



Speed Post

B-190198/NGRBA(RG)/CPCB/Distillery/21/2017-18

Dated: August 1st, 2019
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To,

M/s Radico Khaitan Ltd.,
Bareilly Road Rampur,
(A Unit of Radico Khaitan),
Rampur- 244901, (U.P.)

DIRECTION UNDER SECTION 5 OF THE ENVIRONMENT (PROTECTION) ACT, 1986

WHEREAS, the Central Government has notified the standards for discharge of environmental pollutants from various categories of industries under the Environment (Protection) Act, 1986 and the rules framed there under; and

WHEREAS, the Ministry of Environment & Forests, Govt. of India, vide notification S.O.157(E) of 27.02.1996 has delegated powers vested under Section 5 of the Environment (Protection) Act, 1986 (29 of 1986) to the Chairman, Central Pollution Control Board (CPCB), to issue direction to any industry, Municipal Corporation, Municipal Council, Cantonment Board to any local or other Authority for the violation of emission and effluent standards notified under the Environment (Protection) Rules, 1986; and

WHEREAS, it is obligatory on the part of industries to install effluent treatment plants (ETPs) to comply with the effluent discharge standards as notified under the Environment (Protection) Act, 1986 and the Rules framed there under and also to meet the consent conditions granted by State Pollution Control Board (SPCBs) / Pollution Control Committees (PCCs); and

WHEREAS, M/s Radico Khaitan Ltd., (Distillery Division), Bareilly Road, Rampur, U.P (hereinafter referred as 'the Unit') is involved in the production of extra neutral alcohol and rectified spirit using molasses as raw material; and

WHEREAS, CPCB issued direction dated 07.12.2015 under section 18(1)(b) of Water Act, 1974 to Uttar Pradesh Pollution Control Board for ensuring that the molasses based distilleries including yeast manufacturing Units in the state of U.P shall achieve zero liquid discharge, as per the options specified in the direction; and

WHEREAS, in compliance with Hon'ble NGT order (O.A No. 316 of 2017) dated 30th May 2017, teams from CPCB carried out monitoring of River Kosi, from Almora in Uttarakhand up to its confluence with river Ramganga in District Rampur in Uttar Pradesh, during the period June 13th to 21st, 2018; and

WHEREAS, the Unit has been identified as a grossly polluting industry operating in catchment area of Rampur drain & River Kosi in Uttar Pradesh; and

WHEREAS, analysis of water samples collected from river Kosi at downstream of confluence of Rampur drain at village Madarpur showed Colour 929 Hazen, DO-zero, BOD-55 mg/l, COD-153mg/l, which are indicative of industrial pollution; and

WHEREAS analysis of water samples collected from Shahbad Highway, after confluence of river Kosi in Ramganaga, showed Colour 827 Hazen, DO-zero, BOD-60 mg/l, COD-180mg/l, which are indicative of industrial pollution; and

WHEREAS, the Unit, M/s Radico Khaitan Ltd., (Distillery Division), is the only 17 categories of highly polluting industry, operating in catchment area of Rampur drain, U.P and the possibility of discharging spent wash by the Unit cannot be ruled out; and

WHEREAS, CPCB issued Show Cause Notice dated 18.9.2018 under Section 5 of Environment (Protection) Act, 1986 to the unit; and

WHEREAS, public complaints dated 15, Oct, 2018, 03.12.2018 & 11.12.2018 were received against M/s Radico Khaitan Ltd. Rampur; and

WHEREAS, teams of CPCB officials carried out the inspection of M/s Radico Khaitan Limited Bareilly Road, Rampur (U.P.), along with monitoring of Rampur drain, River Kosi & River Ramganga, on November 15th and 16th, 2018 and following observations were made;

1. The Unit was in operation during the inspection. The Unit is engaged in production of alcohol using molasses and grains as raw materials in two processing Units in the same premises.
2. The Unit is having installed capacity of 200 KLD for molasses based distillery and 100 KLD for grain based distillery Unit.
3. The Unit is having a combined license for molasses based distillery and grain based distillery Units for production of 1024 Lac Bulk Litres/annum.
4. ZLD system for treatment of spent wash comprises of IMEE (3 stage), Bio-Digesters (06 nos.), clarifiers, dissolved air floatation, (DAF), followed by RO (3 nos.) and 6 stage evaporator.
5. The Unit has installed mass flow meters at outlet of fermenter, inlet of IMEE, outlet of IMEE, and at inlet and outlet of 6 stage evaporator. All the mass flow meters are connected to CPCB server.
6. The Unit has installed two piezometers at Bio-compost yards at Hitachi site and Ajeetpur site.
7. The Unit has installed a new 6 stage evaporator since May 2018 for concentration of RO reject from 3 stage RO system.

8. The Unit shall deposit an Environment compensation amount of Rs. 27,00,000/- from the date of issue of show cause notice dated 18th September, 2018 under section 5 of Environment (Protection) Act, 1986 for causing potential damage to water quality of Rampur drain, River Kosi & Ramganga as per Environmental Compensation policy framed in compliance of NGT order dated 31.08.2018 in O.A no. 593/2017.
9. The unit shall seek permission from CPCB before restart of manufacturing operations after compliance of the above directions.

