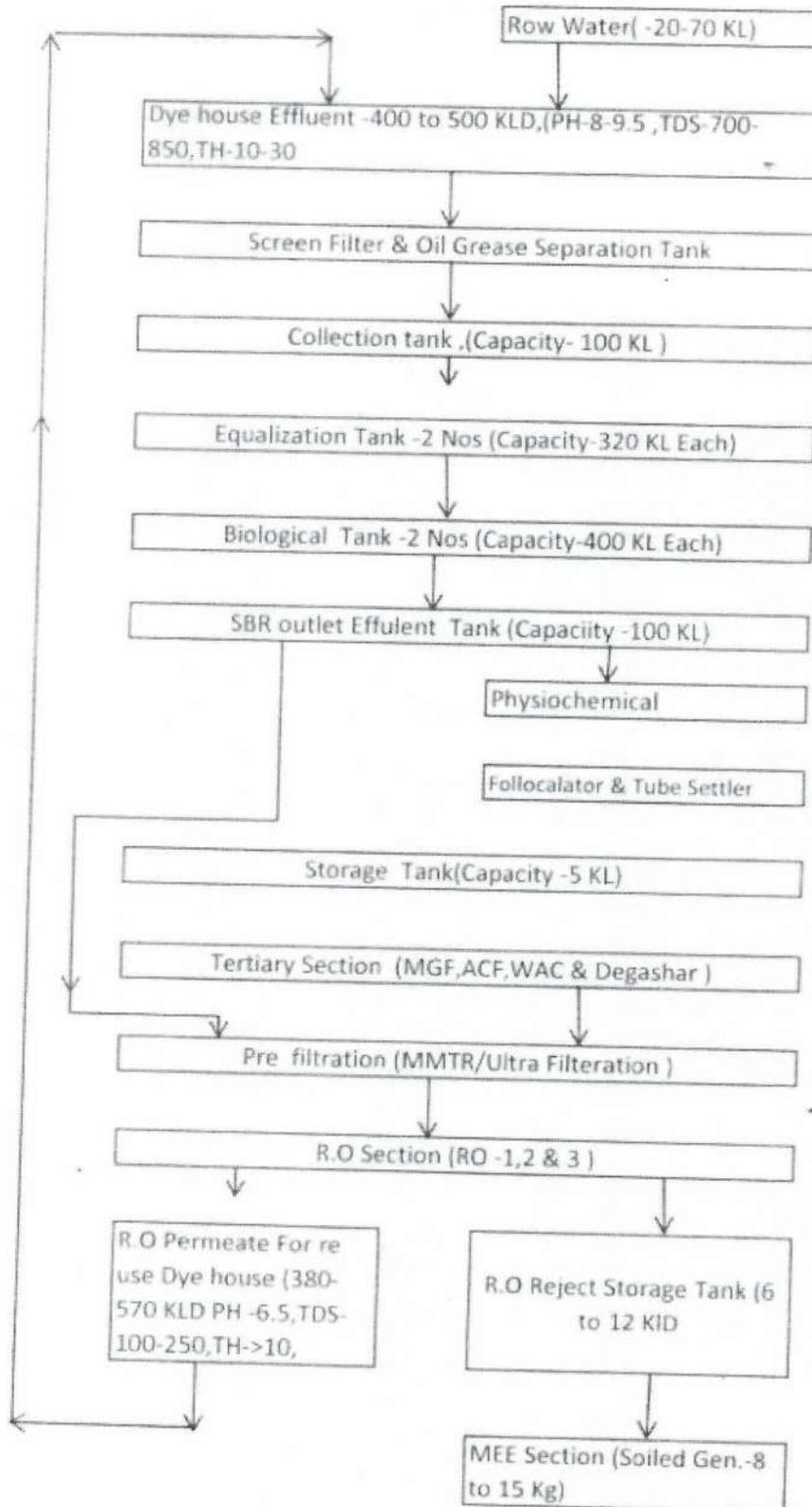
Raw Water Consumption Log book

October-20

Date	Inlet	Outlet	Consum.	Sign
01/10/20	12357	12388	310000	2/19
02/10/20	12388	12418	300000	3/16
03/10/20	12418	12460	420000	
04/10/20	12460	12504	440000	
05/10/20	12504	12543	390000	
06/10/20	12543	12579	360000	6/12
07/10/20	12579	12609	300000	
08/10/20	12609	12643	400000	
09/10/20	12643	12687	440000	
10/10/20	12687	12717	300000	
11/10/20	12717	12751	340000	3/12
12/10/20	12751	12783	330000	
13/10/20	12783	12800	220000	
14/10/20	12800	12821	210000	
15/10/20	12821	12866	450000	
16/10/20	12866	12906	400000	
17/10/20	12906	12945	390000	3/12
18/10/20	12945	12983	380000	
19/10/20	12983	13019	360000	
20/10/20	13019	13056	370000	
21/10/20	13056	13091	350000	
22/10/20	13091	13112	330000	
23/10/20	13112	13157	330000	3/12
24/10/20	13157	13188	310000	
25/10/20	13188	13211	230000	
26/10/20	13211	13236	250000	
27/10/20	13236	13269	330000	
28/10/20	13269	13300	310000	3/12
29/10/20				
30/10/20				
31/10/20				

Kashi Vishwanath Textile Mill Ltd ,Kashipur

ETP Plant Flow Chart with capacity





Kashi Vishwanath Textile Mill (P) Limited

Works : 5 Km, Ramnagar Road, Kashipur - 244713 (U.K. (India))

