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Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing

File No. IA-J-11011/283/2021-IA II(I)

Dated: 28th November 2022

A. Specific Conditions:

S.No	Conditions	Status of Compliance
1.	The operating parameters shall be maintained so that the stack emissions comply with the prescribed norms i.e., PM < 50 ppm; SOx < 600 mg/Nm ³ ; NOx < 300 mg/Nm ³ . Boiler stack emissions shall be maintained as per TPP guidelines for units installed after 1st Jan.2003 to 31st Dec. 2016.	Agreed to comply. Operating parameters will be maintained to comply with the prescribed norms. Boiler stack emissions installed are maintained as per TPP guidelines. Dust collector / Bag filter facility is available. Imported coal is used. Existing facility is Fluidized Bed Combustion Boiler operating with good combustion efficiency. Boiler stack is already connected with online monitoring
2.	Continuous online (24x7) monitoring system for stack emissions shall be provided for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers.	Agreed to comply. Continuous online (24x7) monitoring system for stack emissions will be provided and the data will be transmitted to the CPCB and SPCB servers for the following Dryers: Fluidized bed dryer, Mon pentaerythritol dryer, Di pentaerythritol Dryer & Sodium Formate Dryer. Process dryers are not operated continuously as Batch technology is followed.
3.	Cyclone separators and Bag filters shall be provided for effective fugitive emission control. Covered pneumatic system and Silo shall be provided for transport and storage of ash.	Agreed to comply. Cyclone separators and Bag filters are provided for effective fugitive emission control in Boiler. Dust collector and Bag filter is provided in Fluidized Bed Dryer. Dynamic wet scrubbers are provided in Process dryers. Covered pneumatic system and Silo is provided for transport and storage of ash in Captive Power Plant.



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4.	The transportation of materials shall be by rail/belt conveyor, to the extent feasible.	Imported coal is used for boiler which is transported through ships till Tuticorin/Chennai/Karaikal. For our nature and quantity of raw materials and finished products road transport is used. Inside the factory premises, Materials are transported either by pipelines or by belt conveyors.
5.	Industry shall use biomass as Primary Fuel for Boiler and only in case of shortage of Briquettes, coal/lignite may be used as secondary fuel. Further, efforts shall be made for the usage of natural gas.	Based on availability of fuels, we are using Coal as Primary fuel.
6.	The PP shall ensure that best available technology is used.	Fluidized bed combustion Boiler is used to maximize fuel combustion. Spent steam from Turbine is used in process plant. After giving heat duty, saturated steam as condensate is returned back to Boiler as feed water. The state-of-the-art technology centrifuges are used for best separation process. Recycle and reuse of in-process materials are effectively carried out. Vapour absorption machine is used for effective refrigeration of heat transfer is implemented. RO permeate from recovered from effluent treatment plant is reused for cooling tower makeup water. Radiation losses are effectively controlled by proper insulation in all pipelines.
7.	The PP shall increase the existing greenbelt of 37% to at least 40 % of total area by planting 570 number of trees within a period of one year from grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹2 Lakh and shall be kept in separate account and should be audited	Green belt has been developed up to 40% of the total area. 1250 no. of tree saplings were planted. Company had spent budget of about Rs. 2 Lakhs in 2023. Photos with geo-location are appended. The details will be sent to Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the year 2023-24.



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	annually. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.	
8.	In addition to the above, 1200 number of saplings shall be planted in the next 2 years such as avenue plantation, plantation in vacant areas, social forestry, etc.	Complied Company planned to procure and plant 1000 no. of saplings in FY 2024-25.
9.	The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.	Road width within the plant premises is 9 m based on the carrying capacity of transportation load which is sufficient.
10.	The treated effluent (Process & Utility) from ETP, RO and MEE shall be reused in the process and the treated effluent from the STP shall be used for green belt etc. Zero Liquid Discharge shall be maintained.	Complied Treated effluent (process and utility) from ETP, RO and MEE is reused in cooling tower make-up. Treated sewage water is used for green belt nurturing. Zero liquid discharge is maintained with the help of MEE.
11.	Continuous monitoring of effluent quality/quantity shall be provided along with installation of web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.	In the ETP parameters like feed quantity, MEE feed quantity and Ph are already connected to online and transmitted to TNPCB server. Further, Continuous monitoring of effluent quality/quantity will be provided along with installation of web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
12.	The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rainwater in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within	Storm water drain from roof top is available. 2 nos. of rainwater harvesting pit is available. Company do not practicing recharging of ground water within the premises as the plant falls in Red large. However Company do not allow process



