

**BEFORE THE NATIONAL GREEN TRIBUNAL,
SOUTHERN ZONE AT CHENNAI**

**Original Application No.131 of 2020 (SZ) &
Original Application No.186 of 2020 (SZ)**

M.Jayachandran,
Son of Murugesan Naidu,
Gangaiamman Kovil Street, Puliyanannu –
Navlock Village, Ranipet,
Ranipet District – 632 401 & another.

...Applicants

Versus

The Ministry of Environment,
Forests & Climate Change,
Rep. by its Secretary,
JoBagh, New Delhi- 110 003 & 8 others.

...Respondents

With

SUO MOTU Based on the News item in The New
Sunday Express Newspaper Dated:
20.07.2020, "Ranipet Residents health
at risk due to Pollution; Chromium waste
killing agriculture in Ranipet Poses long-term
health risks."

...Applicant

Vs

Union of India,
Rep. by its Secretary,
Ministry of Environment and
Forests and Climate Change
Indira Paravaran Bhawan,
Jorbagh Road, New Delhi- 110 003 & others

...Respondents

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Advocate for the Respondent: TNPCB
Tr. S. Sai Sathya Jith,
Advocate, Chennai

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

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&

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Indira Paravaran Bhawan,
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...Respondents

**REPORT FILED ON BEHALF OF THE RESPONDENTS
TAMIL NADU POLLUTION CONTROL BOARD.**

I, R.Rajamanickam, Son of P.M.Ramasamy, Hindu, aged about 57 years,
having my office at No. 76, Mount Salai, Guindy, Chennai -600032, do hereby
solemnly affirm and sincerely state as follows:


22/10/2024
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAI, CHENNAI-600 032

1. I am the Joint Chief Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai and I am filing this Report on behalf of the Respondents Board and as such I am well acquainted with the facts of the case as per records.

2. It is respectfully submitted that the the Hon'ble NGT (SZ), Chennai has passed common order dated 16.08.2021 and directed as follows:

Para 12: In O.A. No.186/2020, we feel it appropriate to direct the State of Tamil Nadu to come with a concrete action plan for implementation of the project, for which, DPR has been prepared by the Central Pollution Control Board, for remediation of Chromium deposits in that area, which poses danger to the people of Ranipet. When the companies which are responsible to undertake remediation measures are not available and certain action will have to be taken to remedy the situation, the State Government has to take the responsibility of proceeding with the remediation process and recover the cost from those who are responsible for causing such pollution. The State Government cannot wait for a longer period, as the issue regarding the pollution caused on account of the tanneries and other industries which are the main producers of Chromium has been dealt with by the Hon'ble Apex Court even during 1996 and directions have been issued in Vellore Citizen's Welfare Forum Vs. Union of India¹ and directions have been issued by the Hon'ble Apex Court to take remedial measures by the regulators including the State Government. Since no effective steps have been taken by the regulators as well as the State Government, on the basis of the newspaper report this Tribunal had taken Suo Motu action for remedying the situation and that is how, O.A. No.186 of 2020 was registered by this Tribunal. As regards O.A. No.131/2020 is concerned, it is only a portion of issue that has been projected against one of the industry and certain remedial measures have been suggested by the regulators and also by the Joint Committee and it is only on the question of satisfaction of compliance of the recommendations made and whether that will remedy the situation as far as 8th respondent is concerned, without going into the larger issue which has been projected in O.A. No.181/2020 and if


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ultimately the 8th respondent is responsible for the same, that will have to be considered in that case separately. However, even as per the compliance report, certain things will have to be done by the 8th respondent which even according to them, were planned to be completed by June 30, 2021 and that will have to be further certified by the IIT Madras regarding the adequacy of the remediation measures taken by the 8th respondent, but such reports are not now before this Tribunal.

13. So under such circumstances, we direct the Joint Committee as well as the Tamil Nadu Pollution Control Board to go into the issue on the basis of the objection filed by the 8th respondent to the Joint Committee report and the status report submitted by the Tamil Nadu Pollution Control Board and submit a further status report regarding the present status, after remediation work has been undertaken by the 8th respondent and whether that is sufficient to meet the situation as well”.

