BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN ZONE BENCH AT PUNE

APPLICATION NO. 12/2020(WZ)

Subhas Gadekar & Anr — Applicant

VS

State of Maharashtra and others — Respondents

ADDITIONAL AFFIDAVIT
ON BEHALF OF THE RESPONDENT NO 3.

I, Dr P M Joshi, Age 56 Years, Regional Officer of the Maharashtra Pollution Control Board Aurangabad having my office at Paryavaran Bhavan Plot No. A-4/A MIDC Chikalthana, behind Dainik Lokpatra Jalna Road, Aurangabad filing this additional affidavit in reply on behalf of answering Respondent No. 3 and reserving my right to file again additional reply if required in the matter.

1) I say and submit that the Board officials made a surprise visit to the industry (Respondent No 6) on 28.09.2021 and check the compliance of short-term measures and compliance along with photographs. The copy of photographs is annexed herewith and marked as **Annexure "A".**

a) Industry has provided RCC platform (3 acres/Covered yard) for bio-composting area with proper leak proof by-lining to avoid the ground water percolation. (Photograph attached)

25/11/21

BEFORE ME

NILKANTH R. PAWADE
Notary Govt. Of India
Reg.No. 15488

b) Industry has provided dig trench with black cotton soil and plastic sheet around the boundary of composting site to avoid the percolation/lateral capillary movement of the liquid towards complainant's area. (Photograph attached)

c) The Industry has provided display board at four Piezometric wells. (Phqtograph attached)

d) The industry has taken the measures to remove / to solve the issue of odour by spraying particular chemical (Glue Trap,Bromodialon 0.005% cake,Bromodialon 0.005% powder,Fifronil 0.03%) also, by putting sugar beds at different points of composting site. (Photograph attached)

e) The industry has regularly monitored the polished and brick on edge area and HDPE lining area by checking the trenches around the compost area for any leakages / leachate found or not. (Analysis reports attached)

f) The industry has maintained the record of daily spent wash generation and its disposal. (Copy attached)

2) I say and submit that the short-term measures provided by the Respondent No. 6 are verified by Respondent No. 3 and found satisfactory as the analysis results of piezometric wells dated 28.9.2021 are within prescribed limits. The copy of analysis results is annexed herewith and marked as **Annexure "B".**

3) I say and submit that as per the directions given by Hon'ble NGT the Respondent No 6 has visited the Unit at Valchand Nagar dated

25/11/24

BEFORE ME

NILKANTH R. PAWADE
Notary Govt. Of India
Reg.No. 15488

28.10.2021 and reported that the overall observation is that the technology is not proven. The cost is very high. Technology is not stabilizing even after lots of modifications. The copy of visit report is annexed herewith and marked as **Annexure "C".**

4) I say and submit that as per the directions given by Hon'ble NGT the Respondent No 6 has submitted there reply wherein they have installed equipment like 7 stage Multiple Effect Evaporator (MEE) to reduce the volume of effluent (spent wash) against the norms of 60% reduction they are achieving reduction up to 82%. Also submitted the data of volume reduction by using B heavy molasses. The copy of reply submitted through email dated 18.11.2021 is annexed herewith and marked as **Annexure "D".**

Solemnly affirmed on this 25th day of Nov. 2021 at Aurangabad.

For & on behalf respondent No. 3
Maharashtra Pollution Control Board

(Dr. P M Joshi)
Regional Officer- MPCB, Aurangabad

25/11/2021

Advocate

Camp at Nashik

Regional Officer
Maharashtra Pollution Control Board
AURANGABAD.

Notary Govt. Of India
Reg.No. 15465

VERIFICATION

I Dr. P.M Joshi, Regional Officer at the Maharashtra Pollution Control Board at Aurangabad having my office at Paryavaran Bhavan Plot No. A-4/A MIDC Chikalthana behind Dainik Lokpatra Jalna Road, Aurangabad on behalf of respondent No. 3 do hereby state on solemn affirmation that what is stated in this additional affidavit in reply from Para No 1 to 4 are true and correct to the best of my knowledge and record available in my office.

