

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI
Original Application No. 131 of 2020 (SZ)**

IN THE MATTER OF:

M. Jayachandran,
Ranipet District and Anr.

... Applicant(s)

With

The Ministry of Environment,
Forest & Climate Change and Ors.

...Respondent(s)

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Place: Chennai
Date: 16-4-2021


(Dr.R.Sridhar)
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Compliance status of Recommendations made by the Joint Committee and present status of compliance of directions already issued by the Tamil Nadu Pollution Control Board (TNPCB) under Section 33A Water (Prevention and Control of Pollution) Act, 1974 and under Section 31A of Air (Prevention and Control of pollution) Act, 1981

1. Background

The Hon'ble NGT, vide its order dated 30-07-2020 constituted a Joint Committee to inspect the unit in question (M/s Thirumalai Chemicals Ltd (TCL), SIPCOT Industrial Complex, Ranipet) and also the Puliyanaganu Eri, Palaar and Ponniyar which were polluted on account of industrial pollution and submit a factual as well as action taken report to this Tribunal.

The Joint Committee submitted its report dated 11.02.2021 to the NGT. Upon hearing the Joint Committee report, the NGT vide order dated 15-3-2021 observed that

“4. It is seen from the report that there is another case pending before this Tribunal in O.A. No. 186 of 2020 which is dealing with the larger issue of Chromium deposit in this area and the remedial measures to be taken for that purpose and some of the committee members are members in the other case also and they have submitted that some report has been filed in that case”.

“5. Under such circumstances, we feel that it is better that both these cases can go together, so that conflicting orders can be avoided. In the meantime the parties are also directed to complete their pleadings and objections to the joint committee report, so that all these issues can be taken together”.

“6. In the meantime the committee is also directed to ascertain as to whether the recommendations made by them, as regards the 8th respondent company has been complied with by them and what is the present status of compliance including the directions issued by the Tamil Nadu Pollution Control Board (TNPCB) when they issued notice under Section 33A Water (Prevention and Control of Pollution) Act, 1974 and under Section 31A of Air (Prevention and Control of pollution) Act, 1981 and submit independent reports to this Tribunal regarding the same”.

“7. Parties are directed to submit the respective pleadings and objections and the report as directed on or before 19.04.2021”.

2. Joint Committee’s inspection to review the compliance of the Committee’s recommendations and TNPCB’s directions by 8th Respondent company.

In order to review the compliance status of the Committee’s recommendations and TNPCB’s directions by 8th Respondent company (TCL), the Committee conducted a meeting in the District Collector Office at Ranipet and visited the industry unit on 12-4-2021. Based on the site inspection and information provided by the industry unit, the compliance status of the industry is given in Table-1 & 2 below:

Table 1. Recommendations of the Joint Committee pertaining to 8th Respondent company and their compliance status

S.N	Recommendations of the Joint Committee pertaining to 8 th Respondent company	Compliance Status
1	<p>As the unit was observed for non-compliance of consent order conditions, discharges noticed in violation of consent conditions, internal discharge to the environment -land, water and air resulting into acute injury or damage to the environment and injection of treated /partially treated /untreated effluents to the ground water and based on repeated violations, the unit was directed by TNPCB to restrict the production of 50 % of its consented quantity so as to achieve zero liquid discharge consistently till the commencement & effective functioning of newly constructed Zero Liquid Discharge (ZLD) components.</p> <p>As the unit is in the process of establishing ZLD system and started trial runs for validation of the equipment to achieve Zero liquid discharge with respect to treating effluents, the unit shall be allowed to operate in full load only after ensuring the complete/full-fledged</p>	<p>Being complied</p> <p>The new ETP with ZLD components comprising of Disc Type RO, Waste Heat Evaporator (WHE & equivalent to conventional MEE), ATFD are already installed & trial runs in presence of vendors is being done, teething issues are under correction. Efforts are being made to run at full capacity by 30th June 2021.</p> <p>The industry informed that they have ordered a 150 KLD conventional MEE which will be a standby to WHE.</p> <p>The industry claimed that at current running capacity, the newly installed ETP components with the old ETP are capable of achieving Zero</p>