3. It is respectfully submitted that, in order to comply the said NGT order dated 16.08.2021, the unit M/s Thirumalai Chemicals Ltd.,(TCL) was inspected by Joint Chief Environmental Engineer (Monitoring), TNPCB, Vellore on 22.09.2021. During the inspection, Effluent Treatment Plant provided by the unit followed by RO systems, and MEE followed by ATFD to achieve ZLD were found in operation. The following compliances were observed for the Board’s Direction dt. 13.11.2019, 09.12.2020 and compliance of Hon’ble NGT order dt. 15.03.2021.

Directions issued by TNPC Board vide Proc. No.: T5/TNPCB/F.0892/VLR/RL/W/2019 Dated: 13.11.2019

Sl.No.	Directions issued by TNPC Board	Compliance by the unit
1.	The unit shall conduct the Hydro-geological study through a competent agency and furnish report.	Complied With., The unit has conducted the Hydro-geological study by Dr. Ganapathy (Director - Centre for Disaster

R. Kumar
22/10/2024
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAJ, CHENNAI-600 032.

		Mitigation and Management , VIT University, Vellore and the unit has implemented the recommendations suggested by him.
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.	The unit has constructed and completed the Retainer wall along the northern portion of their unit (the length of retaining wall is 238 metre in north side and 9 metre towards north west as total in the north west corner of the unit as this stretch is reported to be contributed more seepage by the hydro geological study conducted by Dr.S Sankaran (Retired Chief Scientist of NGRI) and with depth ranging from 1.5 metres to 5.0 metres and width is 250 mm) as recommended by an Expert Hydro-Geologist Dr S Sankaran (Retired Chief Scientist of NGRI) who worked along with VIT, Vellore's Environment Department to study of the SIPCOT water shed. The width of the retainer wall is 250 mm. The remaining portion is already provided with compound wall to prevent the seepage. The latest Photographs on the completion of the retainer wall is attached as Annexure – 2 During inspection on 22.09.2021, it was observed that the unit has completed the 100 % of the construction of retainer wall (238 Mt. + 9. Mt. length on North west corner of the unit). The retainer wall provided in RCC covering HDPE sheet at foundation level outside portion of the wall with


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		earthen drain at GL so as to prevent from the seepage from outside. The unit has already provided the surface drain on western side of the unit to pass on the seepage from TCCL.
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.	Complied with, The unit has provided the 8 Piezometric wells (4 - upstream & 4 downstream).
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 the unit.	Complied with, The unit has reported that 1.85 Lakhs square feet of roof area has been covered into five zones for collection of rain water for reuse.
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.	Complied with., The unit has modified the storm water drains in the plant area to receive the excess rain water from their premises and the collected storm water will reach the final run-off point (collection sump at South West corner).
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.	The unit has segregated the trade effluent as Organic and Inorganic for separate treatment of effluent. The unit is augmented with modern Disc and Tube Reverse Osmosis system, Evaporation and Agitated Thin Film Drier (ATFD). The unit is treating the organic and inorganic stream in the existing ETP and the inorganic stream is treated in the augmented Disc and Tube Reverse Osmosis system. It was also found during inspection that in the Waste Heat Evaporator (WHE) 19 Nos. of modules out of 38 and old


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		<p>MEE were not under operation and they are reported to be kept as standby.</p> <p>The new ETP with ZLD Components comprising of Disc Type RO with New 150 KLD conventional MEE followed by & ATFD were installed and commissioned and found under operation. The unit has reported that the system i.e new conventional MEE 150 KLD capacity is sufficient even for full consented capacity of trade effluent.</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>Complied with,</p> <p>Certain modifications have been implemented in the existing anaerobic contact filter so as to improve the quality of influent in to aerobic treatment system by the unit.</p>
8.	The unit shall operate the ETP continuously and efficiently so as to achieve Zero Liquid Discharge (ZLD) system at all times.	<p>Complied with,</p> <p>During inspection it was observed that they have generated the trade effluent from their process at this situation, less than 280 KLD which is 50% of the consented quantity and this quantity is treated so as to achieve ZLD by the unit.(copy of flow meters readings enclosed vide Annexure.3)</p>
9.	The operation of the unit shall not attract any public complaints.	The unit has assured to comply the condition.
10.	The unit has to pay Environmental Compensation of Rs. 18.6 Lakhs for the violations caused by the unit within one month.	Complied with,


