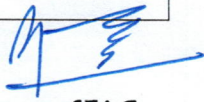


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104-01  F.6462/2017	<b>Proposed expansion for the Manufacturing of Pigment and Intermediate Products at SIPCOT Industrial Complex by M/s. Clariant Chemicals (India) Limited at Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamilnadu – Category “B1”- 5(f) Synthetic Organic Chemical Industry – Environmental Clearance- Regarding</b>
	<p>The Proponent, M/s. Clariant Chemicals (India) Limited, has applied to MoEF &amp; CC, GoI, for Environment Clearance for the proposed expansion for the Manufacturing of Pigment and Intermediate Products at SIPCOT Industrial Complex at Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamilnadu.</p> <p>In response to the application, Terms of Reference (ToR) was issued vide File. No. J-11011/349/2016-IA-II (I) dated: 09.12.2016 by MoEF &amp; CC. Public hearing was exempted as per section 7(i), (iii) stage (3), Para (i)(b) of EIA Notification, 2006. Subsequently, the MoEF &amp; CC transferred the application to the Tamil Nadu State SEIAA, stating that “the EAC of MoEF noted that the Cuddalore is no more a Critically Polluted Area (CPA), and as such the general conditions shall not be applicable to the proposal. Accordingly, the appraisal/approval of the project remains in the jurisdiction of the SEAC/SEIAA”. The transfer was made through their letter F.No.J-11011/349/2016-IA-II(I) dated: 13.10.2017.</p> <p>Based on the ToR issued by the MoEF &amp; CC, the proponent prepared the EIA report and submitted the same to SEIAA on 09.11.2017. On scrutiny of the EIA report, certain additional details were called vide this office letter dated: 23.11.2017 and the proponent submitted the</p>

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additional details on 07.12.2017.

The EIA report was placed in the 102<sup>nd</sup> meeting of the SEAC held on 01.02.2018. The Proponent made a presentation about the salient features of the project proposal for expansion. The members of SEAC interacted with the proponent specifically with reference to the environmental compliance for the existing project and the proposals for the environmental management for the expansion project.

The Salient features of the project are as follows:

1. The Industry now has approval for manufacturing two products namely Blue Pigments, intermediates for a capacity of 390 TPM. In future, this will remain the same while three new products will be added for a capacity of 100 TPM. Thus, the total capacity in future will be 490 TPM against the existing capacity of 390 TPM. The production of by products will marginally increase from 4000 TPM to 4050 TPM.
2. Future water requirement will be 1525 KLD. At present the industry has allocation from SIPCOT for only 1000 KLD, the proponent was asked to get allocation for the 1525 KLD from SIPCOT.
3. The industry is located in Cuddalore, where there is always a concern for the status of pollution, especially the marine pollution due to the industries located in Cuddalore. This particular industry is also discharging its treated effluent into the sea through an outfall. The members of SEAC asked for data on the