	operation of upgraded ETP by TNPCB. The full-fledged operation of ZLD system should be commenced within four months-time by the TCL.	liquid discharge with respect to consent quantities. The industry has assured that full-fledged ZLD will be commissioned by 30th June 2021.
2	After commissioning of upgraded ETP, adequacy test needs to be carried out by an independent govt academic/research institution like IIT Madras and to certify that the unit has achieved 100% ZLD capacity.	The industry has assured that once the upgraded ETP is commissioned, certification will be done by IIT Madras by 30 th June 2021
3	TCL shall, in consultation with reputed institute such as IIT, Madras, prepare a DPR within three months-time, for the remediation of the land where the untreated effluent was discharged within the industry site and execute the task of remediation of contaminated site, under the supervision of TNPCB. The entire cost for the study and remediation shall be borne by the industry as per polluter pays principle.	Not complied The industry has informed that they have discussed with IIT Madras and DPR is under preparation for remediation of the contaminated land within the industry premises. The industry has assured that DPR will be prepared by end of May 2021 and remediation work will be carried out under the supervision of TNPCB.

Table 2. Directions of the TNPCB pertaining to 8th Respondent company and their compliance status

S.N	Directions issued by TNPCB	Compliance status
TNPCB's directions issued on 09-12-2020		
1	The unit shall construct and commence the new ZLD components for effective functioning so as to achieve Zero liquid discharge	<p>Being complied.</p> <p>During the Joint Committee's inspection held on 12-4-2021 it was observed that the industry has not commenced the full-fledged operation of ZLD system. However, the following progress has been noted.</p> <p><u>Organic effluent:</u></p> <p>For treatment of organic effluent from ETP, the unit has provided Reverse Osmosis -4 of capacity 400 KLD, in which RO – rejects will go to High Rated Solids Contact Clarifier (HRSCC-1) for removal of hardness and silica from which it is feed to the RO-5 of capacity 100 KLD. RO Permeate from above said RO-4 & RO-5 is proposed to utilize for DM Plant makeup.</p> <p><u>Inorganic effluent:</u></p> <p>The unit is proposed to utilize the existing RO,1,2,3 for treatment of DM effluent & Cooling Tower blow down (CTBD), in which RO reject will go to HRSCC-2 for removal of hardness and silica, from which it is feed to the RO-6 of capacity 200 KLD. RO Permeate from the RO-1,2,3 & RO-6 are proposed to utilize for DM Plant/cooling tower makeup.</p>

		<p>The organic reject from RO-5 and inorganic reject from RO-6 are proposed to treat in the HRSCC-3 from which it will be sent to Waste Heat Evaporator of capacity 150 KLD and feed to the Agitated Thin Film Dryer (42 KLD) for recovery of salt and will be disposed to Authorized recycler approved by TNPCB.</p> <p>The unit has constructed new ETP and has started trial runs for validation of the equipment to finally achieve Zero liquid discharge with respect to treating their own effluents.</p> <p>The unit has installed HRSCC 3 Nos (65 KLD each)</p> <p>The industry has assured the full-fledged operation of ZLD system by June 2021.</p>
2	<p>The unit shall operate the ETP continuously and efficiently so as to achieve Zero Liquid Discharge (ZLD) system at all times.</p>	<p>Being complied.</p> <p>All the components of ETP, RO, MEE and ATFD are under operations. No bye-pass of effluent from the treatment system noticed. During inspection the industry has recovered and stored salts of 2.9 Tonnes within the unit premises.</p> <p>As per the TNPCB direction issued on 09-12-2020, the industry has to restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of the TNPCB. The company</p>

		<p>produces almost 100% of consented quantity of <i>Pthalic Anhydride</i> chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.</p> <p>2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks.</p> <p>It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage tank inside the industry premises should be treated and disposed off immediately.</p> <p>The industry's existing ETP capacity is 560 KLD. Data for the month of March 2021 from Water Quality Watch Center (WQWC) shows 179.47 KLD on 26.03.2021.</p> <p>Now the unit has restricted the effluent generation to 50% of consented quantity.</p>
3	The operation of the unit shall not attract any public complaints.	<p>Agreed to comply.</p> <p>General complaint petitions were received often (during the year 2019 and 2020) from nearby Public through District Administration against the discharge of trade effluent from ETP into nearby water sources.</p> <p>The industry has been advised to comply with all environmental norms stipulated under</p>