 29/01/2024
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Directions issued by TNPC Board vide Proc. No.:
T5/TNPCB/F.0892/VLR/RL/W&A/2020 Dated: 09.12.2020

Sl.	Directions issued by TNPC Board	Compliance by the unit																
1	The unit shall restrict the production to 50% of its consented quantity so as to achieve zero liquid discharge consistently till the commencement & effective functioning of newly constructed ZLD components.	<p>Yet to be complied ,</p> <p>During inspection, it was found that one of the product Dicarboxylic Anhydrides-(Phthalic Anhydride) quantity was found to be exceeded the restricted quantity i.e., 50 % of its consented quantity as per the direction issued by Board vide Board's Proc.No.T5/TNPCB/F.0892/VLR/RL/W&A/2020 Dt. 09.12.2020 and other products are within 50 % of its consented quantity. The copy of the letter submitted by the unit dt. 22.09.2021 for the production capacity from 01.08.2021 to 31.08.2021 is enclosed for reference. (Annexure.1)</p> <p>The production for the month of August 2021 (1.8.2021 to 31.08.2021) as follows:</p> <table border="1"> <thead> <tr> <th colspan="4">Product</th> </tr> <tr> <th></th> <th>Dicarboxylic Anhydrides</th> <th>Dicarboxylic Acids</th> <th>Dicarboxylic Acid Salts</th> </tr> </thead> <tbody> <tr> <td>Consented Quantity (MT)</td> <td>10,620</td> <td>1,925</td> <td>150</td> </tr> <tr> <td>Actual Production in August - 2021</td> <td>10,120</td> <td>733</td> <td>0</td> </tr> </tbody> </table>	Product					Dicarboxylic Anhydrides	Dicarboxylic Acids	Dicarboxylic Acid Salts	Consented Quantity (MT)	10,620	1,925	150	Actual Production in August - 2021	10,120	733	0
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ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
NO. 76, MOUNT SALAI, CHENNAI-600 032

R. Jayaram
22/10/2021
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAI, CHENNAI-600 032

		<p>The unit has reported that to comply with Board's direction, their production has thus been adjusted by them such that the complex generates below 50% of the effluents by reducing the production of high effluent generation plants with the following points.</p> <ol style="list-style-type: none"> 1. Dicarboxylic Acids contribute to maximum effluent –reduced to less than 50% of consented quantity 2. Dicarboxylic Anhydrides do not contribute to liquid effluent 3. Dicarboxylic Anhydrides are made in the continuous process –cannot be tuned down, has catalyst /yield /safety implications. <p>At present the unit has installed and commissioned the new ETP with ZLD (new ETP along with MEE followed by ATFD- (150 KLD capacity of conventional MEE) so as to achieve the ZLD for full capacity of consented quantity.</p> <p>However, they have generated the trade effluent from their process at this situation, less than 280 KLD which is 50% of the consented quantity so as to achieve the ZLD.(copy of flow meters readings enclosed vide Annexure.3)</p>
II	<p>The unit shall furnish the bank guarantee for Rs. 10 lakhs (Rupees Ten lakhs) immediately valid for a period one year to the Board in the format enclosed for the compliance of the following conditions .</p>	<p>Complied with,</p> <p>The unit has furnished the bank guarantee for Rs. 10 lakhs (Rupees Ten lakhs) to the Board.</p>