Hence verified on 25th day of November, 2021 at Aurangabad.

Respondent No. 3
(Dr.P.M.Joshi)

Regional Officer,
Maharashtra Pollution Control Board,
Aurangabad.

25/11/2021

Identified and
Explained by

Camp at Nashik

Regional Officer
Maharashtra Pollution Control Board
AURANGABAD.

NOTARY
N.R. PAWADE
AREA AURANGABAD DIST
REG.NO. 15488
EXP DT. 20.11.24
GOVT OF INDIA

AFFIDAVIT
Solemnly affirmed Before me
By shri/Smt P. M. Joshi
Age: 46 yr service
R/O A'bad
Tq A'bad Ahd
Who Identified By Adv. V. Jadhav.
Whom he/she is Personally Konwn

BEFORE ME
NILKANTH RAMESH PAWADE
B.S.L. LL.B.
Advocate & Notary Govt. Of India
Area- AURANGABAD DIST
Mob.No. 8275513614
Reg.no. 15488

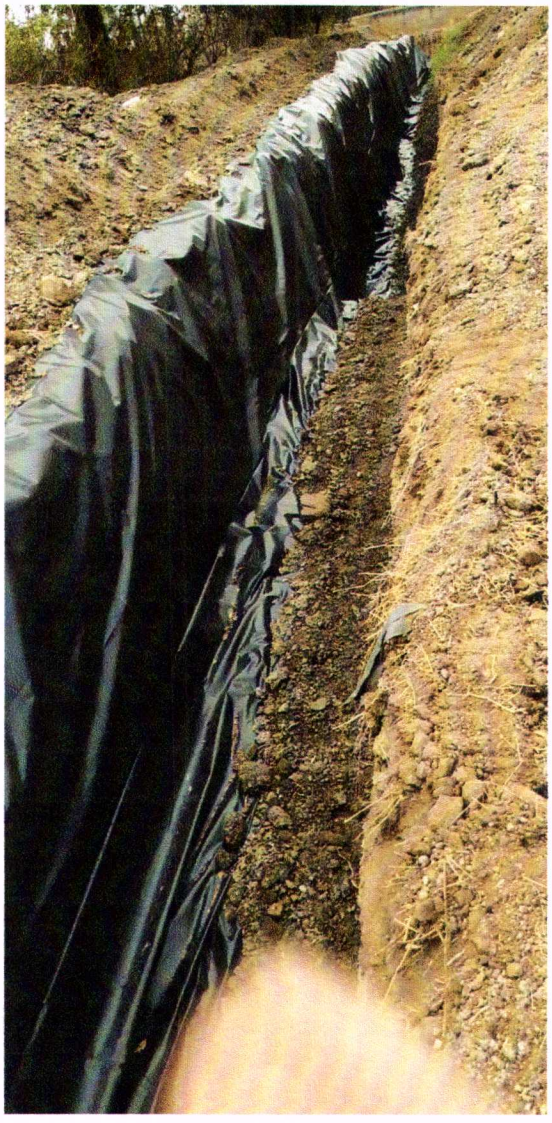
NOTED REGISTERED
AT SR.NO. 4467/2021
THIS DOCUMENT CONTAINS
04 PAGES

25 NOV 2021

Annexure-A.

