

To
Additional Principal Chief Conservator of Forests(C),
Ministry of Environment, Forests and Climate Change,
Integrated Regional Office - Chennai,
1st Floor, Additional Office Block,
Shastri Bhavan, Haddows Road,
Nungambakkam, Chennai-600006.

Dear Sir,

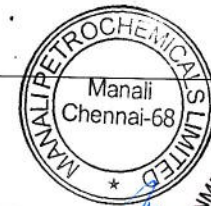
Sub: - Compliance Status of the conditions stipulated in the Environmental
Clearance **(Period – Oct-22 to Mar-23)**

Ref: - 1. EC Identification No. EC22A021TN168846

2. File No. J-11011/156/2008-IA-II(I) dated 06-10-2022

Manali Petrochemicals Limited – Plant – II – PG expansion EC Compliance Report

Compliance Statement of EC conditions		
A.	Specific Conditions	Compliance Status
(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. PM ₁₀ , PM _{2.5} , NO ₂ , CO and SO ₂ 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.	Agreed to comply. As per the condition, actions have been initiated to procure 3 (three) Ambient Air Quality (AAQ) Monitoring Stations which will be installed in upwind (1 No.) and downwind (2 Nos.) direction based on the climatological data and emission aspects as stipulated in the condition. AAQ monitoring will also be carried out at prominent places within the site as per the site condition so as to ascertain the exposure characteristics at specific places. On receipt of the AAQ monitoring stations, the same will be installed and the data will be digitally displayed 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	Agreed to comply.



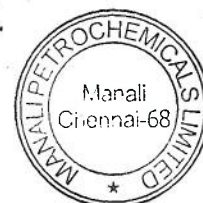
Factories :

Plant - 1 : Ponneri High Road, Manali, Chennai - 600 068

Plant - 2 : Sathangadu Village, Manali, Chennai - 600 068

Phone : 044 - 2594 1025 Fax : 044 - 2594 1199

	transportation of materials is through rail/conveyor belt.	<p>The following effective fugitive emission control measures are already available in the existing unit.</p> <ul style="list-style-type: none"> • Provision of double mechanical seals in all the hydrocarbon pumps. • All the raw material and product tanks are under Nitrogen blanketing. • Purge gas from the process is used in boiler as fuel and not flared. • TVOC emission detectors are provided in appropriate locations to monitor and control fugitive emission. In the existing unit, District Environment Laboratory (DEL)-Manali of TNPCB is carrying out the TVOC survey every year and the same will be continued after expansion. • Continuous AAQ monitoring station kept in place to monitor PM_{2.5}, PM₁₀ and online connected to TNPCB - CAC. • The Plant is operated through DCS and the same is monitored continuously. <p>Emission control measures will be ensured in the expansion facility also.</p>
(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.	<p>Agreed to comply.</p> <p>Regular water sprinkling is being carried out at roads, loading, unloading and transfer points as an effective safeguard measure in the existing unit and the same will be continued after expansion also.</p>
(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.	<p>Agreed to comply.</p> <ul style="list-style-type: none"> • The technology selected for the expansion is the best available. • The plant will be operated through Distributed Digital Control System. • The plant will be fully automated. • The safety interlock will be operated using Programmable Logic Controller (PLC).



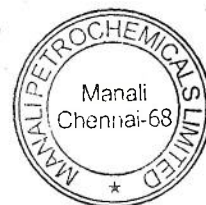
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		<ul style="list-style-type: none"> The energy utilization will be minimized using pinch technology and latest energy efficient drives.
(v)	The PP shall carry out assessment of the carrying capacity of transportation load on roads inside the industrial premises every year and based on the assessment report take necessary measures including widening of the roads.	<p>Agreed to comply.</p> <p>Sufficient road space is available within the site for the existing and expansion units. The width of Existing Road is 6 m which is adequate for transportation of loads for the existing and as well as the expansion requirements. However, as stipulated in the condition, the assessment of the carrying capacity of transportation load on roads within the industrial premises will be carried out every year. Based on the assessment report, necessary measures will be taken, including widening of the roads if any.</p>
(vi)	The PP shall prepare a detailed rainwater 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 rainwater harvested to before IRO, MoEF&CC before 1st July of every year for the rainwater harvested during the previous year.	<p>Agreed to comply.</p> <p>It is proposed to harvest the rainwater from the roof top of respective buildings to a collection tank/reservoir which will be used within the plant.</p>
(vii)	The PP shall ensure that dumping of waste, if any, is strictly as per designated locations approved by SPCBs/PCCs.	<p>Agreed to comply</p> <p>The municipal wastes generated is presently being disposed to corporation recycle yards and the same will be continued after expansion. The hazardous wastes generated viz. Spent Oil and ETP sludge are being disposed to TNPCB authorized recyclers and TSDF facility operated by TNWML, Gummidipoondi respectively in the existing unit and the same will be followed after expansion. There is no additional ETP sludge generation from the expansion unit. The combined quantity will be within the TNPCB approved quantity, as per the HWA issued under Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 vide HW Authorization No. 22HFC28359666 valid up to 31.03.2026.</p>
(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.	<p>Agreed to comply</p> <p>The existing EC conditions are already audited by the Third Party Annually. Similarly, as per the condition, the annual audit for the compliance of the EC conditions will be carried out by a</p>



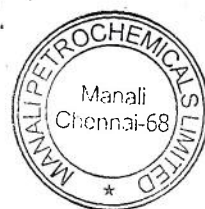
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		Third Party and the audited report will be submitted to IRO, MoEF&CC.
(ix)	The PP shall ensure the use of cleaner fuel R-LNG with a stack height of 30 m for controlling the particulate emissions within the statutory limit of 115 mg/Nm ³ for the proposed 30 TPH boiler and submit a report within a year to IRO, MoEF&CC before 1 st July of every year for the activities carried out during the previous year.	Agreed to comply Initiated action to use cleaner fuel R-LNG in the proposed 30 TPH boiler. Agreement has been executed with IOCL & laying of pipeline for supply of R-LNG is being carried out by IOCL. Once the R-LNG is available, it will be ensured that the same will be used in the proposed 30 TPH boiler attached with the existing stack of height 30 m and the particulate emissions will be controlled within the prescribed statutory limit of 115 mg/Nm ³ .
(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.	Agreed to comply The budget earmarked for the Corporate Environment Responsibility (CER) of ₹ 0.9375 Crores will be spent on need-based approach in consultation with the District Collector. The budget earmarked for CER will be kept in separate account and the same will be audited annually. 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. will be submitted to the IRO, MoEF&CC.
(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 1 st July of every year for the activities carried out during the previous year.	Agreed to comply The additional Greenbelt will be developed by planting 14215 number of trees within a period of one year from the grant of EC. <ul style="list-style-type: none"> Land required for the additional Greenbelt of area 15 acres has been allotted by Thirunilai Panchayat, Cholavaram Union, Ponneri Taluk. The saplings selected for plantation will be of sufficient height, preferably 6-ft (about 2 m). In addition to this, the budget earmarked for the plantation will be kept in separate account and the same will be audited annually. 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



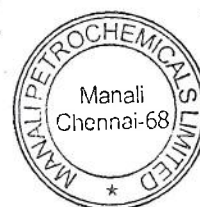
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		species planted, number of species planted, survival rate, density of plantation etc. will be submitted to the Regional Office of MoEF&CC.
(xii)	A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental 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.	Partially Complied. A separate Environmental Management Cell (EMC) (having qualified persons with Environmental Science/Environmental Engineering/Specialization in the project area) equipped with full- fledged laboratory facilities are already in place to carry out the Environmental Management and Monitoring functions. In the EMC, Plant Head- Head EHS- Manager- Safety and Environment, Executives are engaged. In addition to this, one safety & health officer as per the qualification given in Factories Act 1948 is engaged. The annual audited statement for the amount spent towards the engagement of qualified persons in EMC along with details of person engaged will be submitted to the Regional Office of MoEF&CC.
(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 1 st July of every year for the activities carried out during the previous year.	Agreed to comply The company will comply with all the environmental protection measures and safeguards as 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 will be implemented. The budget proposed under EMP is ₹1411 Lakh (Capital cost) and ₹677 Lakh (Recurring cost) will be kept in separate account and the same will be audited annually. 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 will be submitted to the Regional Office of MoEF&CC.
(xiv)	The total water requirement will be 3247 KLD for existing facility and additional	Agreed to comply



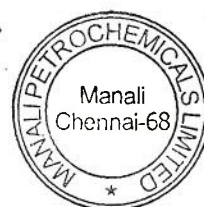
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	requirement of 810 KLD for the proposed expansion will be met from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh 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 1 st July of every year for the activities carried out during the previous year.	The water supplied will not be above the permissible limit as mentioned in the letter and fresh water will be withdrawn only after obtaining valid agreement from Concerned Authority. The details of utilization will be submitted to the Integrated Regional Office (IRO), MoEF&CC.
(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.	Complied. No banned chemicals are being manufactured in the unit and will not be manufactured in the Expansion facility also. No banned raw materials are being used in the unit and will not be used in the Expansion facility also. The notifications/guidelines of the Government issued in this regard shall be adhered.
(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.	Agreed to comply It is proposed to use R-LNG as fuel in boilers which will act as carbon sequestration resource. The carbon emitted due to usage of LSFO will be reduced by implementation of clean fuel usage in boilers. Agreement has been executed with IOCL & laying of pipeline for supply of R-LNG is being carried out by IOCL. Also, the green belt already developed and proposed green belt will also act as a resource for carbon sequestration.
(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.	Agreed to comply 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 will be complied.
(xviii)	All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP	Agreed to comply As per Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules, Onsite



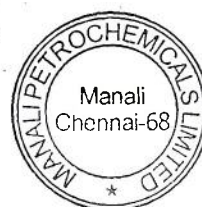
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	<p>shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.</p>	<p>emergency plan for the existing facility is already in place and the same was submitted to O/o. DISH. Similarly, the Onsite emergency plan with mitigation measures has been prepared for the proposed project and the same will be submitted to O/o. DISH after implementation of the project. As per MSIHC rules, the Offsite emergency plan needs to be prepared and kept in place by the concerned Govt. Authority as identified in Column 2 of Schedule 5. Actions have been initiated to prepare Offsite Emergency plan through Manali Industrial Association. The required assistance will be provided by us in preparing the Offsite emergency plan and in mitigating the Offsite emergency if any. The details of Offsite Emergency plan is also addressed in the Onsite Emergency plan for the proposed project.</p>
(xix)	<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>Agreed to comply</p> <p>The following effective fugitive emission control measures are already available in the existing unit.</p> <ul style="list-style-type: none"> • Provision of double mechanical seals in all the hydrocarbon pumps. • All the raw material and product tanks are under Nitrogen blanketing. • TVOC emission detectors are provided in appropriate locations to monitor and control fugitive emission. In the existing unit, District Environment Laboratory (DEL)-Manali of TNPCB is carrying out the TVOC survey every year and the same will be continued after expansion. • Continuous AAQ monitoring station kept in place to monitor PM2.5, PM10 and connected to TNPCB - CAC. • The Plant-II is operated through DCS and the same is monitored continuously. • The entire operation carried out in a closed circuit with secondary and tertiary condensing technology with chilled water supply. <p>The emission control measures will be ensured in expansion facility also and the fugitive emissions will be controlled at 99.97%. Regular monitoring of VOCs will be carried out.</p>