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	the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.	effluent / any wastewater to be mixed with storm water.
13.	Fly ash shall be utilized as per the fly ash utilization notification from time to time.	Complied Fly ash from captive power plant is utilized from time to time.
14.	Distillation residue/ spent carbon shall be sent for co-processing as per Hazardous waste authorization. Used or spent oil / waste or residue containing oil shall be sent to authorized recyclers as per Hazardous waste authorization.	Spent carbon will be sent for co-processing as per Hazardous waste authorization (M/s GGEPIL). Distillation residue will be sent to GGEPIL as and when it is generated. Used or spent oil / waste or residue containing oil is sent to authorized recyclers (M/s Lakshmi & Co.) as per Hazardous waste authorization
15.	Monitoring of compliance of EC conditions shall be submitted with third party audit every year.	Complied Monitoring of compliance of EC conditions will be submitted with third party audit every year.
16.	Provision of Safe drinking water supply, sanitation & medical facilities, promoting ecofriendly behavior through use of Green Energy in schools etc. shall be done within the study area under the CER.	Under CER expenses Company has provided safe drinking water and storage facility in government run schools in neighboring villages 3 Nos (Rasapettai, Poondiyankuppam, Sellankuppam) Ecofriendly behavior is promoted by distribution of Tamil language translated Mission life pamphlets. Tree plantation is carried out in schools children Company runs three hospitals in kudikadu, karaikadu and Eechankadu villages Doctors have been engaged by the company to give the treatment for the villages those who are suffering from immobility
17.	A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Senior Manager –	A separate environmental management cell having qualified persons with environmental science is available. Full-fledged laboratory facilities is set up and operational for the purpose of environmental management and monitoring functions Mr. Ram Siva Prasad Thangapandian is the Qualified



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	<p>Environment & Quality Assurance, Senior Executive Environment, Manger safety, safety engineer, Environment Lab Officer. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.</p>	<p>Safety & Health Officer as per Factories Act. Audited statement of amount spent towards engagement of qualified persons will be provided to Regional Office, MoEF&CC and the same is appended.</p>
<p>18.</p>	<p>The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is ₹432 lakhs (Capital cost) and ₹681.97 lakhs (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.</p>	<p>Company agreed to comply with all the environmental protection measures and safeguards proposed in the documents submitted to the ministry. Annual audited statement with proof of implementation of activities proposed under EMP will be submitted to Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year. The EMP budget will be maintained separate account</p>
<p>19.</p>	<p>The total water requirement of 1694 KLD, of which freshwater requirement is 1500 KLD shall be met from SIPCOT water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid</p>	<p>Company will ensure that water supply will not be greater than 1500 KLD and it will be met from Sipcot water supply (agreement is available for water supply). Details of water utilization will be submitted to IRO, MoEF & CC before 1st July of every</p>



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	agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.	year for the activities carried out during the previous year.
20.	No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.	Company confirm that no banned chemicals are used or manufactured in our unit.
21.	The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	We monitor Pollution load from our processes. Carbon sequestration resources will be monitored and maintained. Implementation report will be submitted to IRO, MoEF &CC.
22.	The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.	We confirm to comply with environment norms for organic chemical industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules 1986.
23.	All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.	We are implementing the onsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued by the DISH every 6 months.
24.	The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be	The inventories are maintained with bare minimum quantity to run the unit on continuous basis. All the precautions are complied as per toxic



