

ENVIRONMENTAL  
CLEARANCE

PARIVESH

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Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

To,

The Whole Time Director Operations  
MANALI PETROCHEMICALS LIMITED - PLANT II  
Sathangadu Village, Manali Industrial Area, Manali,,Tiruvallur,Tamil Nadu-  
600068

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/TN/IND3/264526/2022 dated 26 Apr 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |   |
|--|---|
| 1. EC Identification No.                   | EC22A021TN168846  |
| 2. File No.                                | J-11011/156/2008-IA-II(I)   |
| 3. Project Type                            | Expansion   |
| 4. Category                                | A   |
| 5. Project/Activity including Schedule No. | 5(f) Synthetic organic chemicals industry (dyes & dye intermediates; bulk |
| 6. Name of Project                         | Expansion of Propylene Glycol Plant by 50000 MTPA                         |
| 7. Name of Company/Organization            | MANALI PETROCHEMICALS LIMITED - PLANT II                                  |
| 8. Location of Project                     | Tamil Nadu  |
| 9. TOR Date                                | 09 Mar 2022   |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 06/10/2022

(e-signed)  
Mr. Motipalli Ramesh  
Scientist E  
IA - (Industrial Projects - 3 sector)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*

**F. No. J-11011/156/2008-IA-II (I)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(Impact Assessment Division)**

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Indira Paryavaran Bhawan  
Jorbagh Road  
New Delhi - 110003

**Dated: 6<sup>th</sup> October, 2022**

To

**M/s Manali Petrochemicals Limited - Plant-II,**  
Sathangadu Village, Manali Industrial Area,  
Manali, Tiruvallur-600068  
Tamil Nadu.  
Email: [wtdoprns@manalipetro.com](mailto:wtdoprns@manalipetro.com)

**Sub.: Expansion of Propylene Glycol Production Capacity by 50000 MTPA located at S.F. No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu Village, Manali Industrial Area, Manali, Chennai, Ambattur Taluk, Thiruvallur District, Tamil Nadu by Manali Petrochemicals Limited - Plant-II – Environmental Clearance**

Sir,

This has reference to your proposal No. IA/TN/IND3/264526/2022 dated 29<sup>th</sup> March 2022 on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for Environmental Clearance for Expansion of Propylene Glycol Production Capacity by 50000 MTPA located at S.F. No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu Village, Manali Industrial Area, Manali, Chennai, Ambattur Taluk, Thiruvallur District, Tamil Nadu by Manali Petrochemicals Limited - Plant-II.
3. The project/activity is covered under Category 'A' of item 5(f) (Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of Schedule of Environment Impact Assessment (EIA) Notification 2006 (as amended) and requires appraisal at Central Level by Expert Appraisal Committee (EAC) as the general condition is applicable for the project.
4. The Project Proponent (PP) applied for ToR vide proposal number IA/TN/IND3/248620/2021 dated 28.2.2022, and the **Standard ToR** was granted vide letter No. J-11011/156/2008-IA-II(I) dated 9.3.2022. The PP reported that project is located inside the notified industrial area and hence, the Public Hearing is exempted in pursuant to Ministry's OM No. J-11011/321/2016-IA. II (I) dated 27.4.2018. The PP reported that project is located in a critically polluted area. The PP vide proposal number **IA/TN/IND3/264526/2022** dated 29.3.2022 applied for grant of EC in Form-2 and submitted the final EIA/EMP report. The PP reported in Form-2 that it is an **Expansion case**. The proposal was referred back to the PP on 4.4.2022. The PP replied to the shortcomings on 26.4.2022 and the proposal was placed in 31<sup>st</sup> EAC Meeting held on May 11-12, 2022 wherein the Committee **deferred** the proposal for want of requisite information. Reply to the same was submitted by the PP on 7.7.2022 and the proposal was again placed in the 35<sup>th</sup> EAC Meeting held on July 28-29, 2022, wherein the PP and an accredited consultant, Eco Tech Labs Pvt. Ltd. [Accreditation number NABET/EIA/2124/SA01407, Valid up to September, 15, 2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