		Environment Protection Act/ Air Act/ Water Act.
4	The unit shall comply with recommendations of the Hydro-geological study report.	Complied. Complied with recommendations of the report of Dr Ganapathy of VIT. As suggested, a sub-surface storm water drain was construed in the western side of M/s. TCL and was in operation. Photographs are shown in Annexure .
5	The unit shall provide garland drains around the unit premises to ensure that there is no seepage of water from outside premises into the unit and vice-Versa.	Being Complied The industry has constructed the sub-surface storm water drain outside the industry premises on western side in between M/s.Tamil Nadu Chromates Chemicals Ltd dump side and M/s.Thirumalai Chemiclas Ltd. In northern side, the industry has assured to construct a retainer wall to ensure that there is no seepage of water from outside premises into the unit and vice-Versa. The length of retainer wall is 500 metres and with a depth ranging from 1.5 metres to 5.0 metres. The width of the retainer wall is 250 mm. The Joint Committee, while inspecting the retainer wall construction, suggested to increase the wall height to 2-3 feet to prevent excess water to flow inside the industry. Photographs of retainer wall construction are shown in Annexure
6	The unit shall provide suitable no. of Peizometric wells at the upstream and downstream side of the unit	Complied. Eight nos. of Peizometric wells have been provided. 4 nos at the

	premises, so as to assess the ground water quality.	upstream and 4 nos., at the downstream.
7	The unit shall provide proper rain water harvesting system in the unit premises to tap the rain water, treat and reuse for beneficial purpose, so as to avoid the rain water runoff outside the premises of the unit.	<p>Complied.</p> <p>The unit has made arrangement to collect the rain water from 1.85 lakh sq. ft. of roof area in the Six zones of the unit premises and same was reused as raw water for process.</p> <p>Photos of roof water collection system are shown in Annexure</p>
8	The unit shall revamp the storm water drain within the unit premises after detailed study on the carrying capacity with respect to surface runoff.	<p>Complied.</p> <p>The unit has revamped the existing storm water drains and provided subsurface collection tank of holding capacity 300,000 Liters at final runoff point at the South western side and there is a rainwater outlet point in the eastern side near Ponnai Road. Pumps were installed to take back the collected rain water.</p> <p>Photos of revamped storm water drains are shown in Annexure.</p>
9	The unit has to replace the existing anaerobic contact filter with suitable advanced anaerobic treatment system so as to improve the quality of influent into aerobic treatment system.	<p>Being Complied.</p> <p>The industry claimed that through some study conducted for anaerobic system improvement, it was found that effluent is highly biodegradable and the biodegradability is 85%. Further, it was reported that Anaerobic Filter Compartment was replenished and revived by the addition of Bio cultures supplemented with suitable doses of nutrients and jaggery (food for culture during inoculation).</p> <p>The industry claimed that the continuous addition of cultures</p>

		and improvements like recycling of sludge back to the system, the present efficiency of the Anaerobic Filter Compartment has been increased to 65-70% which is the normal COD removal capacity of any Anaerobic Filter or Anaerobic digesters. In addition to above, additions of cultures and nutrients were done in the aeration systems like SAFF (Submerged Aerated Fixed Film Reactor) a Secondary Aeration System followed by RAs (Return of the Activated Sludge) which has also increased the efficiency of the aeration system.
10	The unit shall comply with conditions mentioned in the renewal of consent order vide proc.dated 03.07.2019	Compliance status on Water Act, HWA and Air Act are given below:
	WATER ACT:	
	1. The unit shall operate and maintain the Sewage Treatment Plant efficiently and continuously and the treated sewage shall be discharged on Industry's own land for gardening, green belt development after satisfying the standards prescribed by the Board.	Complied. All the components of sewage treatment plant were under operation. The treated sewage samples collected from the STP by the TNPCB. The ROA of the treated sewage reveals that the parameters mostly satisfy the standards prescribed by the Board. Treated sewage is utilized for gardening, green belt development
	2.The unit shall regularly analyse the treated sewage through Board's lab and furnish ROA of the same.	Complied. The treated sewage samples collected from the STP by the TNPC Board. The ROA of the treated sewage reveals that the parameters mostly satisfy the standards prescribed by the Board.
	3.The unit shall operate and maintain the ETP along with RO plant and MEE efficiently and continuously and ensure	Partially Complied. As per the TNPCB direction issued on 09-12-2020, the industry has to