AND WHEREAS, as per Hon'ble NGT order dated 21.12.2018 in the matter of Shailesh Singh Vs State of UP & Ors, in OA no. 324/2016, CPCB and UPPCB were directed to conduct a joint inspection of the Unit and submit the inspection report by 15th January, 2019; and

WHEREAS, CPCB vide letter dated 02.01.2019, conveyed abeyance of Closure Direction dated 24.12.2018 till further order for carrying out joint inspection; and

WHEREAS, in compliance with Hon'ble NGT order dated 21.12.2018, joint inspection of the Unit was carried out on 10th & 11th January, 2019 by teams comprising of officials from CPCB and UPPCB and following observations were made:

1. Effluent samples were collected during inspection from various points in the production process and spent wash treatment system. The analysis results are presented below:

S. No.	Sample Description	pH	Total Solids (mg/l)	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)
1.	Raw spent wash (before 3 stage MEE)	4.56	123700	130535	50018	-	
2.	IMEE concentrate	4.54	241810	196911	105159	-	
3.	IMEE condensate	3.04	90	2824	789	BDL(<10)	
4.	Fermenter Cleaning(Lees+ condensate + vacuum pump sealing water)	9.87	1640	1668	871	-	1190
5.	Molasses Lees	7.90	210	2868	1608	BDL(<10)	32
6.	ETP Sump tank Inlet	4.37	146030	149120	50653	-	
7.	ETP sump tank outlet (feed to bio-digesters)		4.29	155290	164000	47709	-
8.	Lamella inlet	7.99	96720	84753	18954	-	
9.	Lamella Outlet	8.18	73790	67327	13542	-	
10.	Lamella outlet+ Clarifloculator outlet	8.07	81710	65901	16703	-	
11.	DAF inlet	7.96	61990	76198	21617	-	
12.	DAF outlet	8.04	64870	66931	17495	-	
13.	RO-1 Permeate	8.19	7755	3292	1451	151	5124
14.	RO-2 Permeate	7.15	5545	1645	642	82	5060

15.	RO-3 inlet (RO-1 Permeate +RO-2 Permeate + other effluent from grain based units)	7.64	7855	2648	560	-	
16.	RO-3 Permeate	7.12	555	183	87	BDL(<10)	
17.	Reject of RO-1+RO-2 and RO-3	7.75	131550	152555	60939	-	
18.	BMSW (MEE-2) feed	7.65	132000	116911	30796	-	
19.	MEE-2 evaporator reject (concentrate) Sample dated 10.01.2019	8.57	224320	203089	69967	-	
20.	MEE-2 outlet Sample dated 11.01.2019	8.60	291430	247446	89924	-	
21.	MEE-2 condensate	10.03	1150	715	159	-	650
22.	Spent wash incoming into Hitachi Site lagoon	7.61	113020	145920	32340	-	
23.	Spent wash spraying on compost in Ajeetpur site	7.84	79820	223200	54111	-	
24.	Digester Inlet (Grain Based other effluent)	9.63	130	2698	1660	53	
25.	Digester (Grain Based other effluent) Outlet	9.63	330	2984	1778	178	
26.	Digester Outlet (Grain Based other effluent)	9.63	330	2984	1778	178	
27.	Cooling tower inlet (MEE-2 condensate + 3 stage MEE condensate)	9.69	1110	2116	1194	-	530

2. Analysis of samples collected from various points during the production of grain based alcohol indicated satisfactory production performance. Analysis result is as follows:

S. No.	Sample Description	pH	Total Solids (mg/l)	COD (mg/l)	BOD (mg/l)
1.	Thin stillage from decanter	3.43	18320	37703	8797
2.	Thick syrup from Evaporator	3.44	129120	166337	88613
3.	Evaporator to cooling tower	3.16	640	1750	874
4.	Combination of Lees+ condensate + Thin slop	5.32	785	66	34
5.	Lees	6.63	320	2168	730
6.	Cooling tower blow down	7.48	1615	859	237

3.Characteristics of waste water samples collected from Sewage Treatment Plant (STP) is as follows:

S. No.	Sample Description	pH	Total Solids (mg/l)	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	Nitrate (NO ₃ -N)	Cl-
1.	Inlet of STP	7.03	640	91	17	195	27	52
2.	Outlet of STP	6.88	445	09	02	13	09	27

4.Water/wastewater samples were collected from the municipal drain, along the road to bio-compost site and joining Rampur drain. The analysis result is represented below:

S. No.	Sample Description	Colour	pH	Total Solids (mg/l)	COD (mg/l)	BOD (mg/l)	TDS (mg/l)
1.	Drain outside main gate of the industry	BDL	6.99	400	07	02	-
2.	Groundwater within unit premises	-	7.2	356	7	BDL	354
3.	Ground Water Ajeetpur Site	-	6.9	881	12	BDL	876
4.	Ground Water Hitachi Site	-	5.6	946	14	1.2	932
5.	Drain outside Ajeetpur side	30	5.91	1100	350	187	860
6.	Drain on Ajeetpur road before Ajeetpur site	09	5.28	675	75	30	516

5.Water samples were collected from various points at Rampur drain, River Kosi and River Ramganga. The analysis result of the samples is represented below:

S. No.	Sample Description	Colour (Hz)	COD (mg/l)	BOD (mg/l)
1.	Rampur drain before mixing with municipal drain from Unit	85	332	156
2.	Rampur drain at confluence with municipal drain	54	320	132
3.	Rampur drain after mixing with municipal drain d/s of Unit	72	366	146
4.	Rampur drain d/s of Unit	97	185	73
5.	Rampur drain before confluence with River Kosi	117	187	84
6.	River Kosi before confluence with Rampur drain	BDL	17	2
7.	River Kosi after confluence with Rampur drain	18	49	12
8.	River Ramganga before confluence with River Kosi	BDL	19	3.2
9.	River Ramganga after confluence with River Kosi	12	32	5.8

6. Analysis of spent wash samples collected from different locations of ZLD system comprising of IMEE, Bio-digesters, clarifiers, RO, 6 stage evaporator system (MEE-2) and lagoons at two bio-composting sites indicate that spent wash being utilised for bio-composting contain pH-7.61 to 7.84, Total solids- 79820 to 113020 mg/l, COD – 145920 to 223200 mg/l and BOD-32340 to 54111 mg/l, as against concentrated spent wash at IMEE outlet containing pH-4.54, Total solids

2,41810 COD-1,96,911mg/l, and BOD 105159 mg/l, Bio-methanated spent wash at DAF outlet containing pH-8.04, Total solid 64870, COD-66931 mg/l, BOD-17495 mg/l, Reject of RO 1, RO2 and RO3 containing pH-7.75, total solid 131550 mg/l, COD-152555 mg/l, BOD-60939 mg/l and concentrated spent wash at outlet of MEE-2 containing pH-8.60, Total solids- 2,91430, COD-247446 mg/l and BOD-89924 mg/l.

7. It appears that the Unit is utilising spent wash from the RO reject with percentage Total solids- 7.9 to 11.3% as against desired 30% solid concentration (as per CPCB directions dated 7/12/2015) for bio-composting with possibility of bypassing of MEE-2 treatment systems/dilution of spent wash at storage lagoons.
8. IMEE condensate has low pH-3.04 and high COD-2804 mg/l thereby requiring treatment before reuse in cooling tower. As informed by the unit, chemicals are being used in cooling tower to utilize the condensate; however same could not be verified during inspection. The unit is required to install proper CPU for treatment of IMEE& MEE-2 condensate. The inspection team has verified that CPU is under construction and as per the information it will be completed by February 2019.
9. For utilization of concentrated spent wash generated from 200 KLD molasses based distillery unit, the total area available is 56.88 acres (at Bio-compost yard site Hitachi land area= 33.688 acre and Ajeetpur site 23.2 acres) which has been found adequate.
10. The unit has 3 lagoons having total capacity of 90433 m³ for storage of concentrated spent wash. As per CPCB direction dated 7th December, 2015, maximum allowed storage capacity in the lagoon is equivalent for 30 days' storage of concentrated spent wash i.e. 25824 m³. This implies that the unit has excess storage capacity of lagoons. Hence, the unit should restrict its storage capacity of the lagoons upto 30 days of concentrated spent wash. The Regional Office of UPPCB, Moradabad has restricted the storage capacity by putting red strips inside the lagoons and the provisions of web cameras are also there to monitor the activities around the lagoons and bio-compost area.
11. The drain sample collected from outside the main gate is the discharge of treated sewage from STP, however the quality of inlet and outlet of the STP indicate dilution of sewage with fresh water.
12. Rampur Drain was found carrying city waste water and no discharge of spent wash was observed. The BOD-146 mg/l, COD-366 mg/l and color-72 Hazen confirm to sewage characteristics.
13. No odour and colour of spent wash was observed at the downstream of the Rampur drain before confluence with river Kosi and also on the stretch of river Kosi and river Ramganga.
14. The water sample characteristics BOD-5.8 mg/L, COD-32 mg/L, color-32 Hazen unit and DO-5.87 mg/l at the downstream of river Ramganga indicate absence of any industrial effluent discharge into monitored stretch of river Ramganga.

AND WHEREAS, the Unit's replies vide letter dated 26.12.2018 and 27.12.2018 were examined and it was observed that the Unit has not complied with CPCB direction dated 24.12.2018 except for submission of Environmental Compensation of Rs 27 Lakh vide letter dated 26.12.2018; and

WHEREAS, CPCB vide letter dated 18.02.2019 informed withdrawal of letter dated 02.01.2019 conveying abeyance of closure direction dated 24. 12.2018 with immediate effect and directed the Unit to comply with CPCB closure direction dated 24.12.2018 issued under Section 5 of Environment (Protection) Act, 1986 including closing down of the manufacturing operations and report to CPCB immediately; and

WHEREAS, the Unit submitted the action plan and replies vide letters dated 20.02.2019 and 01.03.2019 along with the prayer to revoke the closure direction. The replies were examined and following observations were made:

1. The unit is continued to be in operation.
2. The stored spent wash (approx. 25,000 M³) having solid content of 12% shall be utilized, along with freshly generated spent wash, for bio-composting in two cycles of 60 days each, before onset of monsoon season i.e. July,2019.
3. The Unit will use an empty lagoon of capacity 12000 M³ (lagoon 2) for storage of fresh concentrated spent wash with solid concentration of 30% ($\pm 5\%$) through MEE2.
4. All existing treatment systems such as integrated evaporation, biomethanation, RO and MEE will be operated continuously by the Unit. Concentrated spent wash with solid concentration of 30% ($\pm 5\%$) will be stored in lagoon 2 and will be used for bio-composting with pressmud.
5. The CPU technology to be adopted by the Unit consists of equalization, anaerobic digestion, sedimentation, aeration, clarification, multi grade & Activated carbon filtration followed by UV radiation.
6. No dilution of concentrated spent wash will be allowed to take place except rain water and only spent wash with solid concentration of 30% ($\pm 5\%$) will be used for bio-composting.
7. Installation of Condensate Polishing Unit (CPU) is underway and shall be commissioned by 31st March, 2019. The Unit has submitted timeline for construction and commissioning of CPU along with details of contract.
8. The present interim condensate treatment facility of the Unit comprises of chemical treatment to maintain pH, BOD and COD so as to make it suitable for use as dilution in fermentation and as make-up water in cooling tower. The specialized chemicals have anti-scalant, anti-algal properties along with pH increasing, chlorination and oxidation properties.
9. The total bio-compost area available is 56.88 acres (at Bio-compost yard site Hitachi land area= 33.688 acre and Ajeetpur site 23.2 acres) which is adequate for a 200 KLD molasses based distillery.
10. The Unit has installed CCTV cameras at exit and entry of ETP system and has established connectivity to CPCB/UPPCB servers.
11. Regarding restoration of water quality of Rampur drain and river Kosi, the following action has been taken by the Unit:

- a. The Unit submitted that a third party has been given contract by NMCG for in-situ treatment of Rampur drain using bioremediation.
 - b. Unit has already cleaned Rampur drain upto 15 kms stretch starting from outside the factory premise. The cleaning of remaining stretch will be completed before 30.04.2019. The Unit has provided photographic evidence for the same.
 - c. The Unit has earmarked a substantial amount of their CSR fund towards improvement of water quality of Rampur drain and river Kosi. The Unit has also submitted a time bound action plan for the same.
 - d. Additionally, the Unit is in discussion with an expert, to conduct a feasibility study for construction of a wetland on Rampur drain.
12. The Unit has deposited Rs 27 lakhs as Environmental Compensation in compliance with CPCB direction dated 18.09.2018.
 13. The Unit has submitted that in addition to molasses based distillery, it has a grain based distillery with installed capacity of 100 KLD which has adequate and independent system for spent wash treatment, consisting of decantation and evaporation with recycling of condensate in process activities. The Unit also has a malt spirit plant of 3 KLD capacity having Pot still system with filtration and recycling of spent wash. Both grain based and malt spirit plant have individual production and spent wash treatment facilities with no dependence on molasses based distillery. Additionally, Unit has independent bottling plant having no discharge from it.
 14. Since the grain based distillery, malt plant and bottling plant are independent of molasses based distillery, having individual effluent treatment system, therefore Unit has requested grant of permission to operate these Units without interruption.
 15. Since the Unit has submitted time bound action plan, it has requested for revocation of the closure direction dated 24.12.2018.
 16. The Unit stated that it is a leading supplier of country liquor and IMFL in Uttar Pradesh. Considering the upcoming festival of Holi, the demand for liquor will be high and if there is shortage of liquor supply due to closure of the Unit, it may result in disruption of law and order situation. Also, the possibility of illicit liquor sale leading to Hooch tragedy and multiple deaths cannot be ruled out, therefore the district and state administration has advised the Unit to ensure continuous production to avoid shortage of liquor. In view of the above, the Unit has sought permission to resume manufacturing operations in order to prevent law and order problems in the state.

AND WHEREAS, Principal Secretary, Department of Excise, U.P. Government, vide letters dated 23.02. 2019 and 02.04.2019, requested CPCB to allow the Unit to operate along with an undertaking to further bring improvements in the operation of its pollution control systems in a time bound manner. The letter was examined and following salient observations were made:

1. UPPCB is carrying out daily monitoring of Rampur drain, river Kosi and River Ramganga since 15.12.2018.

2. As per monitoring report for the period between 15.01.2019 to 23.02.2019, the intensity of colour in Rampur drain was within 10-12 Hz while in River Ramganga, colour was between 16-19 Hz. As per monitoring data, the Unit has maintained zero liquid discharge during the said period.
3. The Unit is being inspected daily by officials regional office UPPCB Moradabad and violation has not been found.
4. The Unit is adhering to ZLD norms as per UPPCB findings.
5. There will be shortage of potable liquor in the State if Unit is closed since it contributes 30% supply of country liquor in the State.
6. Shortage of country liquor in the State will lead to higher possibility of illicit liquor trade and law & order issues during the General Elections in the State.

AND WHEREAS, Member Secretary, UPPCB, vide letter dated 01.04.2019, requested CPCB to review the Closure Direction issued to the Unit dated 24.12.2018 and allow manufacturing operation by the Unit. As per UPPCB, it is carrying out daily monitoring of Rampur drain, River Kosi and River Ramganga and there is no trace of industrial effluent in the water bodies. UPPCB reiterated that the Unit is strictly abiding to the ZLD norms and thereby not affecting the water quality of Rampur drain, River Kosi and River Ramganga and assured monitoring of the unit and recipient water bodies; and

WHEREAS, the explanation regarding settling and anaerobic digestion of stored spent wash in lagoons resulting in reduction of total solids from 28% to 7-11%, was examined and following observations are made:

- a. COD of spent wash can be of two types based on its degradability namely, easily digestible COD and recalcitrant COD. During bio-methanation, first type of COD is easily digested by microorganisms while the recalcitrant COD cannot be digested despite favourable conditions during bio-methanation. Therefore, the possibility of recalcitrant COD to be reduced through digestion in storage lagoons within a period of one month is not feasible and without reduction in COD during storage, there will be no reduction in solid content of spent wash.
- b. Further, concentrated spent wash after SMEE will be constituted of more than 95% dissolved solids which will not settle down in the storage lagoons. Moreover, as per the adequacy report validated by VSI, Pune and submitted by the Unit vide letter dated 13.03.2019 total suspended solids are reduced from 2.2% to 0.2% in BMSW due to which the performance of RO has improved substantially. Therefore, from this observation it is clear that there is no suspended solid in the concentrated spent wash after SMEE and hence no further reduction in solid content of spent wash will occur through settling in the storage lagoons.