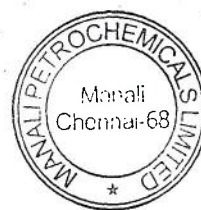
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(xx)	The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the freshwater demand and waste disposal.	<p>Partially complied</p> <ul style="list-style-type: none"> • Sewage Treatment Plant (STP) of capacity 20 KLD is being commissioned to treat the generated sewage. The treated water from the STP will be reused for green belt so as to reduce the freshwater demand and waste disposal. • It is planned to install a RO plant of capacity 350 KLD to treat the effluents generated from the utility units viz. Cooling Tower, DM unit and Boiler. The RO permeate will be reused for industrial usage so as to reduce the freshwater demand and waste disposal. The RO rejects will be sent to ETP for further treatment.
(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.	<p>Agreed to comply</p> <p>Final proposal to take up the ZLD feasibility study was provided by NEERI during April 2023. Copy of the same attached as Annexure – 1. Letter of intent was issued to NEERI during May 2023 and copy of the same is attached as Annexure - 2. As per terms, advance payment made to NEERI and they will be commencing the study shortly. Based on the outcome of the study, we commit to implement the ZLD in the unit, after technical evaluation of the proposal. Till that period, Effluent of 2556 KLD will be treated through Effluent Treatment Plant and disposed to sea after meeting the prescribed standards.</p>
(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.	<p>Partially complied</p> <p>Continuous online (24 x 7) monitoring system is already in place for the Boiler stack & effluent and the data is being transmitted to the CPCB and SPCB servers.</p> <p>There is no additional stack for the expansion unit.</p> <p>Flow meters have been already installed in the effluent pipeline.</p> <p>A web camera with night vision capability will be installed within the premises.</p>
(xxiii)	The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity	<p>Agreed to comply</p>



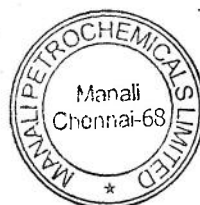
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	and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.	The storage of toxic/hazardous raw material will be bare minimum with respect to quantity and inventory. The details regarding Quantity and days of storage will 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.	Being Complied. The occupational health center for surveillance of the worker's health is already in place. All workers & employees are provided with required safety kits/mask for personal protection in the existing unit and the same will be continued for the expansion unit. The health data are being used in deploying the duties of the workers in the existing unit and the same will be continued for the expansion unit.
(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.	Agreed to comply Training is already imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training is also provided to employees. Action plan for mitigation measures is properly implemented based on the safety and risk assessment studies for the existing unit. The same will be made available in the Expansion facility also.
(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.	Agreed to comply MPL has a well laid individual Fire Water pumping system with Jockey pumps, Main motor driven pumps and Diesel engine driven pumps. Fire hydrant header runs throughout the plant, covering the entire MPL plant with sufficient number of hydrants and monitors as per the Tamil Nadu Factories Rules requirements. MPL has its own 1 No. of Fire Tender having water, foam and DCP extinguishing facility. Arrangement for the protection of possible fire hazards during manufacturing process in material handling is already in place. The same will be extended for the Expansion also.
(xxvii)	The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser	Agreed to comply



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	<p>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.</p>	<p>As per the stipulated condition, appropriate solvent management system will be carried out as applicable for the solvent handling and solvent storage tanks.</p> <p>In the proposed expansion, the entire operation carried out in a closed circuit with secondary and tertiary condensing technology with chilled water supply so as to ensure nil emission of solvents from the solvent handling and storage tanks.</p>
(xxviii)	<p>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 the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.</p>	<p>Agreed to comply</p> <p>The storm water from the roof top will be channelized through pipes to the storage tank constructed for harvesting of rainwater in the premises. The harvested water will be used for various industrial processes in the unit. No recharge will be done within the premises. Process effluent/ any wastewater will not be allowed to mix with storm water.</p>
(xxix)	<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>Agreed to comply</p> <p>The company has undertaken following Waste Minimization measures in the existing unit:</p> <ul style="list-style-type: none"> • Mass flow meters installed to measure the quantity of active ingredients. • Re-use of by products as raw material substitutes in other processes is done. • Use of automated filling machine in place to minimize spillage. • Use of "Closed Feed" system into batch reactors and venting equipment through vapor recovery system • Use of high pressure-hoses for equipment cleaning to reduce wastewater generation. <p>The same scheme will be implemented in the proposed expansion.</p>
(xxx)	<p>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</p>	<p>Agreed to comply</p> <p>The raw material Propylene is being transferred through pipeline from CPCL refinery in the existing unit. The proposed boiler fuel R-LNG will be transferred through pipeline from IOCL LNG terminal, Ennore. Further exploration will</p>

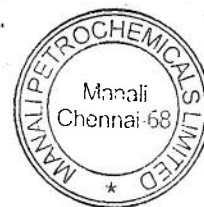


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	submit a report to IRO, MoEF&CC within 6 months.	be made to check the feasibility of transfer of all other materials by rail/conveyor belt.
(xxx1)	In addition to the 40% green belt, the PP shall develop greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. for the benefit of local environment and people.	Agreed to comply In addition to the 40% green belt, green belt will be developed outside the project premises in the form of avenue plantation for the benefit of local environment and people.
(xxxii)	The sewage shall be treated in the proposed STP and the treated water shall be reused for the green belt.	Partially complied Sewage Treatment Plant (STP) of capacity 20 KLD is being commissioned to treat the generated sewage. The treated water from the STP will be reused for green belt.
B.	General Conditions	Compliance Status
(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.	Agreed to comply No further expansion or modification in the plant other than mentioned in the EIA will be carried out without prior approval from The Ministry of Environment, Forests and Climate Change/SEIAA as applicable. A fresh reference will be made by the unit to the Ministry/SEIAA to assess the adequacy of conditions imposed and to add additional environmental protection measures required in case of any deviations or alterations in the project proposal.
(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.	Agreed to comply We undertake to 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 for the expansion unit.
(iii)	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Agreed to comply The lightings have already been converted to LED based in the existing unit.

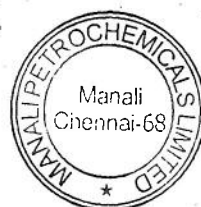
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		In the expansion facility also, the energy source for lighting purpose will be preferably LED based, or advanced having preference in energy conservation will be used.
(iv)	The overall noise levels in and around the plant area shall be kept well 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 (daytime) and 70 dBA (night time).	Agreed to comply Noise levels in and around the plant area are within the prescribed standards of 75 dBA (daytime) and 70 dBA (night-time) in the existing unit. Ambient noise level is being monitored through TNPCB District Environment Laboratory (DEL) – Manali once in a year. In the expansion facility also, the overall noise levels in and around the plant area will be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. Ambient Noise level survey will be carried out every month by internal lab and once in a year by District Environmental Laboratory, TNPCB. The ambient noise levels will conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (daytime) 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.	Agreed to comply The company has already taken up various measures to improve the socio-economic conditions of the surrounding area. The company will continue to undertake all relevant measures for improving the socio-economic conditions of the surrounding area and eco-developmental measures including community welfare measures in the project area through Corporate Social Responsibility (CSR) activities by involving local villages and administration.
(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/	Agreed to comply The company will 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



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	pollution control measures shall not be diverted for any other purpose.	herein. The funds so earmarked for environment management/ pollution control measures will 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.	Complied The points of representation received by the MoEF&CC, New Delhi during processing of the proposal was shared to us vide mail dated 04-07-2022. The reply for respective points of representation with relevant justification were submitted by us to the Ministry on 07-07-2022. The points were evaluated during the 35 th Expert Appraisal Committee (EAC) meeting of Industry-3 sector held on 28-07-2022. In the Minutes of 35 th EAC meeting issued on 11-08-2022, it was mentioned that the relevant justification given by us for the respective points of representation were found to be satisfactory at Page No. 16. Environmental Clearance was granted by the MoEF&CC, New Delhi on 06-10-2022. The copy of clearance letter is available at the Website of the Ministry (https://parivesh.nic.in/)
(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.	Agreed to comply We undertake to 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 will be posted on the website of the company.
(ix)	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	Agreed to comply The environmental statement for each financial year ending 31st March in Form-V as is mandated will be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently. Copy of the same will be uploaded on the website of the company along with the status of compliance of environmental clearance conditions and will



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	to the respective Integrated Regional Office of MoEF&CC by e-mail.	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.	Complied. The environmental clearance was granted by the MoEF&CC, New Delhi on 06-10-2022. We have informed about the grant of environmental clearance by the Ministry through advertisement in two local newspapers which are widely circulated in the region viz. The New Indian Express (in English) and The Hindu Tamil (in Tamil, vernacular language of the locality), both dated 08-10-2022, which is within seven days from the date of issue of the clearance letter and the same attached as Annexure- 3 & Annexure - 4 respectively. The details were forwarded to the Integrated Regional Office (IRO), Chennai vide letter dated 12-10-2022. Copy of the letter sent to IRO, Chennai is attached as Annexure - 5 .
(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.	Agreed to comply The date of financial closure and final approval of the project and the date of start of the project will be informed to the Regional Office as well as the Ministry.
(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.	Agreed to comply Noted. We agree to comply with the same.

Hope, we have submitted the details required by you and if you require any further information we are ready to furnish the same

Thanking you,
Yours faithfully,

For MANALI PETROCHEMICALS LIMITED

R. Chandrasekar

R. CHANDRASEKAR
Whole Time Director

occupier@manalipetro.com

Encl: As above.

Copy to:-

- 1) The Member secretary, 76, Mount Road, Guindy, Chennai – 600 032
- 2) The Joint Chief Environmental Engineer (M), Arumbakkam, Chennai – 600 106



Expansion Activity Status Report MPL- Plant-II

Propylene Glycol Plant

1. Consent To Establish obtained from TNPCB on 14.02.2023.
2. 60% of Detailed Engineering activities completed.
3. Floating of tenders for Civil jobs initiated.

R. C. ...

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Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant- I and Plant-II) & Tamilnadu Petroproducts Limited

Sponsor



Manali Petrochemicals Limited, Chennai



CSIR-National Environmental Engineering Research Institute
Nehru Marg, Nagpur – 440020



April 2023

Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant- I and Plant-II) & Tamilnadu Petroproducts Limited

1. Preamble

Manali Petrochemicals Limited (MPL) located in Chennai, Tamil Nadu, is a chemical petrochemical industry that manufactures an array of chemical compounds like propylene oxide, propylene glycols, polyols, and many customized chemical formulations for different applications in other sectors such as home appliances, automotive, bedding, food & fragrances, furniture, footwear, paints and coatings, and pharmaceuticals etc. & Tamilnadu Petroproducts Limited (TPL), located in Chennai, is also a petrochemical industry and one of their units manufactures propylene oxide

Propylene oxide (PO), an important bulk chemical intermediate widely used for manufacturing of propylene glycol, polyol and other derivatives, is the main product of MPL & TPL. PO is traditionally produced by two routes, namely the chlorohydrin and Halcon (hydroperoxide) processes. MPL & TPL manufacture Propylene oxide through chlorohydrin route.

2. Wastewater Generation & Existing Treatment Facilities

In the chlorohydrin process, chlorine is injected at the bottom of a titanium-made hollow reactor full of water to produce hypochlorous acid that reacts with injected propylene vapour in this zone and is converted to propylene chlorohydrins (PCH). Dichloropropane (DCP) is also produced in small quantities as a by-product. Always excess of propylene is maintained in the reactor and hence the entire chlorine is converted into propylene chlorohydrins and DCP. The unreacted propylene is recycled back to the reactor. The reactor is operated at near atmospheric pressure and at a slightly elevated temperature (55 to 60 °C). The reactor relies on good upward velocity provided by the circulating gas and incoming process water to move the produced chlorohydrins from the place of injection to maximise the production efficiency.

PCH overflows from the reactor and is then pumped into a saponifier along with milk of lime. Saponifier is stream stripped from the bottom to remove the PO formed from the reaction zone. The PO along with excess and the entire quantity of DCP present in the reactor are then allowed routed to a separation column where PO is removed as a top product (as it boils at 34 °C at atmospheric pressure) and the high boiling DCP and water move to the bottom of the separation column. PO is condensed with chilled water and stored in a storage tank.

The DCP liquid and water enters the decanter where water is decanted and recycled back to the reactor. The DCP liquid is sent to storage tank for marketing.