	<p>that the RO permeate and Multiple Effect Evaporator (MEE) condensate shall be recycling for process after satisfying the standards prescribed by the Board.</p>	<p>restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of the TNPCB. The company produces almost 100% of consented quantity of <i>Pthalic Anhydride</i> chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.</p> <p>2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks.</p> <p>It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage tank inside the industry premises should be treated and disposed off immediately</p> <p>All the components of ETP, RO, MEE and ATFD are under operations.</p>
	<p>4. The unit shall ensure that RO reject shall be sent to MEE for further treatment.</p>	<p>Partially Complied</p> <p>RO reject is sent to MEE followed by ATFD to recover salt. No by-pass of effluent from the treatment system noticed. During inspection the industry has recovered and stored salts of 2.9 Tonnes within the unit premises.</p>

		<p>As per the TNPCB direction issued on 09-12-2020, the industry has to restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of the TNPCB. The company produces almost 100% of consented quantity of <i>Pthalic Anhydride</i> chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.</p> <p>2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks.</p> <p>It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage tank inside the industry premises should be treated and disposed off immediately.</p>
	<p>5.The unit shall achieve zero discharge at all times and shall not discharge any treated/untreated effluent outside the premises of the unit.</p>	<p>Partially Complied</p> <p>As per the TNPCB direction issued on 09-12-2020, the industry has to restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of</p>

		<p>the TNPCB. The company produces almost 100% of consented quantity of <i>Pthalic Anhydride</i> chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.</p> <p>2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks.</p> <p>It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage tank inside the industry premises should be treated and disposed off immediately.</p> <p>All the components of ETP,RO,MEE and ATFD are under operations. No bye-pass of effluent from the treatment system noticed.</p>
	<p>6.The unit shall regularly analyse the treated trade effluent through Board's lab and furnish RoA of the same.</p>	<p>Complied.</p> <p>Samples collected and analyzed through the TNPC Board.</p>
	<p>7.The unit shall ensure the connectivity of EMFM provided at the inlet and out let of ETP, MEE inlet, MEE distillate, MEE concentrate, MEE centrifuged mother liquor and MEE steam inlet with Care Air Centre of TNPCB / CPCB portals and provide proper data at all times.</p>	<p>Complied.</p> <p>EMFMs connected to TNPCB & CPCB portals.</p>

	<p>8.The unit shall operate and maintain the separate EMFM provided at the line for the collection and pumping of seepage water to the Equalization tank and maintain the log book for the same.</p>	<p>Complied.</p> <p>The unit has operated and maintained the EMFM provided and also maintained the log book for the same.</p>
	<p>9.The unit shall operate and maintain the EMFMs provided at all the sources connected to Effluent water and maintain the log book for the same.</p>	<p>Complied.</p> <p>The unit has operated and maintained the EMFM provided at all the sources connected to Effluent and also maintained the log book for the same.</p>
	<p>10.The unit shall operate and maintain the ATFD for concentrating the mother liquor generated from the crystallizer efficiently and continuously.</p>	<p>Complied.</p> <p>ATFD is under operation</p>
	<p>11.The unit shall collect the ground water from Piezometric wells provided around the ETP and Vermi composting unit and analyse the same so as to ascertain the ground water quality and furnish report to Board.</p>	<p>Complied.</p> <p>Eight nos. of Peizometric wells have been provided. 4 nos at the upstream and 4 nos., at the downstream. The industry claimed that they furnish the report to the Board on the ground water quality from Piezometric wells.</p>
	<p>12.The Hazardous waste generated shall be properly disposed as per the Authorization obtained under Hazardous waste (MH&TM) Rules, 2008 and shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.</p>	<p>Complied.</p> <p>The industry has been generally complied the conditions stipulated in the HW Authorization</p> <ol style="list-style-type: none"> 1. The industry has stored the hazardous waste in an impervious yard covered with roof shed in an area earmarked place within the premises. 2. The industry has marked each container holding the