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	<p>comprehensive effluent characteristics being discharged into the sea. However, the proponent could not furnish appropriate data.</p> <p>4. The proponent informed the Committee that no comprehensive monitoring of marine water quality being done so far.</p> <p>5. The SEAC also noted that the baseline data on marine water quality could not be furnished by the proponent.</p> <p>6. The ETP existing has a capacity for treating 1800 m<sup>3</sup>/day. The future requirement will be for treating 2403 m<sup>3</sup>/day. For a question, how the ETP capacity will be augmented, the proponent said the ETP is designed to expand to 2600 m<sup>3</sup>/day. But, how this will be practically possible, could not be explained. Hence the committee asked for full supporting documents.</p> <p>In view of the unconvincing presentation made by the proponent with reference to the effluent treatment, the pollution data and the existing status of environmental monitoring and compliance, the SEAC decided to make an on the spot inspection of the industry and decide the further course of action after inspection.</p> <p>As per the order Lr.No.SEAC-TN/F.No. 6462/2018 dated: 01.02.2018 of the Member Secretary, SEAC, a Technical Team comprising of the SEAC Members was constituted to inspect and study the field conditions. The Technical Team made the inspection on 17.02.2018 and submitted a report to the Chairman, SEAC on 28.02.2018. In the report, the Technical Team has made the following</p>
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	<p>observation:</p> <ol style="list-style-type: none"><li>1. During the site inspection, Shri Shanmugam, General Manager informed the Technical Team that "the industry is not in operation; we have received the raw material and the chlorine gas today only".</li><li>2. The Technical team perused the additional particulars and concluded that still several other particulars are needed to be submitted and directed the proponent to furnish these particulars to the team.</li><li>3. Since the Technical Team did not have the full opportunity of inspecting the industry in operation, it concluded that a re-inspection is needed before proceeding with the project proposal. Based on the recommendations of the Technical Team, the Chairman, SEAC recommended that a re-inspection of the industry must be made on 03.03.2018. Accordingly, a re-inspection was done on 03.03.2018.</li></ol> <p>The Technical Team held a discussion with the Project Proponent regarding the proposed project for the expansion. The Technical team gave a list of items covering raw materials, water supply, process, air emissions, air pollution control, sewage generation, sewage treatment, effluent generation, effluent treatment, hazardous waste generation and hazardous waste management, for which the proponent was directed to furnish the revised and updated details. The revised details were asked to</p>
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be furnished on 08.03.2018.

In response to the Team's instructions, the proponent submitted the revised additional particulars to the technical team on 08.03.2018.

1. Revised Ground water analysis report
2. Revised Marine water, Sediment analysis report
3. Revised Ecological report
4. Report on Occupational Health Management
5. Report on Safety Committee functions
6. Revised risk analysis report
7. Report on renewable energy resources utilised
8. List of raw materials, quantity and MSDS
9. Revised flow chart and material balance
10. Hazardous Waste Management
11. Effluent treatment plant details
12. Revised emission control mechanism
13. Revised water balance.
14. Revised rain water harvesting proposals
15. Revised Green Belt development details
16. Revised CSR activities plan
17. Report on the effluent quality
18. Report on STP capacity expansion
19. Noise level management.
20. Revised report on Hazardous waste management

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The revised proposals as listed above were incorporated in the EIA report already submitted and a revised EIA report thus prepared was submitted to the Technical Team on 08.03.2018.

The Technical Team perused the revised EIA report and noted the proposals made by the proponent for Environmental management for the expansion project. Based on the revised EIA report, the technical team prepared a re- inspection report and submitted the same to the SEAC and the report of the technical team was placed in the 104th SEAC meeting held on 19.03.2018.

The SEAC perused the report of the technical team and accepted the recommendations of the technical team. As formulated by the technical team, the proposals as listed below will form the essential conditions under which the Environmental Clearance can be accorded for the expansion project:

1. Production expansion-Increasing the total production capacity of pigments & intermediates from 390 to 490 TPM by introducing pigment products such as Violet Pigments of 50 TPM, Tetra Chloro Copper Phthalocyanine Blue (TCCPC) of 20 TPM and an intermediate product namely Mono Chloro Phthalic Acid (MCPA) of 30 TPM.
2. The proposed expansion project will be carried out within the existing facility wherein 1.0 acre of land in the existing vacant area will be utilized.