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1.	The unit shall construct and commence the newly ZLD components for effective functioning so as to achieve Zero Liquid Discharge.	<p>The unit has segregated the trade effluent as Organic and Inorganic for separate treatment of effluent. The unit is augmented with modern Disc and Tube Reverse Osmosis system, Evaporation and Agitated Thin Film Drier (ATFD). The unit is treating the organic and inorganic stream in the existing ETP and the inorganic stream is treated in the augmented Disc and Tube Reverse Osmosis system. It was also found during inspection that in the Waste Heat Evaporator (WHE) 19 Nos. of modules out of 38 and old MEE were not under operation and they are reported to be kept as standby.</p> <p>The new ETP with ZLD Components comprising of Disc Type RO with New 150 KLD conventional MEE followed by & ATFD were installed and commissioned and found under operation. The unit has reported that the system i.e new conventional MEE 150 KLD capacity is sufficient even for full consented capacity of trade effluent.</p>
2.	The unit shall operate the existing ETP continuously and efficiently so as to achieve Zero Liquid Discharge (ZLD) system at all times and ensure that there shall not be any discharge of treated / untreated effluent in to the outside of the premises.	<p>Complied with,</p> <p>The ETP, RO, MEE followed by ATFD were found under operation.</p> <p>There was no discharge of effluent found outside the premises during inspection</p>
3.	The operation of the unit shall not attract any public complaints.	The unit has assured to comply the condition


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 JOINT CHIEF ENVIRONMENTAL ENGINEER
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4.	The unit shall comply with the recommendations of Hydro-geological study report.	Complied with, The unit has completed the permeable sub-surface storm water drain, outside the western border of the firm to allow the chromium contaminated water to flow away from the M/s Thirumalai Chemicals Ltd., premises as suggested in the Comprehensive Hydro-geological Study report prepared by Dr. G.P Ganapathy , Professor and Director , Centre for Disaster Mitigation and Management, VIT, Vellore.
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.	The unit has constructed and completed the Retainer wall along the northern portion of their unit (the length of retaining wall is 238 metre in north side and 9 metre towards north west as total in the north west corner of the unit as this stretch is reported to be contributed more seepage by the hydro geological study conducted by Dr.S Sankaran (Retired Chief Scientist of NGRI) and with depth ranging from 1.5 metres to 5.0 metres and width is 250 mm) as recommended by an Expert Hydro-Geologist Dr S Sankaran (Retired Chief Scientist of NGRI) who worked along with VIT, Vellore's Environment Department to study the SIPCOT water shed. The width of the retainer wall is 250 mm. The remaining portion is already provided with compound wall to prevent the seepage. The latest Photographs on the completion of the retainer wall is attached as Annexure – 2. During inspection on 22.09.2021, it was observed that the unit has completed the 100 % of the construction of retainer wall (238 Mt. + 9. Mt. length on North west corner of the unit). The retainer wall


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 JOINT CHIEF ENVIRONMENTAL ENGINEER
 TAMIL NADU POLLUTION CONTROL BOARD
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		provided in RCC covering HDPE sheet at foundation level outside portion of the wall with earthen drain at GL so as to prevent from the seepage from outside. The unit has already provided the surface drain on western side of the unit to pass on the seepage from TCCL.
6.	The unit shall provide suitable No. of Piezometric wells as per the norms at the upstream and downstream side of the unit premises, so as to assess the ground water quality.	Complied with, The unit has provided the 8 Piezometric wells (4 - upstream & 4 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 purposes, so as to avoid the rain water runoff outside the premises of unit.	Complied with, The unit has reported that 1.85 Lakhs square feet of roof area has been covered into five zones for collection of rain water for reuse.
8.	The unit shall complete the entire storm water collection through drains & disposal through scientific manner within the unit premises after detailed study on the carrying capacity with respect to surface runoff.	Complied with, The unit has complied with recommendations of Preliminary report by Dr. Ganapathy of VIT. As suggested, a sub-surface storm water drain is in operation. The unit has revamped the existing storm water drains and also provided a subsurface collection tank of holding capacity 3,00,000 Litres at final runoff point at the South western side of the unit and also provided rainwater outlet point in the eastern side near Ponnai Road. A suitable Pump is installed to take back the collected rain water.