The Saponifier bottom wastewater is pumped to a High-Rate Thickener after heat recovery where all the unreacted inert in the milk of lime are settled and sent to a rotary vacuum filter. In the rotary filter, the solid is washed and removed to a disposal area for solar drying and further transportation use as a landfill and manufacture of low-cost lime bricks.

The saponifier bottom wastewater is the main source of effluent which contains around 4.5% of Calcium Chloride.

3. Existing Wastewater Treatment Facilities

➤ MPL Plant – I – Effluent Treatment Plant

- Effluent generated at the bottom of the Saponifier in the PO Plant-I is pumped to High-rate thickener (HRT) at 75 °C at a flow rate of 110 m³/h.
- Flocculent is added at HRT, for faster settling of suspended solids at the bottom.
- HRT underflow contains ~6 – 7 % of suspended solids and withdrawn at 10 T/h and the corresponding underflow is pumped to rotary vacuum drum filter for the separation of suspended solids from the liquid.
- The filtrate from RVDF is sent back to HRT and the sludge is collected separately.
- HRT overflow is sent by gravity flow to Effluent holding tank.
- From the effluent holding tank, effluent is pumped to the cooling tower where the temperature of the effluent is reduced from 65 °C to 35 – 40 °C (min.). The outlet of the cooling tower sump is pumped to the inlets of a Bio-Reactor system.
- Six Bio-reactors A, B, C, D, E & F are present in series. Overflow from one bio-reactor is sent to the subsequent one.
- Bio-reactors A & B are fixed with separate mix flow system with pure oxygen feeding through ejectors to improve the DO in the effluent. A dedicated liquid oxygen storage (20 KL capacity) with control station is available for this.
- Bio-reactors C, D, E & F are fixed with advanced Original Hydrodynamic Reaction (OHR) aerators – 120 Nos. High-capacity air blowers supply air to OHR aerators to further improve the Dissolved Oxygen in the effluent.
- In Bio reactor bio culture is developed by addition of biomass, urea, Phosphoric acid and Ferrous sulphate as nutrients and aerated using Mix flow pump with pure oxygen feeding.

- Regenerative blower of rated power 160 KW sucks the air from the atmosphere. OHR aerators inject air from atmosphere into liquid enhancing turbulence and overall DO.
- The outlet of Bio-Reactor F is sent to secondary clarifier. The sludge collected at wet well is recycled back to Bio-Reactors A, B & C.
- Excess sludge in the secondary clarifier is pumped and routed to Plate and frame press. Further the sludge is collected and disposed to PCB authorized TSDF.
- The clarified overflow from secondary clarifier is routed to the Treated Effluent tank (TET).
- Finally, the treated water from TET is pumped to Sea.
- The process flow diagram of ETP is given below.

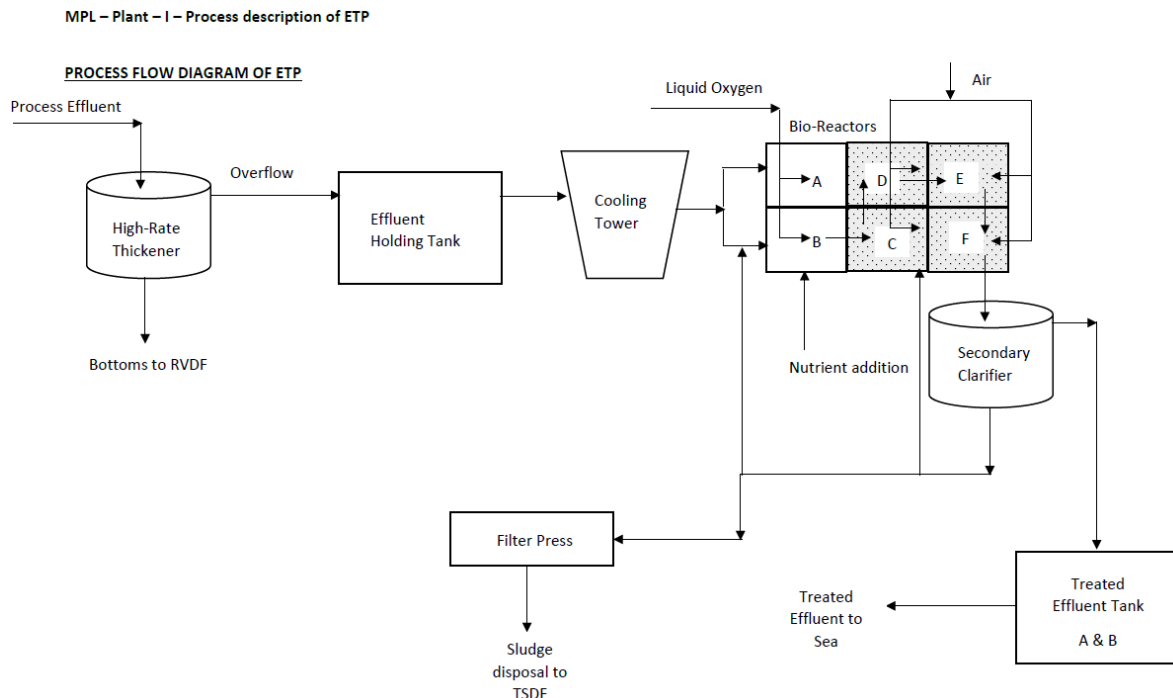


Figure 1: Process flow diagram of the existing ETP at MPL-Plant-I

➤ **MPL Plant – II – Effluent Treatment Plant**

- Effluent generated Effluent generated at the bottom of the Saponifier in the PO Plant-II is pumped to High-rate thickener (HRT) at 75 °C at a flow rate of 115 m³/h.
- Flocculent is added at HRT, for faster settling of suspended solids at the bottom. HRT underflow contains ~6 – 7 % of suspended solids and withdrawn at 10 T/h and the corresponding underflow is pumped to rotary vacuum drum filter for the separation of suspended solids from the liquid.
- The filtrate from RVDF is sent back to HRT and the sludge is collected separately.

- HRT overflow is sent by gravity flow to collection chamber.
- From the collection chamber, effluent is pumped to the cooling tower, where the temperature of the effluent is reduced from 65 °C to 35 - 40 °C(min.). The outlet of the cooling tower sump is pumped to Effluent hold tanks and from there pumped to the Bio-Reactor – A.
- In bio reactor, at first, bio culture is developed by addition of biomass, urea, Phosphoric acid and Ferrous sulphate as nutrients and is aerated using jet aerators. Jet aerators play a major role in reduction of Chemical Oxygen Demand by enhancing oxygen transfer in liquids.
- Aerators inject air from atmosphere into liquid enhancing turbulence and overall Dissolved Oxygen necessary for sludge development. Regenerative blower of rated power 18 kW sucks the air from the atmosphere.
- Bio reactor contains 5 jet aerators to provide Dissolved oxygen for the bacteria.
- The outlet of bio reactor-flows to secondary clarifier. Secondary clarifier bottom sludge is pumped back to the bio reactor to maintain MLSS.
- Excess sludge, if any, is pumped and routed to Plate and frame press. Further the sludge is collected and disposed to PCB authorized TSDF.
- The clarified overflow from secondary clarifier is routed to the Treated Effluent tank (TES).
- Finally, the treated water from TES is pumped to Sea.

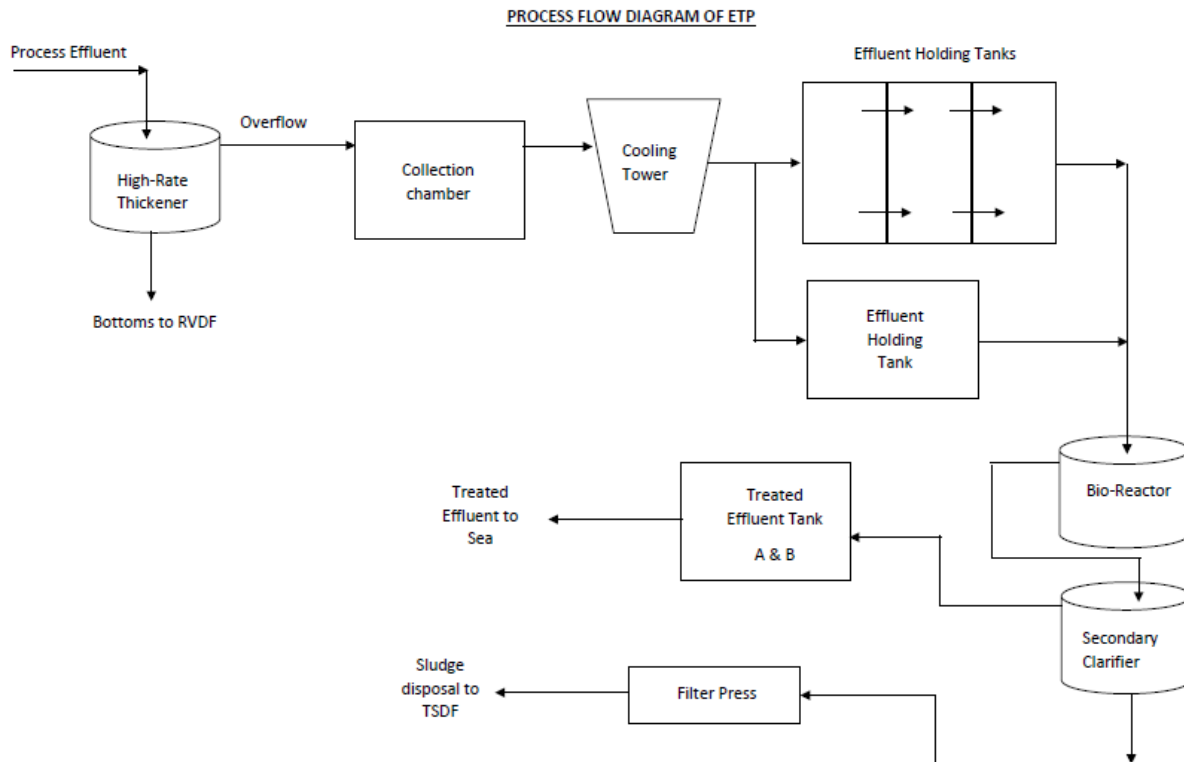


Figure 2: Process flow diagram of the existing ETP at MPL-Plant-II

➤ TPL – PO Plant – Effluent Treatment Plant

- Plant effluent from Saponifier bottoms enter High-Rate Thickener in the central feed well where it is allowed to settle.
- The settled sludge is pumped to RVDF [Rotary Vacuum Drum Filter] in which the solids are separated.
- The effluent free of solids overflows from High-Rate Thickener and gets cooled in a cooling tower. From cooling tower, the effluent enters an Equalizing tank and then into a Pre-treatment tank. Aeration is given in Equalizing tank.
- The effluent enters Bioreactors Feed Tank from which it is fed to three Bio Reactors in parallel. Fifteen Aerators are used in Bioreactors to supply air to the organic culture.
- The effluent from Bioreactors overflows to a Bio Reactor Overflow tank from where it enters Flocculation tanks.
- Then it enters Secondary Clarifier in which the organic flocs formed are allowed to settle at bottom. This organic sludge is filtered in a Filter Press.
- The overflow from the Secondary Clarifier is sent to two Treated Effluent Tanks. From these tanks the effluent is pumped to sea.

