BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI.

Original Application No. 16 of 2019(SZ)

K. Gemini,
Son of Kannupaiyan
Aged about 53 years
5/1-34, Rettaipulliyamaram
Raman Nagar Post, Mettur Dam
Salem District – 636 403.

....Applicant

Vs

Union of India & others

...Respondents

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Filed by
Thiru. C. Kasirajan,
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Chennai.

Report of the Joint Committee on M/s. Chemplast Sanmar Limited, Plant-I, M/s. Chemplast Sanmar Limited, Plant-II, on M/s. Chemplast Sanmar Limited, Plant-III, M/s. Chemplast Sanmar Limited, Plant-IV, M/s. Cabot Sanmar Limited, Plant-V, M/s. Chemplast Sanmar Limited (Power) Plant, Mettur, Salem District as per the direction of the Hon'ble National Green Tribunal order dated 13/04/2021 and 31/05/2021.

1. Back Ground

The Hon'ble National Green Tribunal (NGT), Southern Zone in the matter of original application No. 16/2019 & Shri.K.Gemini Vs Union of India & others passed an order dated 13/04/2021**(Annexure – I)** and directed that (as in point 3);

3. "The committee is directed to submit a report to this Tribunal on or before 31.05.2021 by e-filing in the form of Searchable PDF/OCR Supportable PDF and not in the form of Image PDF along with necessary hardcopies to be produced as per Rules".

Further, The Hon'ble National Green Tribunal (NGT), Southern Zone in the matter of original application No. 16/2019 & Shri.K.Gemini Vs Union of India & others passed an order dated 31/05/2021**(Annexure – II)** and directed that (as in point 10);

10. "Considering the circumstances, we feel it appropriate to grant some more time to the committee to file a report as directed. They are directed to file the report on or before 16.07.2021 by e-filing in the form of Searchable PDF/OCR Supportable PDF and not in the form of Image PDF along with necessary hardcopies to be produced as per Rules".

2. Meeting of the Joint Committee

In compliance with the Hon'ble NGT (SZ) order dated 31/05/2021, a virtual meeting was organized with the members of committee constituted by Hon'ble NGT in the matter of O.A No. 16 of 2019 on 22.06.2021 due to the prevailing COVID -19 pandemic. Copy of the Minutes of the meeting is enclosed at **Annexure -III**.

The discussion held and the decision of committee is reproduced as below;

The unit presented the following compliance status w.r.t recommendation of Joint committee

Sl.No	Observation of the Joint committee	Compliance status / Remarks by the Industry

1.	The unit has already provided STP for domestic effluent arising from Plant II & III. Now the Unit has installed one new STP w.r.t Plant IV & V and it is in operation. The Unit has not provided STP for domestic effluent w.r.t. Plant I & its colony and still sending domestic effluent into soak pit/septic tank. Observation on 21.12.2020 STP Civil works were in progress.	Status : Complied The STP at plant-I was commissioned on 30.01.2021 and is in operational. TNPCB is collecting the treated sewage sample on monthly basis for analysis to ensure the operational integrity.
2.	The unit has installed adequate number of flow meter and web camera for monitoring at ZLD but no water auditing report made available to committee to verify the adequacy. Observation on 21.12.2020 The unit submitted a third party report filed "Assessment of Water Management". The report comprises and highlight the water data of Chemplast Mettur for a period of 5 year (2014-2019) and gauges the adequacy of the ZLD, however does not show the water balance.	Status : Complied A comprehensive water audit has been carried out by M/s Chennai Testing Laboratory Private limited (NABL and NABET accredited agency) for all Sanmar units of Mettur. The NGT committee had asked us to submit the adequacy of ZLD which was covered in the report. The report also covers the water balance & usage for the last 5 years period. The report has been submitted in August 2020. However a revised audit was conducted by M/s. Chennai Testing Laboratory and submitted the report detailing plant wise water balance.
3.	To stop disposing their hazardous waste in captive SLFs and to direct to sent to Common TSDF or Co-processing depending on the quality of Hazardous waste. The hazardous waste generated from Plant I, II & III is being disposed in captive SLF itself. Only the hazardous waste from Plant V is being sent to TSDF Observation on 21.12.2020 The unit requires to provide detailed analytical report of the Alumina waste to decide suitable disposal path way.	Status : Complied We have stopped disposing the hazardous wastes of all Mettur Plants to onsite SLF and being sent either to common TSDF or for co-processing in cement industry based on the composition of the waste. As recommended, We have analyzed the spent alumina samples through M/s.Glens Innovation Labs Pvt Ltd, Chennai for its composition. The analysis report was already submitted to the Board. It may be noted from the analysis report of the spent alumina that there is no significance presence of any heavy metals and any other constituents which affects co-processing. The plant trial was carried out by M/s Dalmia Cements & concluded that the waste is suitable for their cement processing.