WHEREAS, based on the unit's submitted action plan and replies along with the prayer to revoke the closure direction, letters from Principal Secretary, Department of Excise, U.P. Government and UPPCB, following observations were made;

1. The unit has adequate effluent/spent wash treatment system such as SMEE to concentrate the stored spent wash in lagoons from 7.9% to 30% at restricted production capacity by June 30, 2019.
2. The unit has adequate compost yard to utilize stored spent wash in lagoons after concentration through SMEE along with concentrated spent wash generated from restricted production by June 30, 2019.
3. UPPCB has assured that it is carrying daily monitoring of recipient water bodies and no traces of industrial effluent observed and the unit is strictly abides to ZLD norms and there by not affecting the water quality.

AND WHEREAS, the Three Member Committee constituted for examination and recommendations for revocation of closure direction issued by CPCB, examined the Unit's replies and letters from Principal Secretary, Department of Excise, UP Govt, as well as Member Secretary, UPPCB in its meeting held on 18.04.2019 issued to the unit and recommended the revocation of closure direction with the conditions proposed by CPCB; and

WHEREAS, CPCB issued direction dated 17.05.2019 under section 5 of the Environment (Protection) Act, 1986, to the unit to comply with the following directions:

1. The Unit shall resume operations of manufacturing units namely grain based distillery, malt spirit plant and bottling plant as per consent conditions. The Unit shall restrict the production capacity of its molasses based production less than 77 KLD till the stored spent wash in lagoons having solid content of 7.9-11.3% be treated through Evaporation-Concentration to achieve 30% solid concentration by using appropriate technology such as RO & MEE or only MEE. Only concentrated spent wash with solid concentration of 30% shall be used for bio-composting with pressmud, complying with the conditions specified in the CPCB direction dated 07.12.2015.
2. The entire stored spent wash (approx. 25000 m³) shall be utilized by 30th June, 2019 under the supervision of UPPCB and submit its report to CPCB on monthly basis along with supporting documents.
3. As per Environmental Compensation Policy framed in compliance of NGT order dated 31.08.2018 in OA no. 593/2017, the Unit shall deposit, within 15 days from the date of receipt of the direction, an Environment compensation amount of Rs. 1,18,80,000/- in favour of CPCB, A/c No. 532702050000164 (Bank name: Union Bank of India, IP Extension Branch, Vikas Marg Extn., Delhi; IFSC: UBIN0553271).
4. CPCB before resuming the manufacturing operations of its molasses based Unit at its installed capacity of 200 KLD.

AND WHEREAS, UPPCB vide letter dated 06.06.2019 forwarded the compliance status of the unit. As per CPCB direction dated 17.05.2019, UPPCB officials visited the unit on 31.05.2019 to verify compliance and the following observations were reported.

- i. As per data provided by the unit from 24.05.2019 to 31.05.2019, the unit has restricted its production capacity at 77 KLD, which is in compliance with CPCB direction dated 17.05.2019.
- ii. For the management of spent wash, the unit has 3 stage integrated multiple effect evaporator (IMEE), Bio-Digesters (for methane recovery), Lamella clarifiers, Clariflocculators, dissolved air floatation, (DAF), followed by RO and 6 stage multi effect evaporator (SMEE). Concentrated spent wash is used in bio-composting to produce bio-compost.
- iii. For the treatment of process condensate generated from MEE the unit has installed CPU of 1070m³ capacity. During the visit the CPU was found operational.
- iv. On the day of visit all the plant machinery were found operational. It was observed that concentrated spent was being used in bio-composting and the unit is maintaining ZLD. Level of concentrated spent wash in the lagoon situated at Ajeetpur site was below red mark and lagoon situated at Hitachi was observed empty. No spillage/over flow of spent wash was observed.
- v. The unit was treating its stored low concentrated spent wash (Lagoon at Ajeetpur having capacity 58,000m³) through MEE. Out of 25,000 m³ spent wash, the unit has utilized 17813 m³ of spent wash as on 31.5.2019 and 7000-8000m³ of spent wash was left in the lagoon.
- vi. Web cameras installed at bio-composting site were found operational.

AND WHEREAS, Unit's replies vide letters dated 05.06.2019, 08.06.2019 14.06.2019 and 16.06.2019 were examined and following observations are made:

1. The unit has been operating its molasses based plant at restricted capacity of 77 KLD from 24.05.2019. The unit has provided supporting documents certified from excise department showing production of < 77KLD.
2. 21000m³ of spent has been utilized out of 25000 m³ (solid content of 7.9-11.3%) through MEE with solid concentration of 30% through bio-composting with press mud and remaining 4000 m³ is settled sludge which cannot be pumped out.