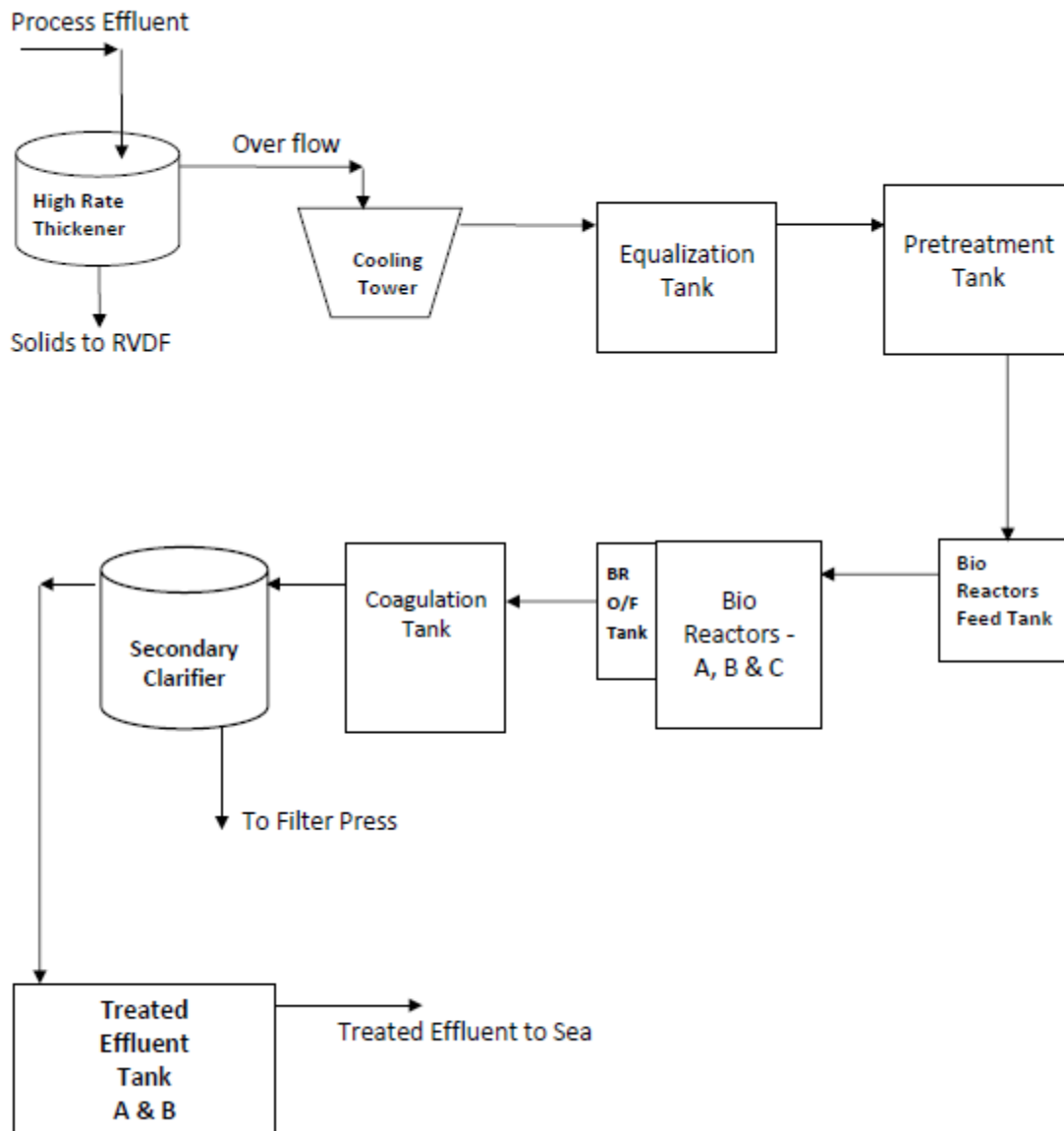


Figure 3: Process flow diagram of the existing ETP at TPL

The capacity of the existing ETPs and the volume of treated wastewater pumped to sea from these 3 plants through a common pipeline are as follows:

Plants	Capacity of the existing ETP	Treated-wastewater Discharged to Sea
	KLD	
MPL Plant – I	3600	2414
MPL Plant – II	3600	2574
TPL – PO Plant	2400	1805

Briefly, the existing ETPs consists of following units in sequence:

- High-Rate Thickener
- Rotary Vacuum Drum filter
- Cooling Tower
- Equalization Tank
- Bio-reactors
- Secondary Clarifier
- Treated Effluent Tank
- Sludge Sump
- Filter Press

4. Origin of the Proposal

The Hon'ble National Green Tribunal (NGT), Southern Bench has directed M/s MPL & TPL to explore the feasibility of implementing zero liquid discharge (ZLD) in order to avoid discharge of treated effluent in to the sea and for protecting the marine environment. In this regard, M/s MPL has approached, CSIR-National Environmental Engineering Research Institute, Nagpur (CSIR-NEERI) for conducting feasibility studies for implementation of complete or partial ZLD concept for higher utilization of treated wastewater at Manali Petrochemicals Limited (Plant- I and Plant-II) & Tamilnadu Petroproducts Limited. Accordingly, based on technical discussions with MPL & TPL officials, CSIR-NEERI is submitting a proposal on feasibility assessment of upgradation of existing wastewater management system with recourse to complete or partial recycle/reuse of treated wastewater. The potential benefits envisaged as the outcome of the proposed study are:

- Conservation of water resources.
- Improved and efficient wastewater treatment system with recourse to complete or partial recycle/reuse of treated wastewater.
- Moving from the existing open-ended to closed looped wastewater treatment system would definitely earn credibility for combating the political, social and institutional issues.
- The successful implementation of this project would also establish coordination between the production and environmental teams leading to overall reduction in wastewater generation and management thereof.
- Reducing/minimizing threat of potential contamination of the receiving Marine Water body.
- Ultimate beneficiary will be the environment and specially the marine ecology who may be under the threat of pollution due to potential water contamination from discharge of treated effluent.

5. About CSIR-NEERI

The CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) is a premier R & D organization in the domain of Environmental Science and Technology in India with its Headquarters at Nagpur. It is one of the National Laboratories within the Council of Scientific and Industrial Research (CSIR), Government of India.

The Institute has Headquarters at Nagpur and five Zonal Laboratories at Kolkata, Chennai, Delhi, Hyderabad and Mumbai through which the Institute participates in the resolution of state / regional environmental problems. With sound establishments at six strategic locations, CSIR-NEERI is capable to respond to national environmental issues without any time lag and with minimal resources.

CSIR-NEERI, Nagpur has been working in the area of environment for over six decades, delivering case-specific environmental solutions for various social, and industrial problems under the vast gambit of environment and ecology in India. This organization has the best multi-disciplinary knowledge base in India for cross leveraging solutions on pivotal issues of environmental aspects. Besides conducting frontline research in environmental science and technology, the Institute disseminates its research through consultancy services, thereby providing optimal solutions to environmental issues confronting the industries, municipalities, urban and rural development authorities, and pollution control organizations in the country. It also renders human resource development services to clientele. CSIR-NEERI's pioneering solutions and landmark achievements to provide clean and sustainable environment is not only helping government agencies and industries, but is also giving a better life to millions. The Institute has also been assisting various regulatory agencies, viz. Ministry of Environment, Forests and Climate Change (MoEF&CC), Central and State Pollution Control Boards (CPCB), municipal corporations, state industrial development corporations, public and private sectors on various aspects of water, soil, air and noise pollution.

5.1. Experiences in Industrial Wastewater Management

Some areas where this institute has been contributing towards improving industrial wastewater management in India are listed as follows:

5.1.1. Providing technological intervention/solutions for industrial wastewater management

The institute has been providing technological interventions/solutions to several large-scale industries such as petroleum refineries, edible oil refineries, pulp & paper industries, textile industries, sugar industries & distilleries, chemical & agrochemical Industries, food processing industries, leather industries, automobile industries, coal & coke Industries, steel plants, milling, slaughterhouses, etc. The timely S & T intervention led to re-commissioning of

tanneries, thereby averting unemployment of weaker section of workforce and loss of substantial foreign exchange from exports.

5.1.2. Design, development and implementation of CETPs for various industrial clusters

Industrial wastewater, which is mostly hazardous and deleterious to the environment, need pollutant specific treatment. While large industries can manage their own wastewater in an environmentally sustainable manner, micro, small and medium scale industries often find it difficult and expensive to have their own treatment facility. Hence in order to facilitate sustainable production by small and medium scale industries, a concept of Common Effluent Treatment Plant (CETP) was propagated by the Institute in 1990s. The CETPs provided a centralized platform for a homogenous and heterogeneous cluster of industries to treat their wastewater in an environmentally sustainable manner. In the past three decades Institute has designed, developed and implemented ~ 50 CETPs for various industrial clusters benefitting more than 10,000 industries.

5.1.3. Recovery of value-added materials from industrial wastewater

One of the important factors for sustainable consumption/production is its economic viability. The economic viability can be further improved by maximizing recovery, reuse, and recycling options for wastes generated during consumption/production processes. Realizing the importance of these options in improving the economic viability of consumption/production processes, Institute prioritizes these options while preparing wastewater management schemes for various industry sectors. In the recent years, the institute has developed various processes/technologies on laboratory, pilot or full scale for recovery of value-added materials from industrial wastes waters. Some of them are listed as follows:

- System for Recovery of Marketable Calcium Byproducts from High TDS Process Effluent rendering Treated-Effluent Suitable for Subsequent Treatments
- Recovery of ammonium sulphate from highly colored & high TDS wastewater (pharmaceutical)
- Process for recovery of anhydrous white sodium sulphate from crude colored hydrous global salt obtained from RO reject of textile industry

5.1.4. Rejuvenation of natural water bodies (Lakes & Rivers)

In order to ensure availability of clean water and sanitation for all, the precious natural freshwater resources viz. lakes and rivers need to be conserved from indiscriminate use, and severely polluted water bodies need effective restoration plans for rejuvenating the water quality back to their pristine state.

The institute has been working with integrated multidisciplinary approach for past few decades and has completed studies for Dal-Nageen Lake in J&K; Sambhar Lake in Rajasthan, Rani Sagar Lake in Chhattisgarh, Dravyawati River in Rajasthan; Daman-Ganga River in Daman-Diu & Dadra Nagar Haveli. The rejuvenation measures/plans delineated by the Institute have been/are being implemented by various stakeholders dealing with above-mentioned water bodies. In addition to these studies, the Institute has also designed, developed and implemented treatment technologies/schemes for industrial and domestic effluents before their discharge to various freshwater bodies.

5.1.5. Technical and Scientific Advisory Services to Judiciary & Regulatory Agencies

The pollutants generated and discharged during sustainable consumption/production activities are governed by various regulatory agencies such as concerned Ministries, Central and State Pollution Control Board and the Judiciary. Considering the vast experience and credibility of the Institute, such regulatory agencies seek expert advice on various aspects of environmental management. The Institute has been assisting regulatory agencies and Judiciary over past four decades on the following aspects:

- Assessment of pollution status
- Recommendation of pollution abatement strategies
- Review and development of standards for discharge of domestic & industrial wastewater
- Promote environmental awareness through effective environmental education and outreach
- Develop trained workforce dedicated to promoting protection of human health and the environment while working for a sustainable environment

Thus, wastewater management has been the primary area of CSIR-NEERI's expertise since long. Being a key player of wastewater management, CSIR-NEERI understands the challenges and gaps existing in sustainable industrial wastewater management.

6. Objectives of the study

As per discussions with MPL authorities with respect to points on which such study is required are:

- a. Performance assessment of existing ETPs to know the current status and identification of problems if any
- b. Analysis of effluents and delineation of remedial measures required with respect to technical up-gradations of existing ETPs for implementation of ZLD concept
- c. Feasibility studies for implementation of ZLD concept
- d. Identification of options for complete or partial recycle/ reuse of treated wastewater

Thus, the main objective of the project is to study the feasibility of implementing ZLD concept and upgrade the existing wastewater management system with recourse to recycle/reuse of treated wastewater for different inhouse purposes. The specific activities can be formulated as:

- I. Adequacy and efficacy assessment of the existing ETPs
- II. Recommendation of remedial measures with respect to technical upgradation of the existing ETPs
- III. Identification of opportunities for enhanced operational flexibility for implementation of ZLD concept
- IV. Identification of options for higher utilization of treated wastewater

7. Scope of Work

Accordingly, CSIR-NEERI proposes to carry out a detailed feasibility study with the following scope of work:

I. Adequacy and efficacy assessment of the existing ETPs

- Quantification of the generated wastewater.
- Physicochemical characterization of the different wastewater streams received in the ETP.
- Assessment of potential pollutants in the combined wastewater generated.
- Performance evaluation of unit operations and processes of the existing ETPs with respect to design and operational parameters for the identification of problem areas, if any, under existing operating conditions at site.