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	submitted to the Regional Office of Ministry and SPCB along with the compliance report.	hazardous storage rules. With technology like dynamic wet scrubber, dust collector & bag filter VOCS / fugitive emissions are controlled. Regular monitoring of VOCs are carried out in quarterly basis and reports are available.
25.	The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.	Bare minimum storage of toxic/hazardous raw material with respect to quantity and inventory practice is adopted. Quantity and days of storage will be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
26.	The occupational health center for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Company has occupational health center for surveillance of the worker's health within the premises. The health data is used in deploying the duties of the workers. All workers & employees are provided with required safety kits/mask for personal protection
27.	Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.	Training is given to all employees on safety and health aspects for handling chemicals. Safety and visual reality training are provided to employees. Action plan for mitigation measures are properly implemented based on the safety and risk assessment studies.
28.	The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.	Company adopts fire fighting system as per PESO. Fire hydrants are provided within the campus. In addition automatic water sprinkler, foam pourer, deluge valve controlled sprinkler systems are provided. Fire water tank of 1400 KL is provided at site with associated pumps facility with redundancy. Training in Fire-fighting system is carried out as per the norms.
29.	The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent	Company do not use solvents. However, we use distillation columns and absorption columns to recover low boiling materials. Pumps with



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	<p>handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.(f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.</p>	<p>mechanical seals are available to prevent leakages. Low boiling raw material like Acetaldehyde is stored under nitrogen pressure and Methanol are stored in separate specified space with all safety measures. Proper earthing is provided in all the electrical equipment wherever flammable material handling are involved. Entire Plant is provided with flame proof fittings wherever deemed as required. The storage tanks of Methanol are provided with breather valve to prevent losses. Methanol storage tanks are connected with vapour sucking mechanism and vapor is recycled back to process.</p>
30.	<p>The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97% with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.</p>	<p>Continuous online volatile organic compounds (VOCs)/Fugitive emissions monitoring mechanism is available, and it is modern technology based. Monitoring of VOCs are carried out every 6 months.</p>
31.	<p>The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.</p>	<p>Waste minimization measure are undertaken by metering & control quantities of active ingredients through DCS. Ingredients recovered through distillation is reused. Spillage is minimized by automatic weighment control. Batch reactors for Pentaerythritol manufacture are closed feed system. Vapor recovery system is operational in Formaldehyde and Methanol storage tanks. Efforts to reduce wastewater generation are regularly done.</p>
32.	<p>The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as</p>	<p>PH is exempted as the industry falls in notified industrial area however, activities and action plants as proposed in EIA report will be complied.</p>



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	described in the EIA report in letter and spirit.	
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B. General Conditions:

1.	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied
2.	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans- Boundary Movement) Rules, 2016 and other rules notified under various Acts.	Complied Company will strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans- Boundary Movement) Rules, 2016 and other rules notified under various Acts.
3.	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Complied LED will be used for lighting purpose
4.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz.	Complied The overall noise levels in and around the plant area will be kept well within the standards by providing all the necessary control measures. Acoustic enclosures are available for DG sets. Noise attenuators are available in Steam driven Turbine.



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	75 dBA (daytime) and 70 dBA (nighttime).	
5.	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Complied Company ensures socio economic welfare of the villagers as mentioned in Specific condition point no.16 Company will undertake all relevant measures for improving the socio-economic conditions of the surrounding area.
6.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Complied Company will earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions. The funds so earmarked will not be diverted for any other purpose.
7.	A copy of the clearance letter shall be sent by the project proponent to concern Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.	Complied A copy of the clearance letter is already sent to the concerned local Body.
8.	The project proponent shall also upload/submit six monthly reports on PARIVESH Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six-monthly compliance status report	Agreed to Comply We will upload/submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions and six-monthly compliance status report will be posted on the website of the company.



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	shall be posted on the website of the company.	
9.	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail.	Complied The environmental statement Form-V will be submitted to the concerned State Pollution Control Board and will also be put on the website of the company.
10.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/ . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied We have advertised in two local newspapers. Copy of newspaper advertisement is attached to this application.
11.	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied We will inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
12.	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Not Applicable as there is no court case against the company



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13.	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Condition accepted
14.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Condition accepted
15.	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Condition accepted
16.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Condition accepted