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	<p>3. The additional raw materials required for the proposed expansion of the facility will be transported by road through trucks.</p> <p>4. Additional storage tanks shall be constructed for the storage of solvents such as Diethylene Glycol, Mono ethylene Glycol, and 350 P, for which risk analysis was carried out.</p> <p>5. At present a boiler of 8 TPH capacity is used for steam generation using Bio-briquettes as a fuel to meet the steam demand of 5 TPH. In future, there will be increase in the fuel requirement of bio briquettes for the boiler and high speed diesel (HSD) for the operation of spin flash driers. The Air pollution control should be strengthened for the increased fuel usage.</p> <p>6. Regarding water requirement- At present, the industry uses 902 KLD from Bore well within the industry and 300 KLD supplied by SIPCOT. The industry has applied for permission to PWD for ground water extraction, but yet to get permission. Due to expansion, additional water of 323 KLD will be needed, which will be sourced from SIPCOT. The water allotment from SIPCOT should be ensured before starting the expansion project.</p> <p>7. The sewage generation goes up from 79 KLD to 100</p>
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	<p>KLD. The existing STP capacity should be increased to 130 KLD by installing an additional STP of suitable capacity.</p> <p>8. The effluent generation goes up from 1153 KLD to 2403 KLD. The characteristics of the effluent now generated and the future effluent will be the same. Hence, the treatment scheme now used may be retained and the existing ETP should be upgraded from 1800 KLD to 2600 KLD.</p> <p>9. Hazardous solid waste generation is mainly chemical sludge from effluent treatment plant and the present generation is 3200 TPA- 3600 TPA. However, the industry has consent for 4500 TPA in February 2018. The hazardous waste by nature is Gypsum (more or less) which has a potential for use in cement industries. It is learnt that M/s. RAMCO Cements has been the industry which made use of the Hazardous waste from M/s. Clariant Chemicals. However, a formal agreement executed in 2014 in which the entire 4500 TPA was to be sent to M/s. RAMCO Cements.</p> <p>In 2017, 2518 T and in 2016, 1736 T was taken by M/s. RAMCO Cements respectively. And the balance waste was sent to other cement industries like M/s. Priya Cements.</p>
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	<p>In future, a new hazardous waste in the form of salt recovered from RO will be added. In total, 10000 TPA of hazardous waste is expected to be generated. The industry as committed by them should dispose of the additional 7000 TPA to cement industries like M/s. ULTRA TECH cements and M/s. Priya cements. In case of any balance unutilized Hazardous waste remaining, the Tamil Nadu Waste Management Limited (TNWML) should be approached for safe disposal in their facility.</p> <p>10. The production of three new products will generate additional air emissions (containing chlorine, ammonia, sulphuric acid). Scrubbing system for Chlorine gas should be installed, Ammonia vapours should be sent to platinum surface strippers, condensers for solvent emission should be installed and bag filters followed by cyclone separators for Particulate matter should be installed.</p> <p>11. The land now proposed to be utilized for expansion (1 acre), contains 28 trees of 5 years age. These trees should be transplanted and an additional 300 plant species as per the suggestion from SEAC should be planted. The following species may be planted in future:</p> <ul style="list-style-type: none"><li>(i) Calophyllum inophyllum-Pungan</li><li>(ii) Syzygium cumini- Naval</li><li>(iii) Thespesia populnea- Poovarasu</li></ul>
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	<p>(iv) Terminalia arjuna- Neermarudu (v) Ficus bengalensis – Alamaram (vi) Ficus retusa- Atthi (vii) Ficus bengalensis- Arasamaram (viii) Alstonia scholaris- Palai (ix) Mimosa elengi- Mahilam (x) Madhuca longifolia-Izhupai</p> <p>12. For noise pollution control, two of the three Ball mills should be stopped from operation.</p> <p>13. Regarding CSR, the industry has furnished the details regarding the CSR funds already utilised.</p> <p>a. For the year 2014-15- Rs. 5.00 Lakhs b. For the year 2015-16- Rs. 5.89 Lakhs c. For the year 2016-17- Rs. 2.10 Lakhs d. For the year 2017-18- Rs. 12.38 Lakhs</p> <p>Total-Rs. 29.37 Lakhs</p> <p>The industry was asked to furnish the details regarding the profit from the industrial operations. The details furnished are as follows:</p> <p>The profit for 2015 is Rs. 4.56 crores, for 2016 it is Rs. 5.23 crores and for 2017, it is Rs. 5.75 crores. At 2 % of the profit, the CSR fund that should be allocated for the year 2015-2017 works out to Rs. 31.10 Lakhs. The industry has spent Rs. 29.37 lakhs already. The industry has to spend Rs. 1.73 Lakhs immediately (before getting EC) on CSR activity. The organisation</p>
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“Environment Amelioration Services Trust, 63/847, 28th street, Shanthi Nagar, Tirunelveli-2” will be the beneficiary for nature camp for Government school students. The amount should be paid in the form of DD or cheque favouring “Environment Amelioration Services Trust” and produce the receipt to SEIAA before getting the EC.