ADJUTANT COMMISSIONER
TAMIL NADU POLLUTION CONTROL BOARD
NO. 76, MOUNT SALAI, CHENNAI-600 032

R. Rajan
22/01/2024
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAI, CHENNAI-600 032

9.	The unit shall replace the existing anaerobic contact filter with suitable advanced anaerobic treatment system so as to improve the quality of influent into aerobic treatment system.	Complied with. Certain modifications have been implemented in the existing anaerobic contact filter so as to improve the quality of influent in to aerobic treatment system by the unit.
10.	The unit shall strictly comply with the conditions mentioned in the renewal of consent order issued vide proc. dated 03.07.2019.	The compliance of conditions for renewal issued previously under Water and Air Acts has been given in SI No.III.
11.	The unit shall strictly comply with the conditions mentioned in the direction issued vide proc. dated 13.11.2019	The compliance of conditions are given in SI No.I.

III. Previous Renewal of Consent Order Proc. No. T5/TNPCB/F.0892VLR/RL/VLR/W7A/2019 DATED: 03/07/2019 with validity up to 30.03.2020 further extended by the Board up to 30.09.2020

Water Act

S.No.	Additional Conditions	Compliance by the unit
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.	Sewage Treatment Plant was under operation during inspection. The statement of Report of Analysis (RoA) of treated sewage collected from August 2020 to June - 2021(Total samples collected 4 Nos.) revealed that the parameters TSS exceeded the standards and the other parameters pH, BOD are satisfied the standards as prescribed by the Board. The treated sewage is being utilized for gardening in their premises.
2.	The unit shall regularly analyse the treated sewage through	Complied with.,

R. Jeyaraj
22/10/2022
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
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	Board's lab and furnish ROA of the same.	
3.	The unit shall operate and maintain the ETP along with RO plant and MEE efficiently and continuously and ensure that the RO permeate and Multiple Effect Evaporator (MEE) condensate shall be recycling for process after satisfying the standards prescribed by the Board.	Effluent Treatment Plant (ETP), Reverse Osmosis (RO) and Multiple Effect Evaporator (MEE) were found to be under operation during inspection. The statement of RoA of RO permeate collected from August 2020 to June - 2021 (Total samples collected - 6 Nos.) revealed that all the parameters except pH (2 samples collected during August & October 2020 out of 6 Nos.) are satisfied the standards prescribed by the Board. The RO permeate and condensate from MEE is being reused in their process.
4.	The unit shall ensure that RO reject shall be sent to MEE for further treatment.	Complied with.,
5.	The unit shall achieve zero discharge at all times and shall not discharge any treated/untreated effluent outside the premises of the unit.	Complied with. There was no discharge of effluent found outside the premises during inspection
6.	The unit shall regularly analyse the treated trade effluent through Board's lab and furnish RoA of the same.	Complied with.,
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.	Complied with.,
8.	The unit shall operate and	Complied with.,


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	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.	
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.	Complied with.,
10.	The unit shall operate and maintain the ATFD for concentrating the mother liquor generated from the crystalliser efficiently and continuously.	Complied with.,
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.	Complied with., The statement of RoA of ground water collected in the month of July 2020 from 8 piezometric wells (4 - upstream & 4 downstream) revealed that the parameters such as Total Suspended Solids (TSS) ,Total Dissolved Solids (TDS), Biochemical Oxigen Demand (BOD) & Chemical Oxigen Demand (COD) are exceeded the standards prescribed by the Board in different above piezometric wells.
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.	The unit has obtained authorisation under the Hazardous and Other wastes (Management & Transboundary Movement) Rules, 2016 as amended vide Board's Proceedings Dt. 11.2.2020 and validity up to 10.2.2025.
13.	The unit shall ensure that the non	Complied with.,