4.	To take immediate steps to provide proper storm water management system to collect - roof top water separately, surface runoff from plant area separately and Surface run off from vacant land separately in all plants and to construct separate storage system so that these water shall be utilized for industrial purpose with suitable treatment if required. No Storm water shall be let it out in public drains/Odai	Surface run off -Plant Process Area : ✓ The rain water in the uncovered process area & raw material storage area/ utilities of each Plant diverted to their respective ETP ✓ Only during the heavy rains (around 45 days spread over 3 months/year), the water is routed to ETP. Surplus water will be stored in the spare storage tank for treatment and subsequently gets processed at ETP/ZLD(Capacity at Plant-II: 5824 KL and Plant-III: 2517 KL)
5.	Observation on 21.12.2020 In plant-II, the unit has proposed 5 roof top water collection schemes and 3 schemes were completed and works for the remaining two schemes were in progress. In Plant-III out of 5 schemes, 4 schemes have been completed and the remaining one was in progress. In plant-IV all the 4 schemes were completed. In Cabot plant all 2 schemes were completed. In coal power plant all 4 schemes were completed	Status : Complied. Rain water collection from the roof top & reuse: Plant-II : 12000 SqM -→ 25000KL storage & reuse . All 5 schemes were completed Plant-III: 3600 Sq.M→ 25000KL storage (Tank-1) & reuse All 5 schemes were completed Plant-IV : 2000 Sq.M.- → 160KL tank - reuse for make up for Cooling Tower All 4 schemes completed Cabot : 1230 Sq.M→ 25000 KL Raw water storage tank & reuse. All 2 Schemes-Completed Coal Power: 5400 Sq.M→ 4000 KL - Raw water storage tanks & reuse - All 4 Schemes-Completed
6.	Observation on 21.12.2020 Though the unit has taken several steps to collect the roof water and surface runoff, the unit shall explore the possibility to provide earthen reservoir / seepage pond to collect surface runoff from non-process area and to recharge the ground water (all the storage tanks are above ground level) and to reduce the water intake from the reservoir. By this means, there is a possibility for reduction of TDS levels present in the ground water.	The general topography of Mettur is hilly terrain. Our Plants at Mettur are located in a hilly terrain with the lowest elevation of the complex at the western end of Plant-II from where all the storm water in the whole area goes out to a lower gradient. Hence, the establishment of large size earthen reservoir/ pond to collect the storm water during heavy monsoon is a huge challenging task, possesses inherent safety risks such as breaching, continuous seepage to next lower gradient area etc. Continuous seepage or leaching of water is an undesirable feature to the habitants at the lower gradient area. Based on this context, we have established all the large water

		storages facilities above ground level and only smaller sumps with pumping arrangements are at ground level.
7.	The industry shall explore the possibility of diversion of storm water drains which are passing inside the premises in consultation with local administration. In extreme circumstances of non diversion of existing storm water drains (Odai), the unit required to install online monitoring system for pH, TDS, BOD and COD to ensure the natural quality of storm water/ surface water runoff. Observation on 21.12.2020 No storm water analyzer is provided for plant-IV	Status : Complied. • Storm water channel is a natural one. • Only Government authorities can divert the channel & diversion of storm water outside the plant premises is beyond company's control. • As suggested by the Joint Committee, the company has installed 2 sets of online monitoring system for pH, TDS, BOD and COD at the outlet of the storm water runoff at Plant-II & Plant-III with an investment of Rs.20 Lacs. • We have also installed pH, TDS, BOD & COD analyzers for plant-IV and was verified by TNPCB.
8.	To provide Continuous Ambient Air Quality monitoring stations (CAAQM) in four directions around the Plant-II, III, IV, V and Power Plant. The Plant shall monitor PM10, SOx,. NOx, Chlorine and VOC. Observation on 21.12.2020 During the meeting on 21/12/2020 the authorities of the unit agreed to provide two continuous AAQ monitoring stations in the upstream and downstream directions. The committee recommended the same.	We have conducted a dispersion modeling of ground level concentration by engaging of M/s. Glens, Chennai and finalized the locations of CAAQM stations & got concurrence with DEE. As agreed during the meeting with the NGT Joint committee, We have placed purchase order to M/s. Thermo Fisher Scientific India Private Limited, Nasik for purchasing of 2 Nos of online Continuous Ambient Air Quality Monitors (One at upstream & another at downstream in the predominant wind direction). The two stations will be installed in Nov-2021.