		<p>hazardous wastes with marking "Hazardous Wastes"</p> <p>3. The storage area has fenced and a sign of danger should be placed at the storage site.</p> <p>4. The containers holding the hazardous wastes kept in good condition.</p> <p>5. The industry has installed hazardous waste display board at the entrance of the factory and updated the same regularly.</p> <p>6. The industry is maintaining the Form-3 and submitted Form-IV</p>
	13. The unit shall ensure that the non- Hazardous solid waste is disposed scientifically for further beneficial purposes without any accumulation.	<p>Complied</p> <p>No Accumulation of solid waste found within the premises.</p>
	14. The unit shall comply with the conditions imposed in Hazardous and other Wastes (Management Handling & Trans Boundary Movement) Rules, 2016. Compliance of Conditions stipulated in the latest HWA issued dated 11.02.2020	
	(1) The unit shall dispose the Used/Spent Oil to the units having valid authorization of the Board and registration certificate as recyclers and necessary endorsement shall be made in respect of the quantity transacted in the original letter of registration issued to the recycling unit lifting used oil.	<p>Complied.</p> <p>The industry is disposing the Used/Spent Oil to the units having valid authorization of the Board and registration certificate as recyclers.</p>
	(2) The unit shall dispose hazardous waste category (1.2) Tarry residues and still bottoms from distillation to M/s. Gujarat Enviro Protection and Infrastructure Limited, Ranipet as reported.	Complied.

	<p>(3) The unit shall dispose hazardous waste categories 5.2 (Wastes or residues containing oil), (35.3) Chemical sludge from waste water treatment and (B2) Total Petroleum Hydrocarbons (TPH) (C5-C36) equal to (or) more than 5000 mg/kg to M/s. TNWML, Gummidipoondi as reported.</p>	<p>Complied.</p>
	<p>(4) The unit shall dispose hazardous waste category (5.1) used/spent oil to the authorized recyclers as reported.</p>	<p>Complied. The industry is disposing the Used/Spent Oil to the units having valid authorization of the Board and registration certificate as recyclers.</p>
	<p>(5) The hazardous wastes shall be stored in a closed designated area, without exposure to rain, sunlight etc.</p>	<p>Complied. The industry has stored the hazardous waste in an impervious yard covered with roof shed in a area earmarked place within the premises.</p>
	<p>(6) The unit shall dispose the Used/Spent oil to only those industries, which are having valid registration certificate, as re-processors with Environmentally Sound management facilities to reprocess used/spent oil.</p>	<p>Complied. The industry is disposing the Used/Spent Oil to pollution control Board authorized recycler only.</p>
	<p>(7) The unit has to ensure that the used/spent oil disposed shall confirm the standards suitable for the reprocessing of used/spent oil.</p>	<p>Complied.</p>
	<p>(8) The unit shall ensure that adequate fire safety measures have been provided to avoid any fire accidents in the unit.</p>	<p>Complied. The industry has provided adequate fire safety measures as</p>

		per the onsite emergency planning approved by Inspector of factory.
	(9) The unit shall maintain the Hazardous waste display Boards in front of the factory clearly indicating the same regularly as mandated by the Hon'ble Supreme Court order dated 14.10.2003.	Complied. The industry has installed hazardous waste display board at the entrance of the factory and updated the same regularly.
	(10) The Hazardous wastes shall be stored in a compatible container on an impervious platform in closed shed which shall be provided with requisite fire protection system, personal protective equipment and safety system.	Complied 1. The unit has marked each container holding the hazardous wastes with marking "Hazardous Wastes" 2. The storage area has fenced and a sign of danger should be placed at the storage site. 3. The containers holding the hazardous wastes kept in good condition.
	(11) The person authorized shall comply with all the conditions stipulated in the authorization and other conditions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	Complied.
	(12) The unit shall maintain Form 3 and submit Form 4 prescribed under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.	Complied. The industry is maintaining the Form-3 at the site and submitted form-IV to TNPCB
	(13) The Hazardous wastes shall be disposed only with manifest that shall be maintained in Form-10 of the Hazardous and Other Wastes (Management and	Complied. The industry has followed manifest system to transport the HOW and submitted Form 10