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	Hazardous solid waste is disposed scientifically for further beneficial purposes without any accumulation.	
14.	The unit shall comply with the conditions imposed in Hazardous and other Wastes (Management Handling & Trans Boundary Movement) Rules, 2016.	The unit has assured to comply the conditions.
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 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.,.	Complied with.,
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 with.,


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 JOINT CHIEF ENVIRONMENTAL ENGINEER
 TAMIL NADU POLLUTION CONTROL BOARD
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Air Act

S.No.	Conditions	Compliance by the unit
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 with The unit has provided Stack with Scrubber & Cyclone separator as Air Pollution Control (APC) measures and were found in operation. The RoA of Ambient Air Quality (AAQ) survey conducted on 10.8.2021 revealed that the parameters Particulate Matter – (PM _{2.5} , PM ₁₀ ,) Oxides of Sulphur (SO _x) & Oxides of Nitrogen (NO _x) were found within the AAQ standards as 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 with.,
3.	The unit shall ensure the connectivity of online monitoring system for the emission parameter PM, SO _x , CO and NO _x attached to Thermic Fluid Heaters and provide proper data to Care Air Centre of TNPCB, Chennai / CPCB at all times.	Complied with.,
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 with.,
5.	In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one	Complied with.,


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	<p>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.</p>	
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**Compliance by the unit on the Hon'ble NGT Order dated: 15.03.2021 as per
Joint Committee report**

SI.No.	NGT Order dated: 15.03.2021 as per Joint Committee report	Compliance by the unit
01	<p>The full-fledged operation of ZLD system should be commenced within four months-time by the TCL. Further, the conditions issued by TNPCCB are to be complied within three-month times.</p>	<p>Complied with ; The unit has reported that they are now generating 50% of their consented quantity of effluent as stated in their earlier letters to TNPCCB. During inspection, it was observed that the unit is generating trade effluent quantity as less than 50 % of consented quantity and this quantity is treated so as to achieve ZLD by the unit. Further the unit has segregated the trade effluent as Organic and Inorganic for separate treatment of effluent. The unit is augmented with modern Disc and Tube Reverse Osmosis system, Evaporation and Agitated Thin Film Drier (ATFD). The unit is treating the organic and inorganic stream in the existing ETP and the inorganic stream is treated in the augmented Disc and Tube Reverse Osmosis system. It was also found during inspection that in the Waste</p>


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		Heat Evaporator (WHE) 19 Nos. of modules out of 38 and old MEE were not under operation and they are reported to be kept as standby. The new ETP with ZLD Components comprising of Disc Type RO with New 150 KLD conventional MEE followed by ATFD were installed and commissioned and found under operation. The unit has reported that the system i.e new conventional MEE 150 KLD capacity is sufficient even for full consented capacity of trade effluent to achieve ZLD . (copy of flow meters readings enclosed vide Annexure.3)
02	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.	Yet to be complied, The unit has reported that it is discussed with Prof. Dr. Ligy Phillip of IIT Madras. They have visited their factory on 10 th April, and 23, 24.7.2021. IIT, Madras and carried out the audit of the treatment systems to assess their capacity for 100 % ZLD. It is informed by the unit that the report is awaited from IIT, Madras and the unit assured that it would get certification done by IIT, Madras at the earliest.
03	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	Complied with ; The unit has submitted the DPR as prepared by IIT, Madras on 22.09.2021. Further, the unit has been addressed by this office to submit the action plan with time


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<p>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.</p>	<p>schedule for execution of the work by the unit</p>
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4. It is submitted that the unit M/s Thirumalai Chemicals Limited, S.F No. 287, SIPCOT Industrial Complex, Ranipet, Navlock village, Walajah Taluk , Ranipet District (Vellore District) has submitted the DPR for remediation of contaminated site within the premises vide its letter dt. 20.09.2021 so as to comply the Hon'ble NGT (SZ) order dt. 15.03.2021. Based on that a letter was addressed by JCEE (M), TNPCB, Vellore to the unit so as to furnish time schedule and action plan for the execution the soil remediation of contaminated site within its premises vide letter No. JCEE (M)/F.004/RL/NGT/ O.A 131/Remediation/2021 Dated 23.09.2021.