In future, 2018-19 onwards, the actual CSR funds utilized in future should atleast be 2% of the annual profit but not less than Rs. 12 Lakhs per annum.

14. The industry discharges 903 KLD of effluent after treatment, into the sea nearby through an outfall of length 900 m. This should remain the same in future after expansion. The effluent quality satisfies the marine discharge standards of the CPCB.

15. At present the industry uses 250 KLD of treated effluent for the process. In future, this will be increased to 400 KLD. In addition, through an RO, 963 KLD will be generated from the effluent which will be reused in the process. Altogether a total of 1363 KLD will be reused in the industry after proper treatment.

Even though, industry will be reusing 1363 KLD of treated effluent for the process in the industry, the fact remains that a huge quantity of 903 KLD will be



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discharged continuously into the sea. Even though the industry effluent satisfies the marine discharge standards, the adverse impacts of continuous discharge of 903 KLD on marine water quality cannot be absolutely ruled out. In fact, already the marine water quality data shows a low level of Dissolved oxygen (DO) compared to background DO levels. Hence, it is imperative on the part of the industry to work seriously on reducing the marine discharge as far as possible in order to reduce the pollution load on the sea water, by increasing the reuse of the industrial treated effluent and to minimise water supply from SIPCOT. The industry should conduct regular seasonal coastal ecology monitoring including physical, chemical and biological properties (plankton in marine water and macro benthos in sediment, fish population) through a reputed research institution and submit the report to TNPCB.

16. For rain water harvesting, the roof top rainwater should be harvested and stored in a sump for reuse after proper treatment. The design should be made as per the CPWD manual. The runoff from the paved surfaces within the industry buildings should be carefully collected and sent to ETP.

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17. In the event of expansion of plant operation and engagement of more contractual work force in the employment, it is necessary to carry out safety audit in the different operating zones of the plant at least once in a year and the same shall be considered as base for reviewing the unsafe conditions during the plant safety meeting.

18. As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health centre activities shall be trained in occupational health surveillance (OHS) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.

19. Since the plant goes for expansion and introduction of new products, it is also necessary to carry out risk assessment process for all the operations involved in the plant and a suitable risk management plan showing the contours of sensitive zones should be prepared.

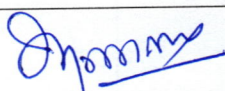
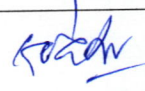
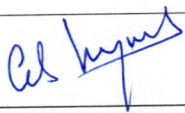
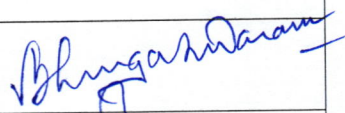

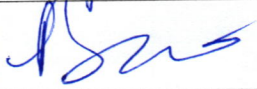
20. The VOC is monitored in two places in the process area and the data hooked to CARE AIR centre of TNPCB. The industry should ensure that the VOC levels are within the permissible levels.

The SEAC recommends to SEIAA, the proposal of M/s. Clariant

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	Chemicals India Limited for the proposed expansion for the Manufacturing of Pigment and Intermediate Products at SIPCOT Industrial Complex at Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamilnadu for the grant of EC, subject to the conditions that the proponent fulfils the commitments made by him in the revised EIA report (as summarised in the above paragraphs) in addition to the normal conditions.		
S.No	Name	Designation	Signature
1	Dr. K. Thanasekaran	Member	
2	Dr.K.Valivittan	Member	
3	Dr.Indumathi M. Nambi	Member	
4	Dr. G. S. Vijayalakshmi	Member	
5	Dr. M. Jayaprakash	Member	
6	Shri V. Sivasubramanian	Member	
7	Shri V. Shanmugasundaram	Member	
8	Shri B. Sugirtharaj Koilpillai	Member	
9	Shri. P. Balamadeswaran	Co-opt Member	
10	Shri. M.S. Jayaram	Co-opt Member	