3. After treating through SMEE the unit is utilising this concentrated spent wash (30% solid) in bio-composting.
4. Environmental Compensation of Rs 1,18,80,000/- has been deposited by the unit vide letter dated 29.05.2019.
5. The unit has completed cleaning of Rampur drain upto Kosi bed.
6. The unit has completed installation of Geo-net.
7. The unit has informed that de-silting of river Kosi, falls under the category of mining therefore the unit has approached the District Administration, Rampur for de-silting/cleaning of River bed Kosi.

AND WHEREAS the Joint Committee comprising of Member Secretary, CPCB and Member Secretary UPPCB under the supervision of Hon'ble Justice (Retd.) Arun Tondon, carried out inspection of the unit on June 10-11th in compliance of Hon'ble NGT order dated 20.05.2019 in OA no. 361/2017 and the committee made following observations;

1. The unit is engaged in production of alcohol using molasses and grains as raw materials in two separate production units in the same premises. The Unit representatives informed to the Committee that they have been given verbal instructions by State Government officials to maintain the status quo and the unit operation was continued.
2. The unit and effluent treatment facilities including CPU and STP were found operational.
3. The unit has received separate consents on 2.5.2019 for a) Bottling Plant) Grain and Malt spirit plant with validity till 31-12-2023. The consent to operate of Molasses based distillery unit, issued earlier till 31.12.2019 which got revoked automatically in the light of closure order dated 24.12.2018. The unit has re-applied for consent and the same was under process.
4. The unit is having three bore wells to meet the water requirement of production and domestic consumption. Flow meters have been installed on each bore well. Average daily water consumption is 1042 KL/day as observed on 10.06.2019.
5. The unit has restricted its production at less than 77 KLPD w.e.f. 24th May, 2019 as per CPCB directions dated 17.05.2019. Molasses based production was 76.627 KLD (average of 08th to 10th June 2019) as per production figures certified by Excise department.

6. In case of grain based unit, the effluent streams from clean in process (CIP) are mixed in a tank with spent wash of molasses based unit and subjected to further treatment into RO and MEE-2 (SMEE).
7. Spent wash generated in distillation process is subjected to evaporation through a re-boiler and three stage Integrated Multiple Effect Evaporator (IMEE).
8. The unit has installed a six stage evaporator (SMEE) commissioned in May 2018 and stripper column for the treatment of RO reject. The reject from all three RO plants is sent to a six stages evaporator (SMEE) for further reduction of volume.
9. The unit has installed mass flow meters with totalizer at outlet of fermenter, inlet and outlet of IMEE, Inlet and outlet of (SMEE). All mass flow meters are connected to CPCB server.
10. Concentrated spent wash from IMEE is pumped into bio-digesters (06 nos.) for bio-methanation. The bio-gas, generated is used as fuel into boiler.
11. Outlet of bio-digesters is subjected to solid liquid separation system which comprises of Lamella Clarifiers, Clarifloculators, settling tank, final clarifier and DAF for solid liquid separation of bio-digested spent wash before RO (Plant-1&2).
12. Effluent from outlet of dissolved air floatation system is stored and passed through two RO plants (operating in parallel).
13. Permeate generated from RO-1 and RO-2 is further treated through another RO (RO-3) along with the other effluent of grain based unit and cooling tower blow down. The permeate from RO-3 is used in cooling tower make-up water.
14. The rejects from RO-1, RO-2 and RO-3 are feed to SMEE for further concentration. The concentrated spent wash is used in bio-composting and condensate is sent to CPU for treatment.
15. For treatment of Condensate from all Multiple Effect Evaporators, the unit has installed and commissioned the condensate processing unit (CPU) in May 2019. The CPU consist of equalization & buffering, anaerobic digestion (ICX Digester), aerobic treatment, settling, filtration followed by UV treatment for reuse into cooling towers. For sludge dewatering mechanical press has been provided.
16. Sludge from the clarifiers is de-watered through belt press and sent to bio-compost yard.

17. The unit is having 3 lagoons having total capacity 90000 m³, for storage of concentrated spent wash -one lagoon at Hitachi site (capacity 12000m³) and two lagoons at Ajeetpur site- Lagoon-A (capacity 58,000 m³) and Lagoon-B (capacity 20,000 m³).
18. The stored spent wash in Lagoon at Hitachi site was 3000m³ (50% of red mark, i.e., allowed capacity).
19. Ajeetpur site Lagoon-A (capacity 58,000 m³) was observed empty, except sludge slurry (calculated volume 3500m³) at bottom, which was too thick (30% solid concentration) and cannot be pumped and need to be utilized for bio-composting.
20. As per inspection dated 10.06.2019, stored spent wash in Lagoon at Hitachi site was 3,000m³ (less than allowed red mark volume 6000m³). Stored spent wash in Lagoon-B (capacity 20,000m³) of Ajeetpur site was 7000m³(less than allowed red mark volume 10,000m³). Solid content of spent wash in these lagoons is~30% which is in compliance of CPCB direction.
21. No bypass or outlet of spent wash was observed.
22. The unit has two sites/yards for bio-compost process. Total area available at both Bio-compost yard sites is 56.88 Acres (Hitachi land area 33.688 acres and Ajeetpur site 23.2 acres). Out of 56.88 acres, 14.0 acres of land is covered where five cycles of bio-compost per annum can be carried out. The remaining 42.88 acres of land is open/uncovered where four cycles of bio-compost per annum can be carried out.
23. The unit is having aero tiller machines for spraying, mixing, turning of bio-compost material.
24. The unit has installed web cameras at each bio-compost yard site having coverage up to lagoons.
25. Area available for bio-composting is adequate, for installed capacity of 200KLD, as per area requirement w.r.t. Standard Operating Procedures for Bio-composting by distilleries.
26. Treated effluent samples were collected from outlets of CPU and STP. Spent wash samples were collected from SMEE outlet, inlet to lagoon and stored spent wash in Lagoon-B at Ajeetpur. In addition, samples were collected from Ajeetpur drain near bio-compost site. The analysis results are mentioned in the table below:

S.no.	Source	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)	TS (mg/l)	Color (Hazen)
1.	Inlet of concentrated SW from Ajeetpur Lagoon-B (capacity 20000 m ³)	7.63	209961	49551	-	-	296380	
2.	From the other corner of Ajeetpur lagoon-B (capacity 20000 m ³)	7.85	132016	35905	-	-	310760	
3.	Intermediate location of lagoon-B, Ajeetpur site (20,000m ³)	8.03	212332	68624	-	-	297000	
4.	SMEE evaporator outlet	8.72	315810	84798	-	-	298820	
5.	CPU outlet	8.01	49	11	BDL (<10)	-	-	33
6.	Treated sewage from main gate of Radico Khaitan	7.21	43	12	75	344	-	-
7.	Rampur drain 1 km upstream of Radico Khaitan	7.05	236	59	169	516	-	-
8.	Drain near Ajeetpur compost yard before confluence	7.03	397	122	371	660	-	-
9.	Drain near Ajeetpur compost yard after confluence	7.10	236	50	189	468	-	-
10.	Rampur Drain at Narayanpur (V-notch site)	7.26	131	28	49	548	-	-
11.	Rampur Drain just before confluence with Kosi River	7.46	130	33	74	532	-	-

AND WHEREAS, CPCB issued letter dated 24.06.2019 to Chief Secretary, Government of Uttar Pradesh for necessary actions with regard to illegal operation of the unit inspite of CPCB direction dated 24.12.2018.

AND WHEREAS, CPCB vide letter dated 03rd July 2019 asked the unit to submit a time bound action plan within three days to restrict the capacity of lagoons as per CPCB direction dated 07.12.2015 and excess capacity/lagoon shall be dismantled/levelled/sealed; and

WHEREAS, UPPCB issued letter dated 03.07.2019 to the unit to restrict the spent wash storage capacity of the lagoon upto 24000 KL and to submit a time bound action plan within three days to restrict the capacity of lagoons; and

WHEREAS, the unit replies vide letters dated 04.07.2019 and 12.07.2019 were examined and following observations are made;

1. The unit has informed that the unit has bio-composting facilities at two different locations i.e . Hitachi site and Ajeetpur site and hence the unit requires lagoons at both the sites.
2. In order to limit the holding capacity free board of min. about 1.5-2.0 mtrs is necessary keeping in consideration of about 1000 mm to 1100 mm annual rainfall in Rampur region.
3. The unit has proposed to make a partition in the lagoon at Hitachi site (capacity of 12000 m³) to make provision of about 3000m³ storage capacity with 1.5 mtr free board for safety reasons and the remaining capacity shall be isolated and dismantled. The entire work will be completed by the end of October, 2019.
4. The unit has proposed to cut down the bandh height by about 1.0 mtr in order to restrict the storage capacity of lagoon at Ajeetpur –A (Capacity of 58,000 m³) to about 21,000 m³ with a free board of about 1.5 mtr.
5. The unit has started pumping of concentrated effluent from lagoon-B having capacity 20000m³ into lagoon-A having capacity 58,000m³ in order to make it completely emptied so as to abandon/ dismantle it. The incoming effluent pipeline has been disconnected.
6. The process of pumping will be completed by the end of July 2019, however desludging/dismantling will be carried out after the rainy season and entire work of dismantling and leveling will be completed by Nov, 2019.

AND WHEREAS, UPPCB vide letter dated 22.07.2019 forwarded their monitoring report and also compliance status of CPCB direction dated 17.05.2019 by the unit which was examined and following observations are made.

1. The unit has provided a time bound action plan to restrict the capacity of the lagoon vide letter dated 12.07.2019. The unit has also provided their compliance status vide letter dated 05.06.2019, 08.06.2019, 16.06.2019, 04.07.2019 and 12.07.2019 with request to restore their production to their consented capacity.

2. UPPCB carried out regular monitoring of the unit to comply with the directions issued to the unit, 25000 KL of spent wash stored in the lagoon of capacity 58000 KI at the Ajeetpur site has been concentrated upto 30% using MEE and is used for bio composting by the unit.
 - a) Till 30th June, 2019, the unit has utilised almost 25000 KI of spent wash stored in lagoons after being concentrated upto 30% through bio composting. Approximately 3000 KL of semi solid sludge is only left in the lagoon which can be taken out mechanically or manually.
 - b) The unit has been operating at a capacity of 77 KL/Day since 24/05/2019.
 - c) Monitoring of water quality of Rampur drain at three points (1km u/s of confluence point, 1 km d/s of confluence point and at the confluence point) is carried out by UPPCB on daily basis and the analysis results from 02.06.2019 to 18.07.2019 indicate pH 7.4 to 8.9, color- 8 to 14 Hazen and DO 0.2 to 1 mg/l.
 - d) SPCB has forward the details of the spent wash generated and utilized by the unit from February, 2019 to June, 2019 which indicate that the unit has generated 95,331 MT of concentrated spent wash after RO plant and utilized 21,609 MT of old spent wash stored in lagoon. Total feed to SMEE was 86,107 MT, 28-32% concentrated spent wash generated from SMEE was 56,093 MT and utilized in bio composting was 56,325 MT.