5. The PP reported that the project area is 17.632 Ha and no Rehabilitation & Resettlement (R&R) issues are involved in the project. The proposed production is as follows:

S. No.	Product Details	Category of the Product	CAS No.	Existing Quantity (MTPA)	Proposed Quantity (MTPA)	Total Quantity (MTPA)	Uses
1.	Propylene Glycol	Main Product	57-55-6	12000	50000	62000	Used in Pharmaceutical and Food industries
2.	Di-Propylene Glycol	By-Product	25265-71-8	1581	6588	8169	Used in manufacturing of cosmetics and perfumes
3.	Tri-Propylene Glycol	By-Product	24800-44-0	202	842	1044	Used in manufacturing of Polyester resins
4.	Propylene Oxide	Main Product	75-56-9	18000	0	18000	Used in manufacturing of Propylene Glycol and Polyol
5.	Di-Chloro Propane	By-Product	78-87-5	3600	0	3600	Used as degreaser and dry cleaning fluid
6.	Polyol*	Main Product	9082-00-2, 52434-08-9, 52625-13-5, 67800-94-6, 25791-96-2 & 9049-71-2	22705	0	22705	Used in the manufacturing of Poly Urethane Mattresses, insulation for refrigerators, furniture panels.
* Various grades are produced under the Product – Polyol. Hence CAS Nos. of different grades of Polyols are given above which are being produced.							

6. The PP reported that there are two court cases, Court Case – 1, Court details: NGT (SZ), Case Reference: O.A. No. 19/2013, 224/2016 & 248/2016, Court Case – 2, Court details: NGT (SZ), Case Reference: O.A. No. 256/2020 – Suo-Moto case by NGT, and directions issued by TNPCB under Environment (Protection) Act/Air (Prevention & Control of Pollution) Act / Water (Prevention & Control of Pollution) Act.
7. The PP reported that the proposed project does not fall under violation category as per the provision of S.O. 804 (E) dated 14.3.2017.

8. The PP reported that Ministry had issued EC earlier vide letter no. J-11011/156/2008-IA(II) dated 07.05.2008 to the existing project “Augmentation of Propylene Oxide, Propylene Glycol and Polyol Units” in favour of M/s. Manali Petrochemicals Limited – Plant – II.
9. The PP reported that there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. Buckingham Canal is flowing at a distance of 0.83 km in East direction. There is no forest land involved in the proposed project. No Schedule-I species exist within the project area.
10. The PP reported that the total water requirement is 3247 KLD for existing facility and additional requirement of 810 KLD for the proposed expansion will be met from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). After the proposed expansion, the Effluent of 2556 KLD will be treated through Effluent Treatment Plant and disposed to sea after meeting the prescribed standards. CRZ clearance issued vide File No. 11-20/2009-IA.III dated 03.07.2009 and its amendment 11-20/2009-IA.III dated 03.06.2011 for a discharge approval limit of 8000 KLD.
11. The PP reported that Power requirement after expansion will be 4000 KVA including existing KVA and will be met from Tamil Nadu Generation and Distribution Corporation (TANGEDCO). Existing unit has DG sets of 1500 KVA capacity (2 Nos.) which are used as standby during power failure. Stack of adequate height for DG sets have been provided as per CPCB norms. Existing unit has 1 No. 21 TPH and 2 Nos. 10 TPH Low Sulphur Fuel Oil (LSFO) fired boiler. Additionally, 30 TPH R-LNG (Re-Gasified Liquefied Natural Gas) fired boiler will be installed by replacing 1 No. of 10 TPH boiler after expansion. All the existing and the proposed boilers will be fired with R-LNG after Expansion. Hence, the pollutant load will reduce drastically due to change over of fuel from LSFO to R-LNG and the existing stack is adequate to handle the generated emissions. No additional stacks are proposed.