ACTION TAKEN REPORT BY THE TNPC BOARD REGARDING IMPLEMENTATION OF DPR PREPARED BY THE CPCB REMEDIATION AT CHROME CONTAMINATED SITE AT M/S. TAMIL NADU CHEMICALS AND CHROMATES LIMITED (TCCL).

5. It is respectfully submitted that the CPCB has indentified 126 contaminated sites across in India and M/s TCCL, Ranipet in one among them. The CPCB has entrusted the preparation of Detailed Project Report (DPR) for remedial of chrome contaminated site at M/s TCCL, Ranipet to M/s ERM India Pvt Ltd. Accordingly M/s ERM India Pvt Ltd has prepared DPR and the same was approved by Central Pollution Control Board (CPCB) and submitted the DPR.

The DPR consists of full scale remediation process and interim Remedial Measures of Soil & Waste Remediation.

Full scale Soil & Waste Remediation involves Excavation of contaminated soil (As per excavation Plan), Soil & Waste Treatment, Secured land fill with leachate

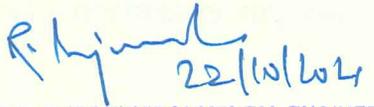
R. Jayaram 22/10/2021
 JOINT CHIEF ENVIRONMENTAL ENGINEER
 TAMIL NADU POLLUTION CONTROL BOARD
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collection & treatment system and Ground water remediation. The cost estimation for same is follows

Cost Estimates	unit	Revised Estimated cost (INR)
Estimated cost – soil and Waste		
Anticipated capital	Lump sum	221,93,23,507
Cost for Project Management	10% of capital cost	22,19,32,351
Permitting, Engineering and other cost	5% of capital cost	1109,66,175
TOTAL (A)		255,22,22,033
Estimated CAPEX- Ground water		
Anticipated CAPEX Cost	Lump sum	9,80,34,000
Cost for Project Management	10% of capital cost	98,03,400
Permitting, Engineering and other cost	5% of capital cost	49,01,700
TOTAL (B)		11,27,39,100
Estimated OPEX –Ground water		
Anticipated CAPEX Cost	Per month	1,29,42,733
Contingency(20%)	Per month	25,88.546
TOTAL OPEX for 15 years (C)		279,56,30,400
Estimated cost – Building & Machinery (D)		10,00,00,000
Total Estimated Costs for Remediation works at M/s TCCL (A+B+C+D)		556,05,91,533

The interim Remedial Measures of Soil & Waste Remediation involves the soil waste will be capped in place with single layer liner system and capping consisting of 2mm HDPE liner followed by geo – synthetic membrane and covering with soil to facilitate vegetation with storm water drainage system at a cost of Rs. 12 Crores. As interim remedial measures, removal of contaminated waste as well as impacted soil from subject site would eliminate the scope of further leaching of contaminants into groundwater. This measure would gradually reduce concentration in ground water. This will also result in reclamation of about 58% of the contaminated land that can be utilized for industrial activities.

Meanwhile, the CPCB conducted a video conference meeting on 16.3.2021 regarding compliance of the direction of Hon'ble NGT order Dt. 29.1.2021 in O.A No.


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804 of 2017 with respect to contaminated site. Since the huge costs (Rs 286 Cr as CAPEX and Rs 280 Cr as OPEX) associated with the final remedial plan, during the meeting TNPCB has expressed its proposal to examine the feasibility of shifting Chrome bearing waste (approximate 2.2 Lakhs Ton) lying at M/s TCCL, Ranipet for scientific disposal in the Secured landfill Facility at Common TSDF, Gummidipoondi,.

The CPCB vide Ir Dt. 23.3.2021 has recorded the following in minutes of the meeting held on 16.3.2021.