	Transboundary Movement) Rules, 2016.	
	(14) The manifest shall be endorsed by the dispatcher, transporter and receiver of hazardous wastes. The endorsed copy of the manifest shall be furnished to TNPCB as and when such disposal is made.	Complied. The industry has provided the information of the hazardous nature of the wastes and measures to be taken in case of an emergency as Transport Emergency (TREM) card to the transporter. The industry has followed manifest system to transport the HOW and submitted Form 10
	(15) The unit shall ensure that all provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as amended are complied with while handling hazardous waste.	Complied
	(16) The authorization is subject to the terms and conditions as may be specified in the Rules for the time being in force under the Environment (Protection) Act, 1986 and the conditions mentioned in the Schedule A & B.	Complied.
	(17) The unit shall not store the Hazardous waste generated outside the premises of the unit.	Complied.
	(18) The unit shall dispose the accumulated quantity of hazardous wastes immediately.	Complied The industry has stored hazardous waste on site for a maximum period of 90 days a maximum quantity of 10,000kgs.

	<p>(19)The unit shall not store the hazardous waste not exceeding 90 days and maintain a record of transfer, storage and disposal of Hazardous waste.</p>	<p>Complied.</p> <p>The industry has stored hazardous waste on site for a maximum period of 90days a maximum quantity of 10,000kgs.</p>
	<p>(20) The unit shall renew and have valid agreements with Hazardous waste facilitators at all times.</p>	<p>Complied.</p>
	<p>(21) The unit shall possess valid consents of the board under Water and Air Acts at all times.</p>	<p>Not Complied.</p> <p>The industry has Renewal of Consent to Operate (RCO) under Water Act & Air Act valid upto 31.03.2020 and subsequently Board has issued that the validity of RCO is extended upto 30.09.2020.</p> <p>The industry is functioning without valid consent of the Board. The industry has submitted the renewal under Water and Air Acts through TNOCMMS vide application No: 31830521 dated 24.03.2020 and the industry was requested to furnish certain details and compliance for the direction issued by the Board. The industry has resubmitted the application on 11.04.2021 and under process.</p>
	<p>15.The unit shall not use 'use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead it</p>	<p>Complied</p> <p>The industry has not used the 'use and throwaway plastics' and the same was displayed in the employees assemble areas.</p>

	shall encourage use of eco-friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, Jute bag etc.,	
	16.In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit the consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.	Complied. The industry has remitted the consent fee as per the revised G.O.
	AIR ACT	
	1.The unit shall operate and maintain the Air Pollution Control measures /Acoustic measures efficiently and continuously so as to satisfy Ambient Air Quality / Emission/Ambient Noise Level Standards prescribed by the Board.	Complied. Air pollution control measures were in operation. The AAQ/SM/ANL survey conducted by the Board lab on 29.08.2020 reveals that the parameters are well within the standards prescribed by the Board.
	2.The unit shall conduct periodical survey for Ambient Air Quality/ Noise Level/ Stack Emission as per the MoEF Notification 2009 and submit the report to the Board without fail.	Complied. The industry has conducted the survey for Ambient Air Quality/ Noise Level/ Stack Emission through TNPC Board Lab yearly twice. The unit has carried out survey through TNPCB lab, Vellore on Ambient Air Quality/ Noise Level/ Stack Emission on 09.03.2021, report awaited.
	3.The unit shall ensure the connectivity of online monitoring system for the emission parameter PM, SOx, CO and NOx attached to Thermic Fluid Heaters and	Complied. OCEMS for the parameters PM, SOx, NOx & CO connected to TNPCB and CPCB portals were found in operation.