1. **Photograph showing RCC Platform (6 Acres/Covered yard)for Bio-Composting Area with proper leak proof by lining.**

2. **Photographs showing Dig trench with black cotton soil and plastic sheet around the boundary of bio compost site to avoid percolation**

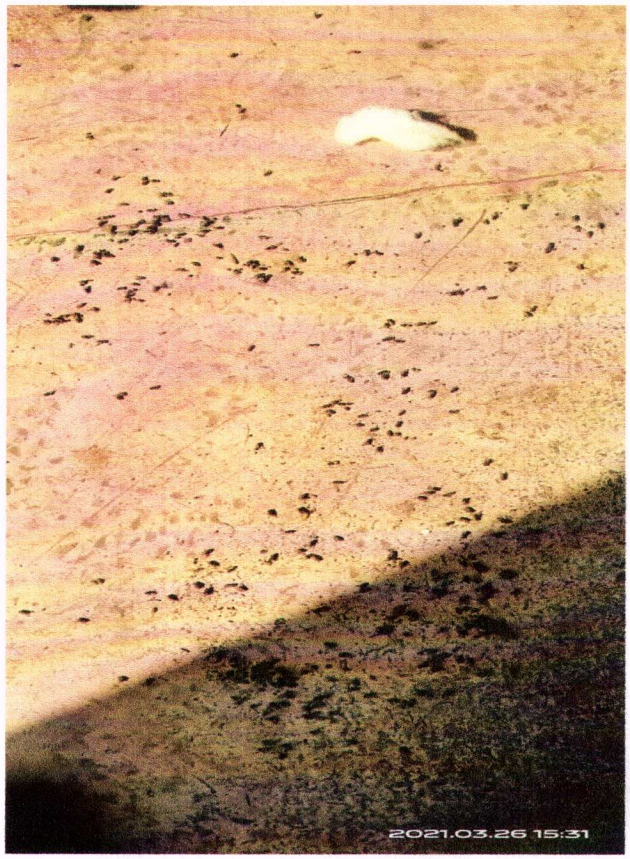


3. Photographs showing Display board at four Piezometeric wells

4. **Spraying (Glue Trap,Bromodialon 0.005% cake,Bromodialon 0.005% powder,Fifronil 0.03%)photo at different point of Bio Composting site**

Sugar beds for flies at Bio Composting site


2021.03.26 15:32


2021.03.26 15:31

- **We have been regularly monitored the leakages/leachate of polished and brick on edge area and HDPE Lining area by checking the trenches around the compost area for any e. We check regularly piezo metric well samples analysis also last month report copy attached.**

envirocare labs® pvt. ltd.
Analysis and Beyond...

Enviro House,
A7-A8, MIDC, Wagle Industrial Estate,
Main Road, Thane - 400604, India
Telefax. : +91 22 2583 8286 - 89
CIN: U99999MH1988PTC045938

www.envirocare.co.in
info@envirocare.co.in

TEST REPORT

06/09/2021

Sample / Report No.	**01/TH/E/9/21/0008**		
ULR Number	**TC828421000043682F**		
Name of Customer	**Radico Nv Distilleries Maharashtra Limited**		
Address of Customer	Gat No. 12, Vill. Takli Mali, Tal& Dist Aurangabad		
Order / Reference	Work order no -RNVDML/20-21/ETP/2022 dated 18.02.2021		
Sample declaration as provided by customer :			
Sample Name	Water Sample - Piezometer -IV		
Sample Drawn by	Envirocare on 30/08/2021	Sample Received On	31/08/2021
Start of Analysis	01/09/2021	End of Analysis	04/09/2021
Sample Container	Plastic Can	Sample Quantity	1000 ml
Sampling Procedure	As Per IS 3025 Part 1		

Parameters	Results	Units	Method
General Parameters			
pH	7.71	- -	APHA 4500H+ B
Total Suspended Solids (TSS)	8	mg/L	APHA 2540 D
Biochemical Oxygen Demand, BOD(27°C, 3 days)	7	mg/L	IS 3025(Part 44):1993,RA 2019
Chemical Oxygen Demand (COD)	20	mg/L	APHA 5220 B
Chloride as Cl	24	mg/L	APHA 4500Cl- B
Specific Parameters			
Total Dissolved Solids (TDS)	262	mg/L	APHA 2540 C
Oil & Grease	<1.0	mg/L	IS 3025(Part 39):1991,RA 2019

-----End of Test Report-----

Ms.Megha Borkar
Lab Manager

- This report can not be reproduced in parts. The results relate to sample tested.