9.	The Plant shall provide more effective chiller to the solvent recovery Plant for better recovery of the solvent	Status : Complied. • The new chiller which operates at 5 Deg C, was commissioned on 27.02.2021 and it is in continuous operation. After commissioning, the average organic load to the adsorption bed is reduced more than 10% . (The plant is being operated at 40% load due to NGT committee recommendation). However, to evaluate the new chiller chiller performance at full load by engaging the third party, we seek the permission of the Joint committee to operate the plant to full capacity.
10.	The unit shall provide adequate number of additional adsorbent beds for better control of VOC emission further. Observation on 21.12.2020 It is submitted that the emission level of the adsorber will be monitored by the committee through a NABL approved third party auditing continuously for two days with the consented quantity of production rate. Therefore, the committee will report on the requirement of the additional air pollution control system to control VOC emission.	Status : Complied. ✓ Company has already installed a new Chiller with lower operating temperature of 5 Deg C, which makes a significant reduction of organic load to the adsorber. Thereby the TVOC load to the Solviron adsorption bed is dropped more than 10% ✓ Company has already installed the steam + solvent vent condensing chiller system at the vent of the solvent condenser in each Plant ✓ Under the current circumstances, the additional adsorbent bed installation will not be required in Plant-IV. ✓ Permission from the Joint Committee / Board is requested to operate AO1 & AO2 together with full capacity .

11.	In addition to adsorbent beds, the unit shall be directed to install Regenerative Thermal Oxidizer (RTO) system to achieve the VOC emissions below 5 microgram /Nm3. Observation on 21.12.2020 It is submitted that the emission level of the adsorber will be monitored by the committee through a NABL approved third party auditing continuously for two days with the consented quantity of production rate. Therefore, the committee will report on the requirement of the additional air pollution control system to control VOC emission.	Status : Complied. ✓ The operating Solvent Recovering Unit is adequately designed to achieve the VOC emission level of less than 5 mg/nm3 ✓ Company has validated the adequacy of the existing chiller &adsorber efficiency through third party study ✓ Technologically, RTO's function with exit threshold limits similar to SRUs ✓ ie., RTO is an alternative technology to SRU's and not for use sequentially . ✓ Point source of emission is prescribed in milligram /NM3 . ✓ Ambient air quality standard is expressed in microgram/nm3. ✓ Under the prevailing circumstance , RTO is not required
12.	The concentration of VOC at outlet of adsorbent should be interlocked with production line. The Plant shall provide proper stack emission monitoring system (VOC monitoring) with suction motor. The Plant shall install alarm system to give caution in case of exceedance of VOC limit in the stack	Status : Complied The NGT committee verified the compliance
13.	The Plant shall provide Siren system coupled with ambient VOC monitoring system to give alert to public in case of exceedance of TVOC in ambient air	Status : Complied The NGT committee verified the compliance
14.	The Plant shall carry out automation in the adsorbent section to control emission	Status : Complied The NGT committee verified the compliance
15.	The unit shall regularly calibrate all the VOC monitors installed at the stacks attached to adsorbent beds and provide proper data to Care Air Centre of TNPCB, Guindy at all times	Status : Complied The NGT committee verified the compliance