	provide proper data to Care Air Centre of TNPCB, Chennai / CPCB at all times.	
	4.The unit shall ensure the connectivity of VOC/CO monitors provided at the process stacks such as PA1, PA2 and PA3 with Care Air Centre of TNPCB, Chennai / CPCB and provide proper data at all times.	Complied. OCEMS for the parameters VOC & CO connected to TNPCB and CPCB portals were found in operation.
	5. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit the consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.	Complied The industry has remitted the consent fee as per the revised G.O. The unit has RCO valid upto 31.03.2020 and subsequently Board has issued that the validity of RCO is extended upto 30.09.2020. The unit is functioning without valid consent of the Board. The unit has submitted the renewal under Water and Air Acts through TNOCMMS vide application No: 31830521 dated 24.03.2020 and the unit was requested to furnish certain details and compliance for the direction issued by the Board. The unit has resubmitted the application on 11.04.2021 and under process.
11	The unit shall strictly comply with conditions mentioned in the renewal of consent order vide proc..dated 13.11.2019	Action taken by the unit are detailed below:
	TNPCB's directions issued on 13.11.2019.	
	1) The unit shall conduct the Hydro-geological study through a competent agency and furnish report.	Complied. Complied with recommendations of the report of Dr Ganapathy of VIT. As suggested, a sub-surface storm water drain was construed

		in the western side of M/s. TCL and was in operation.
	2) The unit shall provide garland drains around the unit premises to ensure that there is no seepage of water from outside premises into the unit and vice-Versa.	<p>The industry has constructed the sub-surface storm water drain outside the industry premises on western side in between M/s.Tamil Nadu Chromates Chemicals Ltd dump side and M/s. Thirumalai Chemiclas Ltd.</p> <p>In northern side, the industry has assured to construct a retainer wall to ensure that there is no seepage of water from outside premises into the unit and vice-Versa. The length of retainer wall is 500 metres and with a depth ranging from 1.5 metres to 5.0 metres. The width of the retainer wall is 250 mm. The Joint Committee, while inspecting the retainer wall construction, suggested to increase the wall height to 2-3 feet to prevent excess water to flow inside the industry.</p> <p>Photographs of retainer wall construction are shown in Annexure</p>
	3) The unit shall provide suitable no. of Piezometric wells at the upstream and downstream side of the unit premises, so as to assess the ground water quality.	<p>Complied.</p> <p>Eight nos. of Peizometric wells have been provided. 4 Nos at the upstream and 4 Nos., at the downstream.</p>
	4) The unit shall provide proper rain water harvesting system in the unit premises to tap the rain water, treat and reuse for beneficial purpose, so as to avoid the rain water runoff outside the premises of unit.	<p>Complied.</p> <p>The unit has made arrangement to collect the rain water from 1.85 lakh sq. ft. of roof area in the Six zones of the unit premises and same was reused as raw water for process.</p>

	<p>5) The unit shall revamp the storm water drain within the unit premises after detailed study on the carrying capacity with respect to surface runoff.</p>	<p>Complied.</p> <p>The unit has revamped the existing storm water drains and provided subsurface collection tank of holding capacity 300,000 Liters at final runoff point at the South western side and there is a rainwater outlet point in the eastern side near Ponnai Road. Pumps were installed to take back the collected rain water.</p>
	<p>6) The unit shall segregate the different stream of trade effluent at source itself based on the characteristic of effluent generated and revamp the existing ETP with latest state of art of treatment technology so as to achieve ZLD at all times.</p>	<p>Complied</p> <p><u>Organic effluent:</u></p> <p>For further treatment of organic effluent from ETP, the unit has provided Reverse Osmosis -4 of capacity 400 KLD, in which RO – rejects will go to High Rated Solids Contact Clarifier (HRSCC-1) for removal of hardness and silica from which it is feed to the RO-5 of capacity 100 KLD. RO Permeate from above said RO-4 & RO-5 is proposed to utilize for DM Plant makeup.</p> <p><u>Inorganic effluent:</u></p> <p>The unit is proposed to utilize the existing RO,1,2,3 for treatment of DM effluent & Cooling Tower blow down (CTBD), in which RO reject will go to HRSCC-2 for removal of hardness and silica, from which it is feed to the RO-6 of capacity 200 KLD. RO Permeate from the RO-1,2,3 & RO-6 are proposed to utilize for DM Plant/cooling tower makeup.</p> <p>The organic reject from RO-5 and inorganic reject from RO-6 are</p>