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TEST REPORT

06/09/2021

Sample / Report No.	**01/TH/E/9/21/0009**		
ULR Number	**TC828421000043683F**		
Name of Customer	**Radico Nv Distilleries Maharashtra Limited**		
Address of Customer	Gat No. 12, Vill. Takli Mali, Tal& Dist Aurangabad		
Order / Reference	Work order no -RNVDML/20-21/ETP/2022 dated 18.02.2021		
Sample declaration as provided by customer :			
Sample Name	Water Sample - Pizometer -I		
Sample Drawn by	Envirocare on 30/08/2021	Sample Received On	31/08/2021
Start of Analysis	01/09/2021	End of Analysis	04/09/2021
Sample Container	Plastic Can	Sample Quantity	1000 ml
Sampling Procedure	As Per IS 3025 Part 1		

Parameters	Results	Units	Method
General Parameters			
pH	7.86	--	APHA 4500H+ B
Total Suspended Solids (TSS)	6	mg/L	APHA 2540 D
Biochemical Oxygen Demand, BOD(27°C, 3 days)	3	mg/L	IS 3025(Part 44):1993,RA 2019
Chemical Oxygen Demand (COD)	10	mg/L	APHA 5220 B
Chloride as Cl	24	mg/L	APHA 4500Cl- B
Specific Parameters			
Total Dissolved Solids (TDS)	262	mg/L	APHA 2540 C
Oil & Grease	<1.0	mg/L	IS 3025(Part 39):1991,RA 2019

-----End of Test Report-----

Ms.Megha Borkar
Lab Manager

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TC-8284

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TEST REPORT

06/09/2021

Sample / Report No.	**01/TH/E/9/21/0010**		
ULR Number	**TC828421000043684F**		
Name of Customer	**Radico Nv Distilleries Maharashtra Limited**		
Address of Customer	Gat No. 12, Vill. Takli Mali, Tal& Dist Aurangabad		
Order / Reference	Work order no -RNVDML/20-21/ETP/2022 dated 18.02.2021		
Sample declaration as provided by customer :			
Sample Name	Water Sample - Pizometer -II		
Sample Drawn by	Envirocare on 30/08/2021	Sample Received On	31/08/2021
Start of Analysis	01/09/2021	End of Analysis	04/09/2021
Sample Container	Plastic Can	Sample Quantity	1000 ml
Sampling Procedure	As Per IS 3025 Part 1		

Parameters	Results	Units	Method
General Parameters			
pH	7.81	--	APHA 4500H+ B
Total Suspended Solids (TSS)	8	mg/L	APHA 2540 D
Biochemical Oxygen Demand, BOD(27°C, 3 days)	8	mg/L	IS 3025(Part 44):1993,RA 2019
Chemical Oxygen Demand (COD)	30	mg/L	APHA 5220 B
Chloride as Cl	39	mg/L	APHA 4500Cl- B
Specific Parameters			
Total Dissolved Solids (TDS)	271	mg/L	APHA 2540 C
Oil & Grease	<1.0	mg/L	IS 3025(Part 39):1991,RA 2019

-End of Test Report-----

Ms.Megha Borkar
Lab Manager

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TC-8284

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TEST REPORT

06/09/2021

Sample / Report No.	**01/TH/E/9/21/0011**		
ULR Number	**TC828421000043685F**		
Name of Customer	**Radico Nv Distilleries Maharashtra Limited**		
Address of Customer	Gat No. 12, Vill. Takli Mali, Tal& Dist Aurangabad		
Order / Reference	Work order no -RNVDML/20-21/ETP/2022 dated 18.02.2021		
Sample declaration as provided by customer :			
Sample Name	Water Sample - Pizometer -III		
Sample Drawn by	Envirocare on 30/08/2021	Sample Received On	31/08/2021
Start of Analysis	01/09/2021	End of Analysis	04/09/2021
Sample Container	Plastic Can	Sample Quantity	1000 ml
Sampling Procedure	As Per IS 3025 Part 1		