**12. Details of Process Emissions Generation and its Management:**

S. No.	Point source emission	Fuel	Flue gas flow rate (Nm <sup>3</sup> /h)	Emission (g/s)	APC measures
1	Boiler	R-LNG	24250	PM – NIL SO <sub>2</sub> – 0.00366 NO <sub>x</sub> – 0.8556 CO – 0.5133	Stack of height 30 m already in place
2	DG set	HSD	15984	PM – 0.7669 SO <sub>2</sub> – 0.06 NO <sub>x</sub> – 1.16	Stack of height 10.5 m already in place

**13. Details of Solid Waste/ Hazardous Waste Generation and their Management:**

During Construction phase, 36 kg/day of solid waste is envisaged. The details are given in the Table below:

Solid Waste generation during construction phase & their management			
S. No.	Description	Proposed Quantity (Kg/day)	Method of Disposal
1	Organic	21.6	Disposed to municipal bins
2	Inorganic	14.4	Disposed to municipal bins
<b>Total</b>		<b>36</b>	

During Operation Phase, Total of 198 Kg/day of solid waste is generated, of which 118.8 kg/day of organic waste and 79.2 kg/day of inorganic waste will be disposed to municipal bins. The existing and proposed waste generated is given in the Table below.

Solid Waste generation during Operation phase & their management					
S. No.	List of Items	Quantity (Kg/day)		Total after expansion (kg/Day)	Disposal Methods
		Existing	Proposed		
1	Organic waste	115.2	3.6	118.8	Disposed to municipal bins
2	Inorganic waste	76.8	2.4	79.2	Disposed to municipal bins
<b>Total</b>		<b>192.0</b>	<b>6.0</b>	<b>198</b>	-

Sewage generated from domestic needs collected in a settling tank. Then the supernatant sewage is sent to ETP for Biological Effluent Treatment process through pumping in existing case. A new STP is proposed and after expansion sewage will be treated in STP. The separated sludge is being dried and used as manure at present and will be continued as such after expansion. The details are mentioned in the Table below:

Other Solid Waste generation (STP sludge) & its management					
S. No.	List of Items	Quantity (Kg/day)		Total after expansion (kg/Day)	Disposal Methods
		Existing	Proposed		
1	STP Sludge	23.28	1.6	24.88	Dried and used as manure.

The details of Hazardous waste generation and their management are given in the Table below:

Details of Hazardous Waste	Schedule as per HWM rules	Source of Waste	Unit	Existing Qty.	Proposed Qty.	After Expansion Qty.	HWA Approval Qty.	Storage	Disposal
Waste lube oil generated from Rotary equipment – Spent Oil	5.1	Process	KL/Annum	1.38	0.5	1.88	4.0	MS drums	Disposed to TNPCC authorized recyclers
ETP Secondary Clarifier Bottom Sludge	35.3	ETP	T/Annum	110	Nil	110	110	Concrete floored covered shed	Disposed to Common TSDF Landfill facility

14. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 1411 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 677 Lakh per annum, which includes Air Pollution Control [₹1200 lakh (capital) and ₹ 40 lakh/annum (Recurring)], Water Pollution Control [₹204 lakh (capital) and ₹ 540 lakh/annum (Recurring)], solid waste management [₹ 5 lakh/annum (Recurring)], Storm Water and RWH Management [₹ 7.0 lakh (capital)], Occupational health and safety ₹ 84 lakh/annum(Recurring)], Environmental monitoring and management ₹ 8 lakh/annum (Recurring)]. The company is aware of the obligations towards the Environment and to fulfil the social obligations. As per OM No.: 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, M/s MPL will Allocate 0.75% of the project cost (125 Crores) towards CER i.e. 0.75% of 125 Crores = 0.9375 Crores for Drinking water system, Health Centers, Solid waste management facilities.