Annexure 9.7

ETP & R O RECORD LOG BOOK

Date	Time	Power consumption (Meter reading KWH)			ETP Inlet water (Meter reading KL)			Raw water consumption (Meter reading KL)			R O I, II, III Product Water (Meter reading KL)			RO 3rd Reject water in KL	RO I, II, III Running hrs	ETP & RO Break down in hrs	Signature
		Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference				
01/10/2020	7:00 AM	618935	613440	2505	163390	163737	537				164297	164820	521	08	19		
02/10/2020	"	613440	615940	2500	163737	164467	530				164820	165380	560	08	19		
03/10/2020	"	615940	618458	2518	164467	164906	439				165380	165792	412	08	18		
04/10/2020	"	618458	620925	2467	164906	165450	544				165792	166228	436	07	18		
05/10/2020	"	620925	623437	2512	165450	165977	527				166228	166693	465	08	19		
06/10/2020	"	623437	625957	2520	165977	166481	502				166693	167150	457	07	18		
07/10/2020	"	625957	628562	2605	166481	166944	463				167150	167617	467	06	16		
08/10/2020	"	628562	631155	2593	166944	167427	483				167617	168053	436	07	17		
09/10/2020	"	631155	633633	2478	167427	167946	519				168053	168537	484	08	18		
10/10/2020	"	633633	636053	2420	167946	168412	466				168537	168970	433	07	17		
11/10/2020	"	636053	638364	2311	168412	168862	450				168970	169437	467	08	18		
12/10/2020	"	638364	640792	2428	168862	169277	409				169437	169887	450	06	16		
13/10/2020	"	640792	641466	674	169277	169277	00				169887	169887	00	00	00		
14/10/2020	"	641466	641907	441	169277	169277	00				169887	169887	00	00	00		
15/10/2020	"	641907	644335	2428	169277	169758	481				169887	170380	493	08	18		
16/10/2020	"	644335	646875	2540	169758	170238	480				170380	170761	381	07	17		
17/10/2020	"	646875	649325	2450	170238	170725	487				170761	171174	413	06	16		
18/10/2020	"	649325	651795	2470	170725	171210	485				171174	171636	462	07	17		
19/10/2020	"	651795	654212	2417	171210	171719	509				171636	172084	448	06	17		
20/10/2020	"	654212	656566	2354	171719	172238	519				172084	172530	446	08	18		
21/10/2020	"	656566	659012	2446	172238	172716	478				172530	173000	469	06	16		
22/10/2020	"	659012	661578	2506	172716	173151	435				173000	173492	492	06	16		
23/10/2020	"	661578	664128	2610	173151	173645	494				173492	173961	469	07	17		
24/10/2020	"	664128	666724	2596	173645	174160	515				173961	174494	533	08	19		
25/10/2020	"	666724	667411	687	174160	174160	00				174494	174494	00	00	00		
26/10/2020	"	667411	668190	779	174160	174160	00				174494	174160	00	00	00		

ETP & R O RECORD LOG BOOK

Date	Time	Power consumption (Meter reading KWH)			ETP Inlet water (Meter reading KL)			Raw water consumption (Meter reading KL)			R O I, II, III Product Water (Meter reading KL)			RO 3rd Reject water in KL	RO I, II, III Running hrs	ETP & RO Break down in hrs	Signature
		Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference	Initial	Final	Difference				
01/10/2020	Freeze	610985	613440	2505	163398	163737	539				164297	164820	521	08	19		
02/10/2020	"	613440	615940	2500	163737	164467	530				164820	165380	560	08	19		
03/10/2020	"	615940	618458	2518	164467	164904	437				165380	165792	412	08	18		
04/10/2020	"	618458	620925	2467	164904	165450	544				165792	166218	426	07	18		
05/10/2020	"	620925	623437	2512	165450	165971	529				166218	166693	465	08	19		
06/10/2020	"	623437	625957	2520	165971	166481	502				166693	167150	457	07	18		
07/10/2020	"	625957	628562	2605	166481	166944	463				167150	167617	467	06	16		
08/10/2020	"	628562	631155	2593	166944	167427	483				167617	168053	436	07	17		
09/10/2020	"	631155	633633	2478	167427	167946	519				168053	168537	484	08	18		
10/10/2020	"	633633	636053	2420	167946	168412	466				168537	168970	433	07	17		
11/10/2020	"	636053	638364	2311	168412	168862	450				168970	169437	467	08	18		
12/10/2020	"	638364	640792	2428	168862	169271	409				169437	169887	450	06	16		
13/10/2020	"	640792	641466	674	169271	169271	00				169887	169887	00	00	00		
14/10/2020	"	641466	641907	441	169271	169271	00				169887	169887	00	00	00		
15/10/2020	"	641907	644335	2428	169271	169758	487				169887	170380	493	08	18		
16/10/2020	"	644335	646875	2540	169758	170238	480				170380	170761	381	07	17		
17/10/2020	"	646875	649325	2450	170238	170725	487				170761	171174	413	06	16		
18/10/2020	"	649325	651795	2470	170725	171210	485				171174	171636	462	07	17		
19/10/2020	"	651795	654212	2417	171210	171719	509				171636	172084	448	06	17		
20/10/2020	"	654212	656566	2354	171719	172238	519				172084	172536	452	08	18		
21/10/2020	"	656566	659012	2446	172238	172716	478				172536	173000	464	06	16		
22/10/2020	"	659012	661518	2506	172716	173151	435				173000	173492	492	06	16		
23/10/2020	"	661518	664128	2610	173151	173644	493				173492	173961	469	07	17		
24/10/2020	"	664128	666724	2596	173644	174168	524				173961	174494	533	08	19		
25/10/2020	"	666724	667111	387	174168	174168	00				174494	174494	00	00	00		
26/10/2020	"	667111	668198	1087	174168	174168	00				174494	174494	00	00	00		