Parameters	Results	Units	Method
General Parameters			
pH	7.69	--	APHA 4500H+ B
Total Suspended Solids (TSS)	7	mg/L	APHA 2540 D
Biochemical Oxygen Demand, BOD(27°C, 3 days)	5	mg/L	IS 3025(Part 44):1993,RA 2019
Chemical Oxygen Demand (COD)	20	mg/L	APHA 5220 B
Chloride as Cl	34	mg/L	APHA 4500Cl- B
Specific Parameters			
Total Dissolved Solids (TDS)	264	mg/L	APHA 2540 C
Oil & Grease	<1.0	mg/L	IS 3025(Part 39):1991,RA 2019

-----End of Test Report-----

Ms.Megha Borkar
Lab Manager

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6- Record of Spent wash consumption &n bio-compost disposal

Alcohol production , spent wash generation after MEE & Consumption							
				Spent wash consumption (M3)		Compost Disposal	
Month	Alcohol production in K.L.	Spent wash generation after MEE (M3)	Effluent transfer to Takli site (M3)	RNV site	Takli site	RNV site (MT)	Takli site (MT)
Nov-20	3110.2	4087.4	2421.7	4938	2121	307.91	188
Dec-20	4152.0	4574	2428	6746	3128	1867	938
Jan-21	4109.0	5045	2503.3	5571	2503	2152	1249
Feb-21	3773.0	4055	2347.5	2243	2347	1567.25	190
Mar-21	3963.99	5002	2528.6	2562	2538	2562.65	1826
Apr-21	3831.34	5283.6	2539.5	3160	2340	5584.23	1952
May-21	3508.56	4900	2534.6	3100	2300	5876.44	1231
Jun-21	3896.7	4978	2439.5	2658	2820	820.85	514
Jul-21	2412.24	2962	1399	1350	2180	289.56	70
Aug-21	3825.0	3852.59	1200	1000	1430	215.54	150.53
Sep-21	3714.0	4791	1141	2900	1700	82.000	62.00
Oct-21	3737.0	4529	2100	3100	2200	201.00	56

sults of Pizometric well at Radico NV Distilleries Maharashtra Ltd., Takli Mali (Composting Site), Tal. and Dist. Au

Sr.No.	Parameter	Standard as per Ground Water Parameter is 10500:2012	Standard as per Water quality criteria (A-IV Class)	Pizometric Well No. 1	Pizometric Well No. 2	Pizometric Well No. 3	Pizometric Well No. 4	Well water sample adjacent to
				BR-0006761	BR-0006762	BR-0006763	BR-0006761	BR-0007345
				Collection dated 28.9.2021				
1	pH	6.5 to 8.5	6.5 to 9.0	7.7	7.8	8	Results awaited	7.8
2	TDS	500	-	1050	1016	1082		1388
3	SS	Not specified	-	10	12	10		24
4	BOD	Not specified	30	10.8	12.2	15.2		44.4
5	Chloride	250	600	349.89	257.42	339.89		419.87
6	COD	200	150	36	40	48		144
7	Sulphate	Not specified	1000	94.88	97.62	115.06		156.7
8	Oil & Grease	Not specified	-	BDL	BDL	BDL		4.4

Visit Report of Aurangabad Distillery

Visit report of Aurangabad Distillery, Walchandnagar for the Technical Evaluation as per the Directions given by Honourable NGT.

As directed our team of ETP head, Mechanical Head, Production Head, Finance Head and Sr. Vice President had visited the distillery on 28/10/2021. We have met their ETP head Mr Mukund Gharge and their Director Mr Karan Yadav.