15. Industry has already developed Green belt with 11490 trees in an area of 7.1981 Ha, which is 40.82 % of total area of 17.632 Ha. Additionally, 6506 trees will have to be planted considering 90% survival rate, proposed for 8500 tree plantations within a period of one year.
16. The Proposed project is located in notified Manali Industrial Area. Public Hearing is exempted under the provisions as per para 7 III stage (3) (b) of the EIA notification, 2006.
17. The PP reported that Carbon footprint and sequestration analysis indicates that, approximately 1,02,584 Tons of GHG has been generated and 79,414 Tonne of GHG will be generated after expansion. The carbon sequestration capacity evaluated based on the current growth of the developed green belt, found to be 867.5 MT/Annum of CO<sub>2</sub>-e. The value is expected to rise with the increased growth of the recently planted trees. Additionally, 8500 trees will be planted within one year which will contribute for the carbon sequestration, further. All the conditions stipulated in the O.M. ref. F. No. 22-23/2018-IA.III dated 31-10-2019 for the industries located in Critically/Severely Polluted Areas (CPA/SPA) have been complied, except, the usage of cleaner fuel Gas Supply Agreement signed with IOCL for supply of R-LNG. Currently, IOCL is carrying out pipeline laying job to supply R-LNG for MPL-Plant-II. The proposed mitigation measures for the reduction of CO<sub>2</sub> emission are provided below:

Proposed Mitigation measures	Brief Description	Reduction in CO <sub>2</sub> emissions after implementation of Proposed Mitigation measures (MT/Annum)	Remarks
Replacement of Low Sulphur Furnace Oil (LSFO) in Boilers with Re-Gasified Liquefied Natural Gas (R-LNG)	Presently, LSFO is being used as fuel in boiler and the same will be replaced with R-LNG after expansion.	7,057	Implementation within a period of two years
Replacement of usage of 100% thermal power with hybrid power comprising 64% green power (Solar & Wind power) and 36% from Tamilnadu Grid.	Presently, the power is consumed from the thermal power generations. After expansion, it is proposed to consume green power i.e., 64% of power will be consumed from solar & wind power generations and 36% from Tamilnadu Grid.	16,113	Implementation within a period of three years

18. The PP submitted the onsite and offsite emergency plans in the EIA.
19. The PP proposed to set up an Environment Management Cell (EMC), wherein it is proposed to engage Plant Head- Head EHS- Assistant Manager- safety and Environment, Executives for the functioning of EMC.
20. The PP also submitted that "I, M. Karthikeyan, Occupier and Whole Time Director (Operation) of M/s. Manali Petrochemicals Limited. give the declaration/undertaking, owing the contents ( information and data ) of EIA report preparation, has been undertaken in compliance to the Terms of Reference for the Proposed "Expansion of Propylene Glycol Plant by 50000 MTPA" at S. F. No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu village, Manali Industrial Area, Manali, Chennai - 600 068, Ambattur Taluk, Thiruvallur District, Tamil

Nadu State by M/s. Manali Petrochemicals Limited-Plant II and the information and content provided in the report are factually correct”.

21. The Consultant also submitted that “ I, **Dr. A. Dhamodharan**, hereby confirm that the below mentioned experts prepared the EIA/EMP for the “**Expansion of Propylene Glycol Plant by 50000 MTPA**” at S.F.No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu Village, Manali Industrial Area, Manali, Chennai – 600 068, Ambattur Taluk, Thiruvallur District, Tamil Nadu State by M/s. Manali Petrochemicals Limited- Plant II and also confirms that the prescribed ToR have been complied with and that the data submitted is factually correct as per the project data provided by Proponent”.
22. The PP reported the estimated project cost is ₹125 crores excluding existing investment of ₹10.2 crores. Total Employment will be 10 persons as direct after expansion & 60 persons as indirect during construction.
23. The EAC, constituted under the provisions of the EIA Notification, 2006 comprising Expert Members/domain experts in various fields, examined the proposal submitted by the PP in desired format along with the EIA/EMP reports prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the PP.

The EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The Committee deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The Committee suggested that the storage of toxic/explosive raw materials/products shall be undertaken with utmost precautions and following the safety norms and best practices.

