104 - 02 F.6495/2018	**Expansion in production of Pentaerythritol and Sodium Formate by M/s. Asian Paints Limited in their existing plant at Plot No. B5 – B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu – Category "B1"-5(f) Synthetic Organic Chemical Industry –Environmental Clearance-Regarding**
	The Proponent, M/s. Asian Paints Limited, has applied to MoEF & CC, GoI, for Terms of Reference for the proposed Expansion in production of Pentaerythritol from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form) at Plot No. B5 – B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu. In response to the application, Terms of Reference (ToR) was issued vide File. No. J-11011/181/2017-IA-II (I) dated: 21.12.2017 by MoEF & CC. Public hearing was exempted as per section 7(i), (iii) stage (3), Para (i)(b) of EIA Notification, 2006, and request to submit the EIA/EMP report to the SEIAA for grant of Environment Clearance. Based on the ToR issued by the MoEF & CC, the proponent prepared the EIA report and submitted the same to SEIAA on 25.01.2018. On scrutiny of the EIA report, certain additional details were called vide office letter dated: 05.02.2018 and the proponent submitted the additional details on 15.02.2018. The EIA report was placed in the 103rd meeting of the SEAC held on 24.02.2018. The Salient features of the project are as follows: 1. The production of Pentaerythritol will increase from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate increase from 336 MTM to 480 MTM (Powder and Solution form). 2. The ToR for expansion has been obtained from MoEF&CC on 21.12.2017. The industry operation was started in 1987 and the first EC was obtained on 09.07.2009. The first Expansion done in 2015 and they have applied for second expansion.

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	3. No additional land is required and there will be no additional water requirement. 4. The industry produces effluents which are treated and utilized within the industry premises under ZLD system. Industry produces a variety of hazardous wastes. Proponent says that they are managed as per regulations. The industry also emits air pollutants and Noise is also appearing to be a problem. In view of the fact that the industry has potential to cause pollution in the form of gaseous emission, effluents, hazardous waste and noise, SEAC decided to make an on the spot inspection of the industrial operation to learn about the present status of compliances of Environmental pollution control and based on the inspection, SEAC will decide the further course of action. As per the order Lr. No. SEAC-TN/F.No. 6495/2018 dated: 24.02.2018 of the Member Secretary, SEAC, a Technical Team comprising of the SEAC Members was constituted to inspect and study the field conditions in the proposed expansion in production of Pentaerythritol from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form) by M/s. Asian Paints Limited, on 03.03.2018. The Technical Team held discussions with the project proponent regarding the proposed expansion in production of Pentaerythritol from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form). Specifically, the implications of the expansion on the following aspects were discussed: 1. The land utilization 2. Raw material usage 3. Equipment modification/addition 4. Power requirement 5. Water requirement

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	6. Production process 7. Air emission & management 8. Fugitive emissions & management 9. Effluent generation & management 10. Sewage generation & management 11. Hazardous waste generation & management 12. Noise pollution control 13. Green belt 14. CSR activities 15. Occupational safety and health 16. Ground water, surface water & sea water quality data (revised) As part of the discussion, the technical team directed the proponent to submit additional / updated information about the above features and revise the EIA report and submit the same to the technical team on 12.03.2018. The salient features of the expansion are as follows: 1. Asian paints limited, Penta Division has proposed to increase the production of Pentaerythritol from 560 to 730 MTPM and sodium formate from 336 MTPM to 480 MTPM through process automation, reliability improvement projects, de-bottlenecking and process optimization at SIPCOT industrial complex. No new equipment will be added for the process. 2. The proposed activity will be carried out within the existing plant located in SIPCOT industrial complex, the identified plot has an area of 29.20 acres. 3. Methanol/Formaldehyde, acetaldehyde and caustic soda are the main raw materials required for the production. The details are as below:

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a) Methanol – Existing requirement - 800 MT/month
Future requirement – 800 MT/month

b) Formaldehyde - Existing requirement - 1825 MT/month
Future requirement – 2163 MT/month

c) Acetaldehyde - Existing requirement - 224 MT/month
Future requirement – 292 MT/month

d) Caustic soda - Existing requirement - 465 MT/month
Future requirement – 640 MT/month

e) Total - Existing requirement – 3314 MT/month
Future requirement – 3895 MT/month

4. The present water requirement is 690 KLD which will remain the same even after expansion. The SIPCOT supplies water for the industry.