Capacity of the Distillery – 30 KLPD old plant & 60 KLPD New Plant

Evaporator & Potash recovery plant – Supplied by Chem Process Pvt Ltd, Ahmedabad

Details of Plant

Evaporator – Two falling Film and two Forced Circulation, First stage

Two falling Film and one Forced Circulation, Second stage

One Forced Circulation – For Potash Sulphate concentration

Filter Press – 8 Nos (Two automatic)

Mechanical Vapour Compression – One

Centrifugal Machine – two nos

Power required – 1400 KWh

They briefed us about the technology adopted by them and also told us the modifications made by M/S Chem Process in past almost one and half years. During visit we observed that sufficient manpower was not available. MEE section was running on steam in place of MVR provided by them. Potash drying system was also running. Other systems were not in operation, due to modification in system.

Mr Ajay Patel from M/S Chem Process told us about the scheme of the modified plant. There has been a sea change in the plant since it was originally installed. There has been a change in the final products. The chemical required for the old system of the plant is not available leading to modification. In place of manual filters, two automatic filtration machines were installed. Plant was not fully operational on the date of visit. We have also noticed that the final product (De Potash Vinasse, as cattle feed) made by them was not easily saleable/ marketable/ usable.

Our overall observation is that this system will take some more time to stabilise and produce the desired results. If system is stabilised then sale/use of the product will be a great challenge. As this plant is the single plant in India, There is no other reference to corroborate the claim made by the supplier/ Company. M/S Chem Process is required to do more research and development to stabilise the system.

We have already visited this plant on 24/12/19 prior to the order of Hon'ble NGT as part of our management decision to work on improvement in the system. Coincidently after the order passed by hon'ble Tribunal we have again visited the plant on 28/10/2021. We have submitted detailed chart, which is annexed herewith. We have formed our opinion and conclusion as under

1- Since 2019 till our recent visit, there have been a large number of modifications to the system, however, still expected result are yet to be achieved.
2- Since this is first unit in India, still some advance research is required to be carried out by the supplier of the plant.
3- We feel that even if the unit is able to achieve the desired results, there will be serious challenges to their final product of cattle feed/fertiliser as the marketability/ saleability/ usability is a big challenge and take more time to get established in the market. Presently we are producing Bio compost which is a kind of organic manure and is well established in the market and is also environment friendly. We are selling Bio compost to local farmers at affordable rates and is selling like a hot cake in the market and is very helpful in conserving the mother earth.
4- We are of overall view that said plant is not viable and compatible to maintain our existing ZLD (Zero Liquid Discharge) system.

Our overall observation is that the technology is not proven. The cost is very high. Technology is not stabilising even after lots of modifications.

Fwd: Affidavit to be submitted to NGT

RO Aurangabad <roaurangabad@mpcb.gov.in>
Sun 21-11-2021 10:49
To: SRO Aurangabad 1 <sroaurangabad1@mpcb.gov.in>

2 attachments (56 KB)
Visit report 28102021 Aurangabad Distillery.xlsx; Visit Report of Aurangabad Distillery.docx;

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From: Ashish Kapoor <kapoora@radiconv.co.in>
Sent: Thursday, November 18, 2021 3:59:52 PM
To: Dr. V. M. Motghare <jdair@mpcb.gov.in>
Cc: RO Aurangabad <roaurangabad@mpcb.gov.in>; SRO Aurangabad 1 <sroaurangabad1@mpcb.gov.in>; Smita Gaikwad <lo1@mpcb.gov.in>
Subject: FW: Affidavit to be submitted to NGT

Dear Sir,

We are hereby submitting our say for the NGT order of 30/09/2021

CPCB Guidelines

CPCB issued the guidelines on 23 April'2015 for achieving Zero Liquid Discharge. CPCB has advised certain technologies and routes to treat the effluent to achieve ZLD. In point no 2, Bio composting is given as one of the approved technology. Conditions for this technology were: -
(a) Obtaining valid registration/certification for the production and quality Organic manure - We are already registered to produce Organic Manure.
(b) As per effluent reduction norms we have to install MEE before 2016, whereas we had installed MEE in year 2013. We have to reduce the volume by 60% as per CPCB conditions and whereas we are reducing up to 82%. With the use of B heavy molasses we are able to reduce the effluent by 83.4%.
(c) Other condition is that during rainy season, The bio composting activity should be carried out under covered premises. We have sufficient Poly sheds with us so that we can carry out composting activities.