- Microbiological assay in the existing biological treatment system including assessment of biological processes through monitoring of various operational parameters (DO, SVI etc.), sludge settling studies and adequacy assessment of aeration system.
- Detailed adequacy and efficacy assessment of the existing effluent treatment facilities based on composite/grab monitoring.

II. Recommendation of remedial measures with respect to technical upgradation of existing ETP

- Identification of areas of improvement in the existing operation.
- Recommendation of short terms and long-term measures for improvement of the performance of the existing unit processes, if required.
- Delineation of additional units or revised treatment scheme for improvement of the performance of the existing ETPs, if required.
- Delineation of suitable measures for improvement in performance of the existing plant.

III. Identification of Opportunities for Enhanced Operational Flexibility

- Assessment of pollution load generated from the process units based on quantity and characterization of various streams (secondary data). If additional stream generates during the study period that will also be considered for assessment of pollution load.
- Based on the assessed pollution load from different units of the plant, develop a scheme for attaining the operation flexibility of ETPs with respect to diurnal variations in pollution load as well as influent load.
- Submission of report on achieving operational flexibility of the existing effluent treatment plant along with recommendations.

IV. Identification of Options for Higher Utilization of Treated Wastewater

- Bench-scale treatability studies for enhanced removal of pollutants critical for implementation of ZLD concept for recycle/reuse of treated wastewater for different uses
- Feasibility assessment for delineation of techno-economically most feasible treatment scheme for complete or partial implementation of ZLD concept with recourse to recycle/reuse of treated wastewater for partial or complete reuse in PO

synthesis process or for other industrial purposes, and for compliances with the existing environmental norms for discharge in case of partial ZLD.

- Recommendations for process modification in the existing ETPs for complete or partial implementation of ZLD concept for recycle/reuse of treated wastewater as stated above
- Delineation of conceptual framework design of the recommended treatment scheme along with benefits.
- Basic engineering design of the recommended treatment scheme excluding detailed engineering. (Modification/retrofitting of the existing ETPs as recommended by CSIR-NEERI shall be taken up separately by M/s MPL & TPL).
- Tentative cost estimation (CAPEX & OPEX) for implementation of the recommended treatment scheme.
- Submission of a detailed feasibility report.

8. Duration of Project

24 months

9. Report

- Interim report – Shall submit an interim report highlighting the activities undertaken, project status and the activities that need to be undertaken with respect to all three ETPs at the end of field visits/monitoring/within 6 months from the date of start of the project. More than one interim report may be submitted if data collection and filed monitoring takes longer time or if additional field monitoring is required.
- Final draft report – The final draft report shall cover all aspects delineated in the scope of work and shall include the outcome of the study individually addressing all three ETPs. The draft final report shall be submitted to the sponsor for comments and discussion.
- Final report – The final report suitably addressing the comments made on the draft report shall be submitted to the sponsor.

10. Cost of Project

₹. 96.00 L (Rupees Ninety-Six Lakhs only) + GST as applicable

11. Payment Terms

The payment terms are as follows:

- 1st Installment: 50% with work order + GST*
- 2nd Installment: 30% + GST* within 15 days after completion of field monitoring, data collection and submission of the interim report(s) with respect to all three ETPs.
- 3rd Installment: 20% + GST* within 15 days after submission of draft final report.

*As applicable on date of disbursement. In addition, the party shall pay all taxes including surcharges of Central Government and State Government as applicable on the date of payment. All such taxes are subject to change as per directive of Government of India/State Government.

- **GSTIN: 27AAATC2716R2ZE**

- **NEERI is exempted from Income-tax under section 35(1) (ii) of the Income Tax Act 1961.**

- Date of start of the study will be after receipt of the first installment of the Institute's Fee.

12. Disbursement: Through Electronic Transfer to

Name of the Beneficiary	The Director, CSIR-National Environmental Engineering Research Institute, Nehru Marg, Nagpur - 440020
Name of the Bank	State Bank of India NEERI Branch, NEERI, Nagpur – 440020, (Maharashtra)
Savings Account Number	30266513766
IFSC No.	SBIN0004224
GSTIN	27AAATC2716R2ZE
PAN	AAATC2716R

13. Proposal Validity

The proposal is valid for a period of 60 days from the date of submission of the proposal

14. Sponsor

Manali Petrochemicals Limited, Chennai, Tamilnadu

15. Confidentiality

During the tenure of study and thereafter CSIR-NEERI and MPL/TPL undertake on their behalf and on behalf of their subcontractors/employees/representatives/ associates to maintain strict confidentiality and prevent disclosure thereof, of the information/data exchanged/generated. CSIR-NEERI shall hold in confidence all the details of technical evaluation conducted under this study or information learned by experience with and MPL/TPL.

16. Disclaimer

CSIR-NEERI shall carry out an independent study and submit the report. MPL/TPL shall exercise due for taking appropriate decision to implement the contents of the report.

17. Status of CSIR-NEERI

If the matter is subjudice, CSIR-NEERI shall render the consultancy services under the agreed terms, and shall not be a party to represent on behalf of MPL/TPL in any legal matters or proceedings.

18. Inputs Required from Sponsor

- MPL & TPL shall identify one **Technical Person** as **COORDINATOR** to facilitate interaction/ samplings & data collection/ permissions from relevant departments/ sections/ Units
- All relevant details required for the study including water consumption, wastewater generation data and design details with drawings of existing wastewater treatment facilities and any other relevant documents/reports as may be required by CSIR-NEERI during the study and preparation of report are to be made available to CSIR-NEERI.
- Details of process, fuel used, stack emission data, rate of operation and other activity details (e.g., working shifts, vehicular movements etc.) if required to be provided by the sponsor.
- Information of any safety implications of the proposed project to be informed well before.
- MPL & TPL would provide Laboratory facilities / arrange small space with necessary utilities like power and water for setting up a small laboratory / installation of any instrument required during site visit/ monitoring inside the premises of MPL & TPL.
- MPL & TPL would provide/ procure certain chemicals as may be required for sampling and analysis during site monitoring. The list of such chemicals would be provided by CSIR-NEERI prior to monitoring for ease of procurement and expedite the study.
- The sponsor shall provide the semi-skilled man power/ daily wage worker during the field study (for sampling)
- Provide free lodging and boarding (accommodation, breakfast, lunch and dinner) to the CSIR-NEERI Scientists & Project Team in Guest House(s)/Hotel(s) near site during fieldwork, survey, monitoring and during any meeting and presentation related to the project etc.
- Comments on draft final report within 15 days of submission.



Manali Petrochemicals Limited

SPIC House, 88, Mount Road, Guindy, Chennai - 600 032
 Telefax : 044 - 2235 1098 Website : www.manalipetro.com
 CIN : L24294TN1986PLC013087

MPL/NEERI/LOI/2023

2nd May 2023

CSIR – National Environmental Engineering Research Institute (NEERI)
 Nehru Marg,
 Nagpur.
 Pin code: 440 020.

Kind Attn: Dr. Sukdeb Pal
 +91 – 75889 78824/72760 59155

Sub: Letter of Intent (LoI) to carry out, “Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited” – Reg.

Ref: 1) Our request letter dated 06-04-2022 to CSIR-NEERI, Chennai.
 2) Proposal received vide mail dated 26-04-2023 from CSIR-NEERI, Nagpur.

With reference to the above cited, we are pleased to entrust the Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited. The scope of work and other terms is detailed below.

1. SCOPE OF WORK

- i. **Adequacy and Efficacy assessment of the existing ETPs**
 - a. Quantification of the generated wastewater.
 - b. Physicochemical characterization of the different wastewater streams received in the ETP.
 - c. Assessment of potential pollutants in the combined wastewater generated.
 - d. Performance evaluation of unit operations and processes of the existing ETPs with respect to design and operational parameters for the identification of problem areas, if any, under existing operating conditions at site.
 - e. Microbiological assay in the existing biological treatment system including assessment of biological processes through monitoring of various operational parameters (DO, SVI etc.), sludge settling studies and adequacy assessment of aeration system.
 - f. Detailed adequacy and efficacy assessment of the existing effluent treatment facilities based on composite/grab monitoring.

Factories :

Plant - 1 : Ponneri High Road, Manali, Chennai - 600 068
 Plant - 2 : Sathangadu Village, Manali, Chennai - 600 068
 Phone : 044 - 2594 1025 Fax : 044 - 2594 1199



Sub: Letter of Intent (LoI) to carry out, "Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited" – Reg.

- ii. **Recommendation of remedial measures with respect to technical upgradation of existing ETP**
 - a. Identification of areas of improvement in the existing operation.
 - b. Recommendation of short terms and long-term measures for improvement of the performance of the existing unit processes, if required.
 - c. Delineation of additional units or revised treatment scheme for improvement of the performance of the existing ETPs, if required.
 - d. Delineation of suitable measures for improvement in performance of the existing plant.

- iii. **Identification of Opportunities for Enhanced Operational Flexibility**
 - a. Assessment of pollution load generated from the process units based on quantity and characterization of various streams (secondary data). If additional stream generates during the study period that will also be considered for assessment of pollution load.
 - b. Based on the assessed pollution load from different units of the plant, develop a scheme for attaining the operation flexibility of ETPs with respect to diurnal variations in pollution load as well as influent load.
 - c. Submission of report on achieving operational flexibility of the existing effluent treatment plant along with recommendations.

- iv. **Identification of Options for Higher Utilization of Treated Wastewater**
 - a. Bench-scale treatability studies for enhanced removal of pollutants critical for implementation of ZLD concept for recycle/reuse of treated wastewater for different uses.
 - b. Feasibility assessment for delineation of techno-economically most feasible treatment scheme for complete or partial implementation of ZLD concept with recourse to recycle/reuse of treated wastewater for partial or complete reuse in PO synthesis process or for other industrial purposes, and for compliances with the existing environmental norms for discharge in case of partial ZLD.
 - c. Recommendations for process modification in the existing ETPs for complete or partial implementation of ZLD concept for recycle/reuse of treated wastewater as stated above
 - d. Delineation of conceptual framework design of the recommended treatment scheme along with benefits.

Sub: Letter of Intent (LoI) to carry out, "Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited" – Reg.

- e. Basic engineering design of the recommended treatment scheme excluding detailed engineering. (Modification/retrofitting of the existing ETPs as recommended by CSIR-NEERI shall be taken up separately by M/s MPL & TPL).
- f. Tentative cost estimation (CAPEX & OPEX) for implementation of the recommended treatment scheme.
- g. Submission of a detailed feasibility report.

2. DURATION OF THE PROJECT

24 Months

3. DELIVERABLES

CSIR – NEERI, Nagpur to submit the following:

- **Interim report**, highlighting the activities undertaken, project status and the activities that need to be undertaken with respect to all three ETPs at the end of field visits/monitoring/within 6 months from the date of start of the project. More than one interim report may be submitted if data collection and filed monitoring takes longer time or if additional field monitoring is required.
- **Final draft report**, covering all aspects delineated in the scope of work and shall include the outcome of the study individually addressing all three ETPs. The draft final report shall be submitted to MPL & TPL for comments and discussion.
- **Final report**, after suitably addressing the comments and discussions regarding the final draft report.

4. MPL & TPL's RESPONSIBILITIES

- MPL & TPL to nominate one Technical Person as COORDINATOR to facilitate interaction/ samplings & data collection/ permissions from relevant departments/ sections/ Units.
- To provide all relevant details required for the study including water consumption, wastewater generation data and design details with drawings of existing wastewater treatment facilities and any other relevant documents/reports as may be required by CSIR-NEERI during the study and preparation of report.