“ Tamil Nadu- There is 01 contaminated site for which DPR has been prepared and forwarded the same to Govt of Tamil Nadu and TNPCB for execution of Remediation works

a) *TNPCB informed that since the cost of actual remediation as per DPR is very high it is proposed to lift and disposal of hazardous waste through TSDF.*

CPCB conveyed that interim measures also proposed in DPR as per the request of TNPCB/Govt of TN for capping of waste and contaminated soil along with storm water drainage system with a cost about Rs.12 Crores. After wards, groundwater remediation by applying Pump & Treat method may be implemented initially for 5 years. It was also explained that cost of remediation will appear high due to inclusion of Ground Water remediation cost over a period of 15 years. However, actual cost may be much lower. Initial cost of remediation may be focus up 1-2 years O&M cost of GW remediation. While preparing DPR cost of transferring to TSDF was discussed however, it was deferred due to cost consideration.

MS, CPCB has suggested TNPCB that once DPR is accepted by Project steering committee (PSC) headed by Chairman CPCB, remediation work needs to be executed within the timeline stipulated in DPR.”

The CPCB vide Ir Dt. 23.3.2021 has informed to arrange for initiating interim measures and furnish action plan in this regard. TNPCB has formed a Committee vide Proc Dt. 26.4.2021 with the technical expert members with Terms of References

R. [Signature]
22/10/2021
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
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(ToRs) to oversee the methodology and proposal for Interim – Soil & Waste Remediation measures, documents prepared for Technical bid & Cost bid with an assistance of M/s ERM India Pvt Ltd and processing of Tendering and identifying the suitable bidder for execution of works.

In the mean time the Government vide Letter dated 17.8.2021 has requested the TNPCB to re-examine the interim plan as suggested in DPR for remediation of contaminated site at M/s TCCL, Ranipet and work out a plan of interim remedial measures in consultation with suitable expert agencies and send the same to Govt.

Hence, the above subject on the proposal on **interim remedial measures of soil & waste remediation** at chrome contaminated site at M/s Tamil Nadu Chemicals and Chromates Ltd (TCCL), located at plot no. 25, SIPCOT Industrial Estate, Ranipet, Tamil Nadu **at cost of 12 Crores** is to be placed before the Board for necessary approval

Under the above circumstances, it is humbly prayed that this Hon'ble National Green Tribunal (Southern Zone) may be pleased to pass such order as it may deem fit and proper in this case and thus render justice.

R. Rajamanickam
22/10/2024
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAI, CHENNAI-600 032

BEFORE ME

VERIFICATION

I, R. Rajamanickam, Son of P.M.Ramasamy, working as Joint Chief Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai, do hereby verify that the contents of above report are true to the best of my knowledge through records.

R. Rajamanickam
22/10/2024
JOINT CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No. 76, MOUNT SALAI, CHENNAI-600 032

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

&

Original Application No.186 of 2020 (SZ)

M.Jayachandran,
Son of Murugesan Naidu,
Gangaiamman Kovil Street, Puliyanannu
– Navlock Village, Ranipet,
Ranipet District – 632 401 & another.

...Applicants

Versus

The Ministry of Environment,
Forests & Climate Change,
Rep. by its Secretary,
JoBagh, New Delhi- 110 003 & 8 others.

...Respondents

With

SUO MOTU Based on the News item in
The New Sunday Express Newspaper
Dated: 20.07.2020, "Ranipet Residents
health at risk due to Pollution; Chromium
waste killing agriculture in Ranipet Poses
long-term health risks."

...Applicant

Vs

Union of India,
Rep. by its Secretary,
Ministry of Environment and
Forests and Climate Change
Indira Paravaran Bhawan,
Jorbagh Road, New Delhi- 110 003 &
others

...Respondents

REPORT FILED ON BEHALF OF THE
RESPONDENT - TAMIL NADU
POLLUTION CONTROL BOARD

Advocate for Respondent: TNPCB
Thiru. Sai Sathyjith
Advocate, Chennai.

Date: 22.10.2021

Date of Hearing: 08.11.2021