Volume Reduction Norm of CPCB

Radico NV has installed the equipment like MEE to reduce the volume of effluent. Against the norms of 60% reduction we are achieving reduction up to 82%.

Visit Report of Aurangabad Distillery

Visit report of Aurangabad Distillery as per the advice of Hon'ble NGT. Report is attached. Our overall observation is that the technology is not proven. The cost is very high. Technology is not stabilising even after lots of modifications. A detailed report is attached. We had visited Prior to NGT order on 24/12/2019 and again visited as per NGT on 28/10/2021. Reports is attached.

1- Re-boilers in our Distillation plant ensures effluent is generated @7.6 KL/KL of alcohol produced in case of C heavy Molasses against the CPCB norm of 8 KL/KL. Which gets further reduced by 25% in case of use of B heavy Molasses

2- Thermophillic conditions are maintained in our digesters to achieve maximum efficiency.

3- Full proof TSS reduction system is installed which leads to maintaining of quality of effluent fed in seven Stage Multiple Effect Evaporator to achieve maximum reduction of volume and achieve minimum Final product quantity.

4- **We are hereby submitting effluent generation data at source and reduction after MEE with CPCB norms and our achievement**

S No.	Spent wash Generation at Source		Volume Reduction after Evaporation (MEE)		
	CPCB norms	Achievement	CPCB norms	Achievement	
1-	6-8 KL/KL	7.6 KL/KL	60%	82%	If using 100% C Heavy molasses
2-	6-8 KL/KL	5.7 KL/KL	60%	87%	If using 100% B Heavy molasses
3-	6-8 KL/KL	6.9 KL/KL	60%	83.60%	We are using about 32% B heavy molasses currently
4-	6-8 KL/KL	6.1 KL/KL	60%	85%	In future we are planning to use 60% B heavy molasses

5- **From last two years we have started using 'B' Heavy molasses for making Ethanol. We are able to reduce about 25% of effluent generation by using this 'B' heavy molasses. Our effluent generation will come down from 7.6 KL/KL to 6.9 KL/KL. We are sure enough that our Effluent Treatment system is sufficient to treat even additional effluent than generated by our system. In future we are planning to use about 60% B heavy Molasses to produce more of Ethanol to be supplied to Oil Marketing Companies (OMC). The intention is to reduce effluent generation at source and produce more of ethanol. The production of Alcohol/Ethanol and generation of effluent is less than the conditions stipulated in the Consent given by MPCB/CPCB.**

6- We are also having full-fledged Condensate Polishing Unit (CPU). Condensate received during volume reduction from MEE and other systems is treated and reused in cooling towers and process.

7- First time in India we had adopted composting under Poly shed, we are able to Compost during rainy season also. This is one of the approved methods of effluent treatment by CPCB/MPCB to achieve Zero Liquid Discharge (ZLD).

8- **We have invested almost Rs 108 crores for Effluent treatment system in our factory. Digesters, Bio composting yards with poly sheds, Seven stage Multiple Effect Evaporator (MEE), Condensate Polishing Unit (CPU) and other equipment for Air Control are installed**

We further want to say that we have never got any complaint except this. In fact till date there is no complaint from the surrounding area of our factory from any person. The Fact Finding Report given by the Committee headed by District Collector is confirming the same. The committee had in overall interest with larger perspective suggested short term plan and long term plan. Short term plans are already implemented and for long term plan meticulous and microscopic study is in progress.

We once again submit that we have provided sufficient effluent treatment system as per MoEF/CPCB guidelines. The effluent generation is within the norms of MoEF/CPCB. We are not having any complaints.

Regards

Ashish Kapoor
Sr Vice President
Radico NV Distilleries Maharashtra Ltd
Aurangabad