Sub: Letter of Intent (LoI) to carry out, "Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited" – Reg.

- To provide details of process, fuel used, stack emission data, rate of operation and other activity details (e.g., working shifts, vehicular movements etc.) if required by CSIR – NEERI, Nagpur.
- To inform about any safety implications with regards to the proposed project.
- To provide Laboratory facilities / arrange small space with necessary utilities like power and water for setting up a small laboratory / installation of any instrument required during site visit/ monitoring inside the premises of MPL & TPL.
- To provide/procure certain chemicals as may be required for sampling and analysis during site monitoring. The list of such chemicals would be provided by CSIR-NEERI prior to monitoring for ease of procurement and expedite the study.
- To provide the semi-skilled manpower/ daily wage worker during the field study (for sampling)
- To provide free lodging and boarding (accommodation, breakfast, lunch and dinner) to the CSIR-NEERI Scientists & Project Team in Guest House(s)/Hotel(s) near site during fieldwork, survey, monitoring and during any meeting and presentation related to the project etc.
- MPL & TPL to provide comments on Final draft report within 15 days of submission.

5. COST OF PROJECT & PAYMENT TERMS

- i. For the given scope of work vide Section 1, the total cost of the project will be Rs. 96,00,000 /- (Rupees Ninety-Six lakhs only) plus GST as applicable upon submission of tax invoices.
- ii. Payment terms shall be as follows:
 - 1st installment - 50% + GST as applicable after issuance and acceptance of Work Order/Letter of Intent.
 - 2nd installment – 30% + GST as applicable – within 15 days after completion of field monitoring.
 - 3rd installment – 20% + GST as applicable – within 15 days after submission of Final draft report.
- iii. CSIR – NEERI is exempted from Income-tax under section 35(1) (ii) of the Income Tax Act 1961.

Sub: Letter of Intent (LoI) to carry out, "Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant – I & Plant – II) and Tamilnadu Petroproducts Limited" – Reg.

6. CONFIDENTIALITY CLAUSE

CSIR-NEERI and MPL/TPL undertake on their behalf and on behalf of their subcontractors/employees/representatives/ associates to maintain strict confidentiality and prevent disclosure thereof, of the information/data exchanged/generated. CSIR-NEERI shall hold in confidence all the details of technical evaluation conducted under this study or information learned by experience with and MPL/TPL.

Kindly sign and return the duplicate copy of this LoI as a token of acceptance of this engagement.

Thanking You

For **MANALI PETROCHEMICALS LIMITED**



G. R. SRIDHAR
GM (OPERATIONS)
(E-mail: sridhargr@manalipetro.com)

ACKNOWLEDGEMENT & ACCEPTANCE

We accept the Letter of Intent and agree to carry out the project with its terms and conditions.

Place: *Nagpur.*

Date: *10/05/2023*

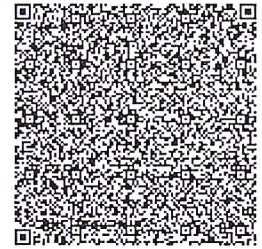


Signature & Seal


डॉ. सुकदेव पाल/Dr. Sukdeb Pal
प्रधान वैज्ञानिक/Principal Scientist
अपशिष्ट जल प्रौद्योगिकी प्रभाग/
Wastewater Technology Division
सीएसआईआर-नीरी/CSIR-NEERI
नागपुर/Nagpur-440020

Tax Invoice

e-Invoice



IRN : fca5a12c22904b33d8af6d757eb50c9da0e3540b691-e29190682d6a028e35e86
 Ack No. : 122316945310078
 Ack Date : 2-Jun-23

 CSIR-National Environmental Engineering Research Institute Nehru Marg, Nagpur 440 020 Maharashtra - 440020, India GSTIN/UIN: 27AAATC2716R2ZE State Name : Maharashtra, Code : 27 E-Mail : pmpddivision@neeri.res.in	Invoice No.	Dated
	NEERI/23-24/051	2-Jun-23
	Delivery Note	Mode/Terms of Payment
	Reference No. & Date.	Other References
	Buyer's Order No.	Dated
	MPL/NEERI/LOI/2023	2-May-23
	Dispatch Doc No.	Delivery Note Date
	Dispatched through	Destination
	Terms of Delivery	
Buyer (Bill to) Manali Petrochemicals Limited, SPIC House, 88, Mount Road, Guindy, Chennai Tamil Nadu - 600032, India GSTIN/UIN : 33AAACM3404D1Z9 State Name : Tamil Nadu, Code : 33 Place of Supply : Tamil Nadu		

SI No.	Description of Services	HSN/SAC	Quantity	Rate	per	Amount
1	1st Installment Feasibility Studies for Implementation of ZLD Concept for Higher Utilization of Treated Wastewater at Manali Petrochemicals Limited (Plant-I and Plant-II) & Tamilnadu Petroproducts Limited Total Project Cost: Rs 96,00,000 + GST 1st Installment: 50% of Project Cost	998393				48,00,000.00
	<div style="border: 2px solid purple; padding: 5px;"> <p style="text-align: center;">Manali Petrochemicals Ltd</p> <p style="text-align: center;">Certified for payment of</p> <p style="text-align: center;">Rs. <u>56,64,000</u></p> <p style="text-align: center;">SAP PO / SO. No. <u>6300034242</u></p> <p style="text-align: center;">Entry sheet No. <u>1000135586</u></p> <p style="text-align: center;"><i>(Signature)</i></p> <p style="text-align: center;">Authorised Signatory</p> </div>	IGST		18 %		8,64,000.00
	Total					₹ 56,64,000.00

Amount Chargeable (in words) E. & O.E

INR Fifty Six Lakh Sixty Four Thousand Only

HSN/SAC	Taxable Value		Integrated Tax		Total Tax Amount
	Value	Rate	Amount	Amount	
998393	48,00,000.00	18%	8,64,000.00	8,64,000.00	
Total	48,00,000.00		8,64,000.00	8,64,000.00	

Tax Amount (in words) : **INR Eight Lakh Sixty Four Thousand Only**

Remarks: The payment should be done within 30 days from the date of invoice with the intimation of payment details. Declaration CSIR-NEERI is exempted from tax deduction, hence TDS shall not be deducted from the payment (copy enclosed)	Company's Bank Details A/c Holder's Name: The Director, CSIR-NEERI Bank Name : State Bank of India Nagpur A/c No. : 30266513766 (Saving Account) Branch & IFS Code: NEERI Branch & SBIN0004224 SWIFT Code : SBININBB534
	for CSIR-National Environmental Engineering Research Institute AMIT KUMAR BANSIWAL Digitally signed by AMIT KUMAR BANSIWAL Date: 2023.06.02 17:14:47 +05'30' Authorised Signatory

Chandrayaan-2 mane Baby 4 SL Tamils rescued after 2 days sans food

> Aadhar Card Related Issues
> Interaction with ZSBs and DPDOs
> Processing Of Canteen Cards
> Registration Of DIAV Website
> Awareness On SPARSH
> Lunch

"FOR ESM OF TAMILNADU STATE ONLY"



CONTACTS
+91-8764733663
+91-9894509738

We sincerely regret the inconvenience caused to you in this regard.

Date : October 07, 2022
Place : Chennai

Sd/- Authorized Officer
ICICI Bank Limited

and document within 15 days from the date of this publication.
Mr. P. Vidyasankar
+91.9150003311



AGRICULTURE INSURANCE COMPANY OF INDIA LIMITED

Regd. Office: Plate B & C, 5th Floor, Block 1,
East Kidwai Nagar, New Delhi-110023
CIN : U74999DL2002PLC118123

NOTICE

Agriculture Insurance Company of India Ltd. is offering to use office premises situated at Ground Floor, Lok Chambers, Marol Maroshi Road, Andheri East, Mumbai 400049 on AS IS WHERE IS BASIS wef 1st November 2022 on "Leave and License Basis" by paying monthly "License Fees".

For detailed information, please logon to AIC website www.aicofindia.com and Central Public Procurement Portal <https://eprocure.gov.in/> for advt. titled as "Advertisement for letting out office premises in Mumbai".

Interested eligible parties may submit their bids electronically through E-bidding portal <https://aicofindia.auctiontiger.net/EPROC/>

Deptt. Estate

General Manager
Date: 7th October, 2022

EQUITAS SMALL FINANCE BANK LTD
Corporate Office: No.788, Spencer Plaza, 4th Floor, Phase-II, Anna Salai, Chennai, TN - 600 002

RECRUITMENT NOTICE - DEF - 021/2022

Filling up of various posts in FSSAI on transfer on deputation (including short term contract) on foreign service terms.

FSSAI invites online applications for filling up various posts as under at various levels on deputation on Foreign Service Terms basis from officers holding regular post in the Central Govt. / State Govt. / Union Territories / Govt. Universities / Recognized Research Institutions / Public Sector Undertakings / Semi Govt. / Statutory Organizations / Autonomous Organizations:-

Sl. No.	Name of Post	Pay Level (7th GPC)	Number of Vacancies	Place of Posting
1	Advisor	14	01	Posting may be done as per administrative requirements at FSSAI (HQ), Regional / Branch Offices and NFIs in India
2	Joint Director	12	06	
3	Senior Manager (IT)	12	01	
4	Senior Manager	12	01	
5	Deputy Director	11	07	
6	Manager	11	02	
7	Assistant Director	10	02	
8	Assistant Director (Tech)	10	06	
9	Deputy Manager (IT)	10	01	
10	Deputy Manager	10	03	
11	Administrative Officer	08	07	
12	Senior Private Secretary	08	04	
13	Personal Secretary	07	15	
14	Assistant Manager (IT)	07	01	
15	Assistant	06	07	
16	Junior Assistant Grade - I	04	01	
17	Junior Assistant Grade - II	02	12	
18	Staff Car Driver (Ordinary Grade)	02	03	

The detailed information regarding eligibility criteria i.e. qualification, experience, etc. is available under 'Jobs@FSSAI(Careers)' section on the website www.fssai.gov.in. The vacancies shown above are indicative and may increase or decrease. The online application portal will be available from 10.10.2022 to 05.11.2022.

CBC 17163/12/0024/2223

Director (Recruitment)

SOUTHERN RAILWAY RAILWAY RECRUITMENT CELL Chennai - 600 008

INDICATIVE ADVERTISEMENT RECRUITMENT AGAINST SCOUTS & GUIDES QUOTA ('LEVEL 2') AND ('LEVEL 1') FOR THE YEAR 2022-2023

Closing Date Time for receipt of Applications: 08.11.2022, 17.00 hrs

Applications are invited from Indian Citizens, for requirement in level 2 & Level 1 posts of VII CPC in Southern Railway, against Scouts & Guides quota for the year 2022-2023.

	Quota	Pay Matrix	No. of Posts	Details
SR	Scouts & Guides	Level -2	02	(2 Posts for each Division, viz., Chennai, Salem, Madurai, Tiruchchirappalli, Palakkad and Thiruvananthapuram.)
	Scouts & Guides	Level -1	12	
ICF	Scouts & Guides	Level -2	01	
	Scouts & Guides	Level -1	02	

Note: Application and Examination Fees should be Submitted separately in case any candidate is applying under different quota viz. Scouts & Guides (Level 2) and (Level 1).

For further details regarding Qualification, Exemptions, Conditions, Application Form & Fee etc., please refer Employment Notification No.RRC/02/2022/S & G dated. 08.10.2022 published in Employment News edition dated: 08.10.2022 or log on to www.rrcmas.in.

Beware of Job - racketeers trying to deceive the candidates by false promises of securing job in Railways either through influence or by use unfair and unethical mean. Railway Recruitment Cell has not appointed any agents or training agencies. All recruitments by Railway Recruitment Cell are purely MERIT BASED.