In response to the technical team's direction, the proponent furnished revised and updated data incorporated in the revised EIA report and submitted the same to the technical team on 12.03.2018.

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 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. Sewage treatment – At present 35 KLD of sewage is generated and the same is treated in a STP of capacity 50 KLD. After expansion the sewage generation will increase from 35 KLD to

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	45 KLD and the same will be treated in the existing STP with no need for strengthening. The treated sewage of 45 KLD will be utilized fully for gardening. It is seen that there is no disinfection of sewage before using for gardening. Hence, the industry is directed to add disinfection by UV system for the sewage before applying on land for gardening. The sewage sludge after proper treatment is being used for gardening as manure. The quantity will increase from 2 MT/annum to 2.5 MT/annum. The capacity for sludge management should be enhanced accordingly. 2. Effluent treatment plant – At present 96 KLD of effluent is generated in the process and 30 KLD from other sources, totalling 126 KLD. This effluent is getting treated in an ETP of capacity 250 KLD. In future the process effluent (96 KLD) will remain the same and the effluent from other sources will increase to 35 KLD. Thus, the total effluent will marginally increase from 126 to 131 KLD which will be treated in the same ETP. The characteristics of effluent will change – it will become little more acidic demanding more lime for neutralization meaning more sludge production. The sludge management capacity should be enhanced accordingly. 3. Hazardous waste management – In the industry, four types of hazardous waste are generated. a) Spent carbon - Existing generation - 200 kg/annum Future generation – 7780 kg/annum b) Used spent oil - Existing generation - 900 Lts/annum Future generation – 900 Lts/annum c) Waste oil - Existing generation - 300 Lts/annum Future generation – 300 Lts/annum d) Sludge (lime sludge), bio sludge from ETP, RO pre

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	treatment sludge and ZLD Mechanical Evaporation salt - Existing generation – 128 MT/annum Future generation – 172 MT/annum As proposed by the proponent, the spent carbon should be given to co-processor M/s. Gujarat Enviro Protection Industries Limited, Kancheepuram for using as co-fuel. An agreement to this effect exists. Used spent oil & Waste oil at present should be given to M/s. Lakshmi oil processors, Arakonam for re-cycling. An agreement to this effect exists. Sludge at present is sent to Tamil Nadu Waste Management Limited, Gummidipoondi for appropriate disposal. The industry has an open ended agreement without specifying the quantum of waste and life period of the agreement. The industry is directed to renew the agreement indicating the quantum of waste and life period of the agreement. 4. Another group of hazardous wastes consisting of Ion Exchange Resins - 9600 kgs/annum, used insulation material – 4100 kg/annum, Used HDPE bags – 5200 kgs/annum and used filter clothes – 3000 kgs /annum, are being generated in the industry. At present these waste are re-used within the industry itself. In future, the quantity of waste will increase. The industry should either reuse the waste within the industry or send to Tamil Nadu Waste Management Limited, Gummidipoondi. It is recommended to provide sufficient ventilation (air circulation) in the hazardous waste storage yard where the hazardous waste like spent carbon, Chemical sludge, used or spent oil are being kept. 5. Air pollution control – there are four sources of air emissions within the industry process - Tech PE drier, Sodium formate

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	drier, Mono PE drier and Di PE drier. • From the Tech PE drier, particulates of Pentaerythritol will be emanating which will be controlled in a bag filter and finally emitted to the environment through a stack. There will be increase in the pollutant load from 1.33 kgs / day to 1.72 kgs/day and hence, additional bag filter capacity should be created. • From the Sodium formate drier, suspended particulate matter will be emitted which is sent to wet scrubber and then to the stack. The existing scrubber should be replaced with a new one. • From both Mono PE drier and Di PE drier, SPM will be emitted which is sent to wet scrubber and then to stacks. There is an increase in the amount of pollutant but the proponent should increase the efficiency of the scrubber to absorb the additional pollutant load. 6. Fugitive emissions – the industry operation is a source of VOC in the form of fugitive emissions. The VOC concentration is being monitored at two places – one at the process, second at the raw material storage. According to the data furnished, the VOC levels are below BDL. The proponent should continuously monitor the VOC and ensure that VOC levels are within permissible limits. 7. Fly ash - at present an amount of 5 MT/day of fly ash is generated. The entire fly ash is sent to brick manufacturers in the local vicinity like M/s. TSK fly ash at Paduthangarai Village, M/s. Power bricks, Cuddalore & M/s. Gujarat Enviro Protection Industries Limited, Kancheepuram. The fly ash generation will go up to 10 MT/day after expansion. The industry proposes to completely revamp fly ash collection from the source, conveyance, storage and disposal in a more scientific manner and to reduce the fugitive