It is evident from the above observations that the unit has complied with CPCB direction dated 17.05.2019 which has been verified by Joint Committee and also by UPPCB as the stored spent wash in lagoon has been almost utilized by the unit in bio-composting after concentration through MEE, only thick sludge has been left which could not be pumped and needed to be used in bio-composting , restricted its production to 77 KLD w.e.f. 24.05.2019 , deposited the levied Environmental Compensation and submit time bound action plan to restrict storage capacity by Nov, 2019

AND WHEREAS, the Three Member Committee constituted for examination and recommendations for revocation of closure direction issued by CPCB, examined the inspection report of June 10-11 2019 of joint committee, UPPCB compliance report dated 19.07.2019 and unit's letter dated 05.06.2019, 08.06.2019, 16.06.2019, 04.07.2019, 12.07.2019 and inspection report of Hon'ble Justice (Retd.) Arun Tandon in its meeting held on 19.07.2019 and recommended for restoration of consented production capacity of molasses based distillery.

AND WHEREAS, CPCB issued legal notice dated 22.07.2019 to the unit for prosecution of the responsible officers of M/s Radico Khaitan Ltd., for continued illegal operation inspite of CPCB closure directions.

NOW THEREFORE, in view of the above observations and in exercise of the powers delegated to the Chairman, CPCB under section 5 of the Environment (Protection) Act, 1986, the Unit, M/s Radico Khaitan Ltd. (Distillery Division), Rampur, U.P., is directed to comply with the following:

1. The unit may restore its manufacturing production of molasses based distillery as per consented capacity and shall comply with the consent conditions as well as conditions specified in CPCB direction dated 07.12. 2015. The unit shall seek valid consent from UPPCB.
2. The Unit shall restrict the storage capacity of lagoons as per CPCB directions dated 07.12.2015 and the excess capacity shall be isolated and dismantled as per their action plan by November 30, 2019. The freeboard of the lagoons shall not exceed 1.0 meter, considering the rain pattern of the area.
3. The unit shall develop thick plantation (Neem, Ashok, Mulberry and other similar) in two rows along the boundary of lagoons so as to create a barrier against the odour.
4. The unit shall construct RCC wall of length 20 meters, height upto ground level, along the Municipal drain near Saw mill at Ajeetpur.
5. The industry shall control its production so as to ensure that in no case spent wash collected in the lagoons exceeds its fixed capacity on monthly basis.
6. The unit shall maintain specific verifiable records, which can be examined at any given point of time in respect of total quantity of bio-compost generated and sold to the known purchasers. The distillery shall maintain similar records in respect of solid waste and disposal thereof to known vendors.
7. The septage from the Rampur drain shall be regularly cleaned and shall be disposed properly and levelled.
8. The unit shall deposit the additional Environmental compensation amount of Rs. 5,83,20,000/- [7,29,00,000-1,45,80,000] (Re-calculated in compliance of NGT order dated 20.5.2019 (as per the methodology of EC) which is Rs.7.29 Crores including the EC imposed earlier in favour of CPCB, A/c No. 532702050000164 (Bank name: Union Bank of India, IP Extension Branch, Vikas Marg Extn., Delhi; IFSC: UBIN0553271)/ or through demand draft in favour of EC by CPCB.

In case of default in compliance with the above directions by the Unit, CPCB will be constrained to initiate appropriate action against the Unit, in accordance with the provisions of the Environment (Protection) Act, 1986 without any further notice.

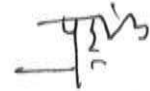

 (S P SINGH PARIHAR)
 CHAIRMAN

Copy to:

1. **Member Secretary**
 Uttar Pradesh Pollution Control Board,
 Building No. TC-12V, Vibhuthi Khand,
 Gomti Nagar, Lucknow – 226 010

UPPCB shall ensure compliance of the unit with CPCB direction and shall continue monitoring of Rampur drain, River Kosi, and River Ramganga on weekly basis for three months, followed by monthly monitoring and report shall be submitted on Monthly basis.

2. **Joint Secretary (CP Division)**
Ministry of Environment, Forest & C.C
Prithvi Block, Indira Paryavaran Bhawan,
Jorbagh Road, New Delhi – 110 003
For kind information, please.
3. **District Magistrate,**
NH-24, Awas Vikas Rampur,
Uttar Pradesh- 244901
With request to ensure that the Unit complies with
the directions
4. **Superintendent Engineer,**
Paschimanchal Vidyut Vitran Nigam Ltd.,
District Rampur- 250001
For Information please
5. **Regional Director**
Regional Directorate
Central Pollution Control Board
PICUP Bhawan, Ground Floor,
Vibhuti Khand, Gomti Nagar,
Lucknow – 226 010
For follow up and ensuring compliance
6. The In-charge, IT Division, CPCB
For uploading on CPCB website
7. Master file/Guard file WQM II, CPCB Delhi



(Prashant Gargava)
MEMBER SECRETARY