CHAIRMAN / RRC

Follow us on : twitter.com/GMSRailway

GOVERNMENT OF INDIA MINISTRY OF WOMEN AND CHILD DEVELOPMENT (MWCD)

Applications are invited to fill up the existing six vacancies of Members in National Commission for Protection of Child Rights (NCPCR), New Delhi in the following fields namely:

- Child Education
- Child Health, Care, Welfare or child development
- Juvenile Justice or care of neglected or marginalized children or children with disabilities
- Elimination of child labour or children in distress
- Child psychology or sociology
- Laws relating to children

2. The eligibility criteria, age, salary and other allowances, etc. and other details may be seen on the website of Ministry of Women & Child Development at www.wcd.nic.in. Persons, who are interested in applying for the post of Member and fulfill the eligibility criteria for appointment to the post, may apply online on the Ministry's Website <https://wcd.nic.in> or ncprvacancies.nic.in within 28 days from the date of publication of the Advertisement in the Newspapers.

3. The applicants may also send their particulars in the prescribed proforma [Schedule IV Form under rule 6A(3) of NCPCR Rules] By Post to the Under Secretary (CW-I), Ministry of Women and Child Development, Room No.628-A Wing, Shastri Bhawan, New Delhi - 110001 within 28 days from the date of publication of the Advertisement in the newspaper.



Manali Petrochemicals Limited

Registered Office: "SPIC House", 88, Mount Road, Guindy, Chennai - 600 032
CIN: L24294TN1986PLC013087, Telefax.: 044-22351098,
E-mail: companysecretary@manalipetro.com; Website: www.manalipetro.com

PUBLIC NOTICE

It is hereby informed that the Ministry of Environment, Forest and Climate Change, Government of India has accorded Environment Clearance for Expansion of Propylene Glycol Production Capacity by 50,000 MTPA at the Company's plant located in Sathangadu Village, Tiruvottiyur Taluk, Chennai, Tamilnadu.

Copies of the clearance letter are available with Tamil Nadu Pollution Control Board / Expert Appraisal Committee of the Ministry. This may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>.

For Manali Petrochemicals Limited
M. Karthikeyan
DIN: 08747186

Place: Chennai
Date : 07-10-2022

Wholtime Director (Operations)

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED NOTICE INVITING BID

Bids for "MODIFICATION WORK OF 132KV SINGLE CIRCUIT KHERWARA-DUNGARPUR LINE ON DOUBLE CIRCUIT TOWER (APPROX. 1.5 KM) FROM 132 KV, GSS, DUNGARPUR TO DUNGARPUR TSS AND CONSTRUCTION OF BALANCE WORK OF 132 KV SINGLE CIRCUIT LINE (APPROX. 1.5 KM) FOR 132 KV RAILWAY TSS DUNGARPUR" UNDER DEPOSIT WORK OF RAILWAY (ON TURNKEY BASIS) INCLUDING DETAILED ROUTE SURVEY, LAYING AND INSTALLATION OF MONOPOLES ALONGWITH ASSOCIATED ACCESSORIES/ ITEMS AND CIVIL WORKS* against specification no. RVPN/EHV/A&SP/TN-100 (BN NO. 9012002211) (UBN: VPN2223WLOB01184) & CONSTRUCTION OF 132KV LINE THROUGH 132KV 400 SQ.MM, XLPE CABLE SYSTEM (3PHASE + 1 SPARE), ROUTE LENGTH (0.750 KM) [UNDERGROUND PORTION] AND 132KV S/C TRANSMISSION LINE ON DOUBLE CIRCUIT TOWERS (APPROX. 14.00KM) [OVERHEAD PORTION] BETWEEN 220 KV GSS UDHOYAGVIHAR, SRIGANGANAGAR AND RAILWAY TSS AT CHAK MAHARAJ UNDER DEPOSIT WORK RAILWAY INCLUDING DETAILED ROUTE SURVEY, LAYING TRANSMISSION LINE AND INSTALLATION OF CABLE ALONGWITH ASSOCIATED ACCESSORIES/ITEMS AND CIVIL WORKS against specification No. RVPN/EHV/A&SP/TN-97 (BN NO. 9012002212) (UBN: VPN2223WLOB01192) are



Government of Tamil Nadu HIGHWAYS DEPARTMENT

RC.No. 514/2022/A1

Date : 06.10.2022

PUBLIC NOTICE PUBLIC NOTICE UNDER SUB-SECTION (2) OF SECTION 15 OF THE TAMILNADU HIGHWAYS ACT 2001(TAMILNADU ACT 34 OF 2002) POWERS DELIGATED TO SPECIAL DISTRICT REVENUE OFFICER (L.A. & M) IN G.O.NO.203, HIGHWAYS AND MINOR PORTS (HW1) DEPARTMENT, DATED 13.12.2011.

Under sub-section (2) of section 15 of Tamil Nadu Highways Act 2001 (Tamil Nadu Act 34 of 2002) powers of Government U/S 15 (2) delegated to the Special District Revenue Officer (L.A& M) in G.O Ms No.203, Highways and Minor Ports (HW-1) Department Dated. 13.12.2011 to acquire lands for the purpose of Highways Land Acquisition and Management (HW-1) Department Dated. 13.12.2011 in the Taluk of VELACHERY in the District of CHENNAI are required for Highways purpose i.e., for Construction of Grade Separator at Junction of East Coast Road and Lattice Bridge Road at Thiruvanniyur project. As per the G.O Ms No.203, Highways and Minor Ports (HW-1) Department Dated. 13.12.2011. All persons interested in the lands are accordingly, required to lodge before the Special District Revenue Officer (L.A& Mgmt.), Chennai Collectorate, Chennai - 600 001 within 30 days from the date of publication of this Notice, a statement in writing of their objections, if any, to the acquisition of the said lands.

Any objections / Statement which is received after the date or which does not clearly explain the nature of the sender's interest in the land is liable to be summarily rejected.

Objections received within the due date, if any, will be enquired into at 11.30A.M., on 09.11.2022, at the venue of the Ground Floor, Chennai Collectorate, Chennai - 600 001 by the Special District Revenue Officer (L.A& Mgmt.),the objectors will be at liberty to appear in person or by persons authorised by him this behalf or by a Pleader and to adduce any oral or documentary evidence in support of their objections.

SCHEDULE

District: CHENNAI

Taluk: VELACHERY

Village: THIRUVANMIYUR

Sl. No.	Survey Number	Classification	Required Extent In Sq.Mts. & Structure etc.,	Boundaries for Acquisition Lands	Patta Number and Name of the Pattadar (As per (10(1) Chitta)
1	43/2	Sarkar Poromboke	5214.5 Sq.Mts. Marundeeswarar Temple Mandapam	North By : S.No. 57 South by : S.No.48 East By : S.No.49 West By : S.No.43/1	Pattadar Tamil Nadu Housing Board Claimant Marundeeswarar Koil Devasthanam

Annexure -5

To
Additional Principal Chief Conservator of Forests(C),
Ministry of Environment, Forests and Climate Change,
Integrated Regional Office - Chennai,
1st Floor, Additional Office Block,
Shastri Bhavan, Haddows Road,
Nungambakkam, Chennai-600006.

MPL-PLANT-II

Dear Sir,

Ref: -

1) EC Identification No. EC22A021TN168846

2) File No. J-11011/156/2008-IA-II (I)

Sub: Intimation - Publication of Advertisement regarding grant of Environmental Clearance

We wish to state that Environmental Clearance was granted by MoEF & CC, New Delhi for our project "Expansion of Propylene Glycol Production Capacity by 50000 MTPA at Manali Petrochemicals Limited-Plant-II, Sathangadu Village, Manali Industrial Area, Manali, Chennai – 600 068" on 06-10-2022.

As per the General conditions stipulated in the EC granted vide Ref. 1) & 2), the Point No. (x) states as follows,

"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."

In this regard, we have complied with the above mentioned condition by issuing advertisement in two local newspapers that are widely circulated in the region viz. The New Indian Express (in English) and The Hindu Tamil (in Tamil, vernacular language of the locality), both dated 08-10-2022.

Copies of the same enclosed as Annexure – 1 and Annexure – 2 respectively for your reference

Hope we have submitted the details as per requirement and if you require any further information, we are ready to furnish.

Thanking You,

Yours Faithfully,

For **MANALI PETROCHEMICALS LIMITED**



M KARTHIKEYAN

Whole Time Director (Operations)



Registered Office :

SPIC House, 88, Mount Road, Guindy, Chennai - 600 032.
CIN : L24294TN1998PLC013087 - Website : www.manalipetro.com





TAMIL NADU/SOUTH

CRACK DOWN

In the wake of Vadakanchery accident, the motor vehicles department started crack down on vehicles flouting rules. It registered 5,701 cases and imposed a fine of ₹21.6 lakh on the operators on the first day

07 CHENNAI

SATURDAY 08.10.2022

www.indianexpress.com

Chandrayaan-2 mannequin Baby 4 SL Tamils rescued after 2 days sans food

FOR ESN OF TAMILNADU STATE ONLY
 > Attached to 49, 25th and 67th
 > Processing Of Carriage Cards
 > Registration Of O/Ss/Warrants
 > Assessment Of O/Ss/Warrants
 > Issues

CONTACTS
 +91-9784730663
 +91-9884509738



Advertisement for Agriculture Insurance Company of India Limited. Date: 1 October 07, 2022. Place: Chennai.

AGRICULTURE INSURANCE COMPANY OF INDIA LIMITED
 Regd. Office: Plots B & C, 5th Floor, Block 1, East Kidwai Nagar, New Delhi-110023
 CIM: U74999DL2002PLC110123

NOTICE

Agriculture Insurance Company of India Ltd. is offering to use office premises situated at Ground Floor, Lax Chambers, Merol Maroshi Road, Andheri East, Mumbai 400049 on AS IS WHERE IS BASIS w/e 1st November 2022 on 'leave and license basis' by paying monthly "License Fees".

For detailed information, please login to AIC website www.aicofindia.com and Central Public Procurement Portal <https://eprocure.gov.in/> for advt. titled as "Advertisement for letting out office premises in Mumbai".

Interested eligible parties may submit their bids electronically through E-bidding portal <https://ebcofindia.auctiontiger.net/EPROC/>

Deptt. Estate General Manager
 Date: 7th October, 2022

EQUITAS SMALL FINANCE BANK LTD
RECRUITMENT NOTICE-04/2022

Filling up of various posts in EQUITAS Small Finance Bank Ltd. (including their term contract) on regular basis. Posts are available for filling up on a specific number of seats in the bank. The bank is a public sector bank. The posts are: 01. Branch Manager, 02. Branch Assistant Manager, 03. Branch Assistant, 04. Branch Officer, 05. Branch Officer (Finance), 06. Branch Officer (Marketing), 07. Branch Officer (Operations), 08. Branch Officer (IT), 09. Branch Officer (Customer Service), 10. Branch Officer (Compliance), 11. Branch Officer (Risk Management), 12. Branch Officer (Legal), 13. Branch Officer (Human Resources), 14. Branch Officer (Accounts), 15. Branch Officer (Taxation), 16. Branch Officer (Insurance), 17. Branch Officer (Mutual Funds), 18. Branch Officer (Debt Instruments), 19. Branch Officer (Equity Instruments), 20. Branch Officer (Real Estate), 21. Branch Officer (Commodity), 22. Branch Officer (Derivatives), 23. Branch Officer (Structured Products), 24. Branch Officer (Wealth Management), 25. Branch Officer (Private Banking), 26. Branch Officer (Corporate Banking), 27. Branch Officer (Project Finance), 28. Branch Officer (Infrastructure Finance), 29. Branch Officer (SME Finance), 30. Branch Officer (Retail Finance), 31. Branch Officer (Micro Finance), 32. Branch Officer (Social Finance), 33. Branch Officer (Green Finance), 34. Branch Officer (Sustainable Finance), 35. Branch Officer (ESG Finance), 36. Branch Officer (Impact Finance), 37. Branch Officer (Responsible Finance), 38. Branch Officer (Ethical Finance), 39. Branch Officer (Fair Finance), 40. Branch Officer (Inclusive Finance), 41. Branch Officer (Digital Finance), 42. Branch Officer (Blockchain Finance), 43. Branch Officer (AI Finance), 44. Branch Officer (Big Data Finance), 45. Branch Officer (Cloud Finance), 46. Branch Officer (Cybersecurity Finance), 47. Branch Officer (IoT Finance), 48. Branch Officer (5G Finance), 49. Branch Officer (AR/VR Finance), 50. Branch Officer (Blockchain Finance).