		<p>proposed to treat in the HRSCC-3 from which it will be sent to Waste Heat Evaporator of capacity 150 KLD and feed to the Agitated Thin Film Dryer (42 KLD) for recovery of salt and will be disposed to Authorized recycler approved by TNPCB.</p> <p>The unit has constructed new ETP has started trial runs for validation of the equipment to finally achieve Zero liquid discharge with respect to treating their own effluents. The unit has installed HRSCC 3Nos (65 kLD each)</p>
	<p>7) The unit has to replace the existing anaerobic contact filter with suitable advanced anaerobic treatment system so as to improve the quality of influent into aerobic treatment system.</p>	<p>Complied.</p> <p>The industry claimed that through some study conducted for anaerobic system improvement, it was found that effluent is highly biodegradable and the biodegradability is 85%. Further, it was reported that Anaerobic Filter Compartment was replenished and revived by the addition of Bio cultures supplemented with suitable doses of nutrients and jaggery (food for culture during inoculation).</p> <p>The industry claimed that the continuous addition of cultures and improvements like recycling of sludge back to the system, the present efficiency of the Anaerobic Filter Compartment has been increased to 65-70% which is the normal COD removal capacity of any Anaerobic Filter or Anaerobic digesters. In addition to above, additions of cultures and nutrients were done in the aeration systems like SAFF (Submerged Aerated</p>

		<p>Fixed Film Reactor) a Secondary Aeration System followed by RAs (Return of the Activated Sludge) which has also increased the efficiency of the aeration system.</p>
	<p>8) The unit shall operate the ETP continuously and efficiently so as to achieve Zero Liquid Discharge (ZLD) system at all times.</p>	<p>Being complied.</p> <p>All the components of ETP, RO, MEE and ATFD are under operations. No bye-pass of effluent from the treatment system noticed. During inspection the industry has recovered and stored salts of 2.9 Tonnes within the unit premises.</p> <p>As per the TNPCB direction issued on 09-12-2020, the industry has to restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of the TNPCB. The company produces almost 100% of consented quantity of <i>Pthalic Anhydride</i> chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.</p> <p>2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks.</p> <p>It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage</p>

		<p>tank inside the industry premises should be treated and disposed off immediately.</p> <p>The industry's existing ETP capacity is 560 KLD. Data for the month of March 2021 from Water Quality Watch Center (WQWC) shows 179.47 KLD on 26.03.2021.</p> <p>Now the unit has restricted the effluent generation to 50% of consented quantity.</p>
	9) The operation of the unit shall not attract any public complaints.	<p>Agreed to comply.</p> <p>General complaint petitions were received often (during the year 2019 and 2020) from nearby Public through District Administration against the discharge of trade effluent from ETP into nearby water sources.</p> <p>The industry has been advised to comply with all environmental norms stipulated under Environment Protection Act/ Air Act/ Water Act.</p>
	10) The unit has to pay environmental compensation of Rs.18.6 lakhs for the violations caused by the unit within one month.	<p>Complied.</p> <p>The industry has paid the Environmental Compensation amount of Rs.18.6 lakhs vide C.R.No.82750 dated 13.12.2019.</p>

3. Conclusion

As per the TNPCB direction issued on 09-12-2020, the industry has to restrict the production capacity to 50%. In response to this, the industry has restricted the effluent quantity to below 50 % by scaling down high effluent generation plants and production adjustments in other plants. This is misinterpretation of the orders of the TNPCB. The company produces almost 100% of consented quantity of *Pthalic Anhydride* chemical. The company's appeal to TBPCB regarding amendment in the orders as 50% reduction in effluent generation has not been accepted by TNPCB.

2.4 Million Litres of waste water which contains RO reject water, Regeneration water from DM plant, and untreated/partially treated effluent had been stored in Raw water tanks. It was suggested by the Joint Committee that around 2.4 Million Litres of waste water that has been stored for long time in the storage tank inside the industry premises should be treated and disposed off immediately.

The industry has assured that full-fledged ZLD will be commissioned by 30th June 2021 and also once the upgraded ETP is commissioned, certification of its adequacy will be carried by IIT Madras by 30th June 2021 under the supervision of TNPCB.

By considering the above facts and observation of the Joint Committee, the Hon'ble Tribunal may pass appropriate Order (s)/Direction (s) as deemed fit.



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Sub-Collector, Ranipet



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Subsurface Storm Water Drain around industry



Retainer Wall under construction on Northern side of the industry



Roof Water Collection System



Revamped Storm water drain



Run Off water collection tank