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	emissions in fly ash handling. The final disposal of the fly ash will be through brick manufacturing or for soil conditioners in agricultural activities, road construction activities and other building construction materials as recommended in MoEF & CC Notification S.O. 254 (E) dated: 25th January, 2016. Specifically, the industry should complete the project of closed loop storage of fly ash in silo by 01.06.2018 and furnish the evidence for the completion of storage silo to SEIAA. After 01.06.2018, the SEAC will make an inspection of the status of construction of the silo for further action. 8. Noise pollution control – During the inspection, the technical team informed the proponent about the higher noise levels prevailing in the plant as noted in the EIA report. In response, the proponent took steps to provide acoustic enclosures to high noise machineries and now the noise levels have come down to a level acceptable as per standards. The proponent should ensure that noise levels are within permissible limits. 9. 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. 10. Since the unit is intending to go for expansion, it is recommended to prepare a code of practice for safe operation for educating the safety standards to the work force deployed in the plant through appropriate training by the concerned experts. 11. 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

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from the experts available in the field of OHS for ensuring the health standard of persons employed.

12. Since the plant goes for expansion 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.

13. Green belt – the industry has green belt for 15.2 acres of the land area which is more than the mandatory requirement of 33 %. However, the industry is directed to develop green belt in the open areas by planting species as per the list given by the SEAC team. The following species may be planted in future:

    (i) Calophyllum inophyllum-Pungan
    (ii) Syzygium cumini- Naval
    (iii) Thespesia populnea- Poovarasu
    (iv) Terminalia arjuna- Neermarudu
    (v) Ficus bengalensis – Alamaram
    (vi) Ficus retusa- Atthi
    (vii) Ficus bengalensis- Arasamaram
    (viii) Alstonia scholaris- Palai
    (ix) Mimusops elengi- Mahilam
    (x) Madhuca longifolia-Izhupai

14. CSR activities – the proponent was directed to furnish a list of CSR activities already completed pertaining to the infrastructure for local communities like Government schools for education, health and sports. A perusal of the data furnished by the proponent reveals the following:

    a) For 2017-2018, amount spent on CSR – Rs. 44.93 lakhs
    b) For 2016-2017, amount spent on CSR – Rs. 52.96 lakhs
    c) For 2015-2016, amount spent on CSR – Rs. 25.48 lakhs
    d) For 2014-2015, amount spent on CSR – Rs. 25.48 lakhs

    The annual profit for the industry as informed by the

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	proponent is as follows: i. 2014-2015, profit – Rs. 13.68 Crores (2% = Rs. 27.36 lakhs) ii. 2015-2016, profit – Rs. 13.68 Crores (2% = Rs. 27.36 lakhs) iii. 2016-2017, profit – Rs. 16.8 Crores (2% = Rs. 33.60 lakhs) iv. 2017-2018(estimated), profit – Rs. 16.8 Crores (2% = Rs. 33.60 lakhs) The industry has to immediately spend an amount of Rs. 2.88 lakhs (Rs. 27.36 lakhs – Rs. 25.48 Lakhs for the year 2015-2016) on appropriate CSR activity before getting EC. During the discussion on 19.03.2018, the proponent agreed to enhance the Rs. 2.88 lakhs to Rs. 5.00 Lakhs. The beneficiary for the CSR activity for Rs. 5 Lakhs will be "The school president/Secretary, School Management Committee, Government Middle School, Cutchery Compound, Shencottai" for class room renovation and infrastructure facilities. The amount of Rs. 5 Lakhs should be paid in the form of DD or cheque in the name of "The school president/Secretary, Government Middle School, Shencottai" and appropriate vouchers should be produced before getting the EC. The actual CSR funds utilized in future should atleast be 2% of the annual profit but not less than Rs. 33.60 lakhs per annum. 15. Housekeeping – the technical team observed that the proponent should immediately take up better housekeeping measures including scraps disposal and up keeping the machineries, pipes, etc. 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

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	manual. The SEAC recommends to SEIAA, the proposal of M/s. Asian Paints Limited for the proposed Expansion in production of Pentaerythritol and Sodium Formate in their existing plant at Plot No. B5 – B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu for the grant of EC, subject to the condition 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	

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