Sl. No.	Name of Post	Pay Level (Rs. Cro.)	Number of Vacancies	Place of Posting
1	Branch Manager	14	01	Chennai
2	Branch Assistant Manager	13	01	Chennai
3	Branch Assistant	12	01	Chennai
4	Branch Officer	11	01	Chennai
5	Branch Officer (Finance)	11	01	Chennai
6	Branch Officer (Marketing)	11	01	Chennai
7	Branch Officer (Operations)	11	01	Chennai
8	Branch Officer (IT)	11	01	Chennai
9	Branch Officer (Customer Service)	11	01	Chennai
10	Branch Officer (Compliance)	11	01	Chennai
11	Branch Officer (Risk Management)	11	01	Chennai
12	Branch Officer (Legal)	11	01	Chennai
13	Branch Officer (Human Resources)	11	01	Chennai
14	Branch Officer (Accounts)	11	01	Chennai
15	Branch Officer (Taxation)	11	01	Chennai
16	Branch Officer (Insurance)	11	01	Chennai
17	Branch Officer (Mutual Funds)	11	01	Chennai
18	Branch Officer (Debt Instruments)	11	01	Chennai
19	Branch Officer (Equity Instruments)	11	01	Chennai
20	Branch Officer (Real Estate)	11	01	Chennai
21	Branch Officer (Commodity)	11	01	Chennai
22	Branch Officer (Derivatives)	11	01	Chennai
23	Branch Officer (Structured Products)	11	01	Chennai
24	Branch Officer (Wealth Management)	11	01	Chennai
25	Branch Officer (Private Banking)	11	01	Chennai
26	Branch Officer (Corporate Banking)	11	01	Chennai
27	Branch Officer (Project Finance)	11	01	Chennai
28	Branch Officer (Infrastructure Finance)	11	01	Chennai
29	Branch Officer (SME Finance)	11	01	Chennai
30	Branch Officer (Retail Finance)	11	01	Chennai
31	Branch Officer (Micro Finance)	11	01	Chennai
32	Branch Officer (Social Finance)	11	01	Chennai
33	Branch Officer (Green Finance)	11	01	Chennai
34	Branch Officer (Sustainable Finance)	11	01	Chennai
35	Branch Officer (ESG Finance)	11	01	Chennai
36	Branch Officer (Impact Finance)	11	01	Chennai
37	Branch Officer (Responsible Finance)	11	01	Chennai
38	Branch Officer (Ethical Finance)	11	01	Chennai
39	Branch Officer (Fair Finance)	11	01	Chennai
40	Branch Officer (Inclusive Finance)	11	01	Chennai
41	Branch Officer (Digital Finance)	11	01	Chennai
42	Branch Officer (Blockchain Finance)	11	01	Chennai
43	Branch Officer (AI Finance)	11	01	Chennai
44	Branch Officer (Big Data Finance)	11	01	Chennai
45	Branch Officer (Cloud Finance)	11	01	Chennai
46	Branch Officer (Cybersecurity Finance)	11	01	Chennai
47	Branch Officer (IoT Finance)	11	01	Chennai
48	Branch Officer (5G Finance)	11	01	Chennai
49	Branch Officer (AR/VR Finance)	11	01	Chennai
50	Branch Officer (Blockchain Finance)	11	01	Chennai

SOUTHERN RAILWAY RAILWAY RECRUITMENT CELL
 Chennai - 600 005

INDUSTRY ADVERTISEMENT
RECRUITMENT AGAINST SCOUTS & GUIDES QUOTA (LEVEL-2) AND (LEVEL-1) FOR THE YEAR 2022-2023

Closing Date Time for receipt of Application: 08.11.2022, 17.00 hrs

Applicants who hold valid Indian Citizenship, for recruitment in Level 2 & Level 1 posts in Southern Railway, against South & South East Region for the year 2022-2023.

Quota	Pay Matrix	No. of Posts	Details
Scouts & Guides	Level-2	02	
Scouts & Guides	Level-1	13	(2 Posts for each Division, i.e., Chennai, Salem, Madurai, Tiruchirappalli, Palakkad and Thiruvananthapuram.)
Scouts & Guides	Level-2	01	
Scouts & Guides	Level-1	02	

Notes: Application and Registration Fee shall be submitted along with the application form. Candidates are required to carry their own valid photo of size 2x2 cm. Candidates are required to carry their own valid passport size photograph of size 2x2 cm.

For further details regarding Qualification, Exemptions, Conditions, Application Form & Fee etc., please refer Employment Notification No. SN/2022/2222 & G dated 08-10-2022 published in Employment News edition dated 08-10-2022 or go to www.srrail.gov.in

For those of job - candidates (2022) to be appointed by the process of recruitment (2022) by the Railway Recruitment Cell has not received any application or any other documents. Applications by Railway Recruitment Cell are strictly invited.

CHAIRMAN / RRC

MANALI PETROCHEMICALS

Manali Petrochemicals Limited
 Registered Office: "SPIC House", 33, Mount Road, Chetty, Chennai - 600 032
 CIN: L2020TN10001013917, Tel: 044-22610666
 E-mail: corporate@manali.com, hr@manali.com, www.manali.com

PUBLIC NOTICE

It is hereby informed that the Ministry of Environment, Forest and Climate Change, Government of India has awarded Environment Clearance for Expansion of Propylene Ethyl Production Capacity by 20,000 MT/An at the Company's plant located in Selvadurai Village, Thiruvallur District, Chennai, Tamil Nadu.

Copies of the Clearance letter are available with Tamil Nadu Pollution Control Board / Export Approval Committee of the Ministry. This may also be seen at Website: www.manali.com

For Manali Petrochemicals Limited
 M. K. Raju
 Chennai
 Date: 07-10-2022

Government of Tamil Nadu
HIGHWAYS DEPARTMENT
 RC.No. 614/2022/IA1
 Date: 06.10.2022

PUBLIC NOTICE
PUBLIC NOTICE UNDER SUB-SECTION (2) OF SECTION 15 OF THE TAMILNADU HIGHWAYS ACT 2001 (TAMILNADU ACT 34 OF 2002) POWERS DELEGATED TO SPECIAL DISTRICT REVENUE OFFICER (L.A. & M) IN G.O.NO.203, HIGHWAYS AND MINOR PORTS (HW-1) DEPARTMENT, DATED 13.12.2011.

Under sub-section (2) of section 15 of Tamil Nadu Highways Act 2001 (Tamil Nadu Act 34 of 2002) powers of Government LWS 15 (2) delegated to the Special District Revenue Officer (L.A. & M) in G.O. No.203, Highways and Minor Ports (HW-1) Department Dated, 13.12.2011 to acquire lands for the purpose of Highways Land Acquisition and Management and the Village of Thiruvanniyur VILLAGE, BLOCK - 29 in the Taluk of VELACHERY in the District of CHENNAI are required for Highways purpose i.e., for construction of Grade Separator at Junction of East Coast Road and Laxmi Bridge Road at Thiruvanniyur project. As per the G.O. No.203, Highways and Minor Ports (HW-1) Department Dated, 13.12.2011. All persons interested in the lands are accordingly, required to lodge before the Special District Revenue Officer (L.A. & M), Chennai Cantonment, Chennai-600 002 within 30 days from the date of publication of this Notice, a statement in writing of their objections, if any, to the acquisition of the said lands.

Any objections / Statement which is received after the date or which does not clearly explain the nature of the land's interest in the land is liable to be summarily rejected.

Objections received within the due date, if any, will be enclosed into at 11.30A.M., on 09.11.2022, at the venue of the Ground Floor, Chennai Cantonment, Chennai - 600 001 by the Special District Revenue Officer (L.A. & M), the objectors will be at liberty to appear in person or by persons authorised by him in his behalf or by a Pleader and to adduce any oral or documentary evidence in support of their objections.

SCHEDULE

Sl. No.	Survey Number	Classification	Required Extent in Sq.Mts. & Structure etc.	Boundaries for Acquisition Lands	Patla Number and Name of the Patiller (As per 1011) Chitta)
1	432	Sarfer Parombake	6214.5 Sq.Mts Marudosewarar Temple Mandapam	North By : S.No. 57 South by : S.No.48 East By : S.No.48 West By : S.No.43/1	Patteeer Tamil Nadu Housing Board Chairman Marudosewarar Koti Devasthanam

GOVERNMENT OF INDIA
MINISTRY OF WOMEN AND CHILD DEVELOPMENT (MWCD)

Applications are invited to fill up the existing six vacancies of Members in National Commission for Protection of Child Rights (NCPCR), New Delhi in the following fields namely:

- Child Education
- Child Health, Care, Welfare or child development
- Juvenile Justice or care of neglected or marginalized children or children with disabilities
- Elimination of child labour or children in distress
- Child psychology or sociology
- Issues relating to children

2. The eligibility criteria, age, salary and other allowances, etc. and other details may be seen on the website of Ministry of Women & Child Development at www.wcd.nic.in. Persons, who are interested in applying for the post of Member and fulfill the eligibility criteria for appointment to the post, may apply online on the Ministry's Website <http://wcd.nic.in> or ncprvacancies.nic.in within 28 days from the date of publication of the Advertisement in the Newspapers.

3. The applicants may also send their particulars in the prescribed proforma (Schedule IV Form under rule 6A(2) of NCPER Rules) by Post to the Under Secretary (LAW-I), Ministry of Women and Child Development, Room No.528-A Wing, Shanti Bhawan, New Delhi - 110001 within 28 days from the date of publication of the Advertisement in the newspapers.

RAJASTHAN RAJYA VIDYUT PRASARAN NIGAM LIMITED
NOTICE INVITING BID

Work No: 100030004 WORK OF 132KV SINGLE CIRCUIT REPAIR/RECONSTRUCTION OF DOUBLE CIRCUIT TOWER (APPROX. 1.5 KM FROM 132 KV GCR, DUNAGPUR TO BUDHAPUR) AND CONSTRUCTION OF BALANCE WORK OF 132 KV SINGLE CIRCUIT LINE (APPROX. 1.5 KM FROM 132 KV RAILWAY LINE CHANAPUR) UNDER DEPOSIT WORK OF RAILWAY (ON TURKEY BASIS) INCLUDING DETAILED ROUTE SURVEY, LAYING AND INSTALLATION OF MONOPOLIS ALONG WITH ASSOCIATED ACCESSORIES (TOWER AND GUY WORKS) FOR THE LINE. REFERENCE NO: 148 (HW-1) DATED 20/02/2022) UNDER 132KV SINGLE CIRCUIT AND CONSTRUCTION OF 132KV LINE THROUGH 132KV 4U/82 KV SUPPLEMENTARY SYSTEM (SPANS) (SPANS LENGTH 15.700 KM) (LUNARPOKHA PORTION) AND 132KV SET (SUBSTATION) LINE ON DOUBLE CIRCUIT TOWER (APPROX. 1.5 KM) COVERED PORTION BETWEEN 700 KV 225 KV/220KV/220KV, SREERANGAPUR AND RAILWAY 132KV AT CHAK MANARAJ UNDER DEPOSIT WORK RAILWAY INCLUDING DETAILED ROUTE SURVEY, LAYING TOWER AND GUY WORKS AND INSTALLATION OF CABLES WITH ASSOCIATED ACCESSORIES AND GUY WORKS (GENERAL SPECIFICATION NO. HW/148/2022) OF 132KV SINGLE CIRCUIT LINE (APPROX. 1.5 KM) AT