The Committee deliberated on the greenbelt and plantation and greenbelt to be in accordance with 2m\*2m spacing and 2500 trees per Ha, the survival rate to be taken as 70% instead of 90% and suggested to increase the greenbelt cover inside the plant, the PP has now submitted that number of trees will be planted as per 2m\*2m spacing (not less than 2500 tree per Ha). Considering the 70% survival rate, the total number of trees to be planted additionally will be 14215 within a period of one year. The PP committed that Industry will explore the possibilities to improve the greenbelt cover inside the plant also. The EAC also suggested to explore the possibility of increasing the energy saving measures from the proposed 10 % to 25%. The PP assured energy saving measures to improve the savings from the proposed 10% to 25% and the energy saving measures will be completed within one year from the date of commissioning of the proposed project.

The Committee also deliberated on the Zero Liquid Discharge (ZLD) study to be conducted by NEERI/NIOT and implement the outcome of the study. The PP committed for the same, The EAC also noted the Hon'ble NGT order and suggested to give the commitments to comply the conditions laid down in the order. The PP committed for the same, and EAC found it to be satisfactory. The EAC noted that the PP needs to give commitment for the Show Cause Notice issued by the TNPCB for the ₹ 1 crore fine levied for the industries located in CPA and for implementing the directions and recommendations by the TNPCB. The PP committed to comply with the directions laid down by TNPCB.

The EAC deliberated on the maximum and minimum values of AAQ and stack emissions (online values) and observed that they are within the prescribed limits. The EAC sought the cost details for the amount to be spent for the CEPI conditions. The PP submitted the details for implementation of greenbelt and R-LNG change over i.e. additional greenbelt development (2500 trees/Ha) within one year i.e. ₹ 1.8 Crore and implementation of R- LNG in place of furnace oil within one year ₹ 7.5 crore and also CEPI compliance statement and investment details for the conditions which are being complied. The EAC also suggested to reduce the timeline for the implementation of the green power from 3 years and the PP committed to implement it within 2 years.

The Committee deliberated the Onsite and Offsite Emergency plans and various mitigation

measures to be proposed during implementation of the project and advised the PP to implement the provisions of the Rules and guidelines issued under 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.

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of EAC and grant of environmental clearance by regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at <http://parivesh.nic.in>.

24. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-3), the Ministry of Environment, Forest and Climate change hereby accords **Environmental clearance for Expansion of Propylene Glycol Production Capacity by 50000 MTPA located at S.F. No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu Village, Manali Industrial Area, Manali, Chennai, Ambattur Taluk, Thiruvallur District, Tamil Nadu by Manali Petrochemicals Limited - Plant-II** under the provisions of the EIA Notification, 2006, subject to the compliance of terms and conditions as under: -

**A. Specific Conditions:**

- (i) The PP shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for Industry operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of process emission, transportation, use of DG Set and use of any machinery in the impact zone. The ambient air quality shall also be monitored at prominent places as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the Industry.
- (ii) The PP shall ensure that effective fugitive emission control measures should be imposed in the process, transportation, packing etc. and wherever possible, the transportation of materials is through rail/conveyor belt.
- (iii) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident. such as road, loading, unloading and transfer points. The fugitive dust emissions from all sources shall be regularly controlled by installation of required equipment's/ machineries and preventive maintenance. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/Central Pollution Control Board.
- (iv) The PP shall explore the possibility of use of best available technology for the plant if any and submit a report every year to IRO, MoEF&CC. In case of availability of such technology the PP shall take necessary steps for the implementation of the same including amending the EC.
- (v) The PP shall carry out assessment of the carrying capacity of transportation load on roads inside