16.	The unit shall be directed to implement all safety measures in Plant IV as suggested by Additional Director of Industrial Safety & Health Observation on 21.12.2020 The report of the Director of Industrial Safety & Health is enclosed vide Annexure-IV. The following 5 points are yet to be implemented.	Status : Complied. ✓ All the 35 safety related recommendations pointed out by Additional Director of Industrial Safety &Health were implemented, including the 5 pending points as mentioned in the report of Director of Industrial Safety & Health
17.	To take action to reuse the storm water collected from seepage of the Plant during rainy time. The Plant shall take necessary steps to close the rain water inlet line to avoid the rain water entry into Plant IV Observation on 21.12.2020 The unit has not made provision to collect the ground water seepage at plant-IV.	Status : Complied ➢ The origin of the storm water is from outside of Plant-IV & it is entering the Plant through a nullah due to geographical inclination and going outside ➢ There is no change in the characteristic of storm water entering inside the plant and the water going out of the plant . The water flow is continuous only during rainy season for about 3-4 months in a year ➢ If the inlet provision to the plant is closed, it may lead to collapsing of the wall at the northern side due to water stagnation ➢ Establishment of 8 inch PVC line for the total diversion of water coming from northern side of the plant through the pipeline for the entire length of 370 m till the outside to remove any doubt of pickup in the stream from our plant area • A seepage collection sump is provided inside plant-IV premises to collect the ground water seepage and re-use in the process.

The unit authorities of M/s. Chemplast Sanmar Ltd also requested the permission of the members to increase the production of the M/s. Chemplast Sanmar Limited, Plant –IV to 100% capacity from the existing recommended 40 % capacity.

After reviewing of the compliance made by unit, the committee members expressed the followings;

i. Thiru. Madhav Kumar and other committee members requested the unit to furnish the detailed water balance with respect to production and ZLD. The unit authority assured to modify the water balance and submit shortly.

ii. Thirumathi. H.D.Varalaxmi suggested that since there is no SOP for the Alumina waste for the utilization in cement industry, the composition report of Alumina waste may be refer to WM – II division, CPCB, Delhi for seeking suggestion on utilization of Alumina waste. Till such time the unit was asked to dispose the "Alumina waste' to TSDF. The committee members acknowledged the same.

iii. The committee members reported that the performance of the chiller installed by the unit shall be assessed through the NABL accredited laboratory in the presence of the committee members.

iv. The committee members asked TNPCB to conduct ground water study as directed by the Hon'ble NGT.

3.0 Conclusion of the Committee

Due to COVID- pandemic as well as pre- occupation of committee members, it was proposed to conduct field visit in 3rd week of the July for physical verification of the compliance status of the recommendations in the unit as discussed above.

4.0 Prayer

It is humbly prayed that a time period of 8 weeks may kindly be given to this joint committee to submit a compliance report after completion of physical verification of measures taken by the unit.

M.T. Jowin Joseph,
Member
Scientist,
NEERI, Chennai

Dr.Mathava Kumar,
Member,
Associate Professor,
IIT Madras, Chennai.

K.Jagadeesan,
Member,
Officer on Special Duty /
(Director of Industrial Safety and Health), Chennai.

H.D.Varalakshmi,
Member,
Sc.E/AD, CPCB,
Bangalore

Dr.Devender Kumar,
Member,
Senior Principal Scientist,
CSIR-NGRI, Hyderabad.

R.Sarasavani,
Member/Convener,JCEE,
Tamil Nadu Pollution Control Board, Chennai.

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REPORT OF THE JOINT COMMITTEE ON M/S. CHEMPLAST SANMAR LIMITED, PLANT-I, M/S. CHEMPLAST SANMAR LIMITED, PLANT-II, ON M/S. CHEMPLAST SANMAR LIMITED, PLANT-III, M/S. CHEMPLAST SANMAR LIMITED, PLANT-IV, M/S. CABOT SANMAR LIMITED, PLANT-V, M/S. CHEMPLAST SANMAR LIMITED (POWER) PLANT, METTUR, SALEM DISTRICT AS PER THE DIRECTION OF THE HON'BLE NATIONAL GREEN TRIBUNAL ORDER DATED: 13.04.2021 & 31.05.2021.

Advocate for Respondent: - TNPCB
Thiru.C. Kasirajan,
Advocate, Chennai.

Date:14.07.2021.

Next date of hearing on :16.07.2021