- the industrial premises every year and based on the assessment report take necessary measures including widening of the roads.
- (vi) The PP shall prepare a detailed rain water harvesting plan within a period of 6 months so that unit may become water positive. The study report shall be submitted to IRO, MoEF&CC and submit the quantity of rain water harvested to before IRO, MoEF&CC before 1<sup>st</sup> July of every year for the rain water harvested during the previous year.
  - (vii) The PP shall ensure that dumping of waste, if any, is strictly as per designated locations approved by SPCBs/PCCs.
  - (viii) The PP shall ensure regular auditing of the compliance of the EC conditions by a Third Party annually and the audited report needs to be submitted to IRO, MoEF&CC.
  - (ix) The PP shall ensure the use of cleaner fuel R-LNG with a stack height of 30 m for controlling the particulate emissions within the statutory limit of 115 mg/Nm<sup>3</sup> for the proposed 30 TPH boiler and submit a report within a year to IRO, MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
  - (x) The budget earmarked for the Corporate Environment Responsibility (CER) is ₹0.9375 Crores which will be spent on need-based approach in consultation with the District Collector of Thiruvallur District. The budget earmarked for CER shall be kept in separate account and should be audited 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 activities carried out, amount spent etc. to the IRO, MoEF&CC before 1st July of every year for the activities carried out during the previous year.
  - (xi) The PP shall develop additional Greenbelt by planting 14215 number of trees considering 70% survival rate within a period of one year from the grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). In addition to this, the budget earmarked for the plantation shall be kept in separate account and should be audited 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.
  - (xii) 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. The PP shall engage Plant Head- Head EHS- Assistant Manager- safety and Environment, Executives. 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.
  - (xiii) 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 ₹1411 Lakh (Capital cost) and ₹677 Lakh 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.
  - (xiv) The total water requirement will be 3247 KLD for existing facility and additional requirement of 810 KLD for the proposed expansion will be met from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawal only after obtaining valid 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
- (xv) 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.
  - (xvi) 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.
  - (xvii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
  - (xviii) 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.
  - (xix) 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.
  - (xx) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
  - (xxi) As already committed by the PP, Zero Liquid Discharge shall be ensured based on the outcome of study conducted by NEERI. Effluent of 2556 KLD will be treated through Effluent Treatment Plant and disposed to sea after meeting the prescribed standards.
  - (xxii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
  - (xxiii) 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.
  - (xxiv) 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.
  - (xxv) 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.
  - (xxvi) 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.
  - (xxvii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent 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.
  - (xxviii) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
  - (xxix) 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.
- (xxx) The raw material Propylene and the proposed boiler fuel R-LNG shall be transferred through pipeline from CPCL refinery and IOCL LNG terminal, Ennore respectively. Further, the PP shall explore the transportation of all other materials by rail/conveyor belt, wherever feasible and submit a report to IRO, MoEF&CC within 6 months.
- (xxxii) In addition to the 40% green belt, the PP shall develop greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. for the benefit of local environment and people.
- (xxxiii) The sewage shall be treated in the proposed STP and the treated water shall be reused for the green belt.

## **B. General Conditions:**

- (i) 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.
- (ii) 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.
- (iii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iv) 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. 75 dBA (day time) and 70 dBA (night time).
- (v) 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.
- (vi) 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.
- (vii) A copy of the clearance letter shall be sent by the project proponent to concerned 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.
- (viii) 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 shall be posted on the website of the company.
- (ix) The environmental statement for each financial year ending 31<sup>st</sup> 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.
- (x) 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.
- (xi) 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.
- (xii) 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.
25. 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.
26. 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.
27. 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.
28. 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.

This issues with approval of the competent authority.

(Dr. Motipalli Ramesh)  
Scientist 'E'

**Copy to: -**

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), I<sup>st</sup> and II<sup>nd</sup> Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai-34
2. The Principal Secretary to Government, Department of Environment, Climate Change and Forests, Government of Tamil Nadu, No. 1, Jeenis Road, Panagal Building, Ground Floor, Saidapet, Chennai-600 015
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032
5. The Member Secretary, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001



6. The District Collector, District Thiruvallur, Tamil Nadu
7. Guard File/Monitoring File/PARIVESH

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Signature valid

Digitally signed by M. Motipalli  
Ramesh  
Scientist E

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