

Environmental Clearance for Phase – III Refinery Project vide MoEF letter no. 21-383/2007 - IA- III dated 03.04.2008 obtained for Expansion of capacity by adding additional 3 MMTPA crude processing, Up-gradation of low value products to high value products., to process cheaper/opportunity crudes (Sour/Heavy & High TAN crudes), Production of petrochemical feed stocks Viz. Propylene, Maximize distillate yield & upgrading entire HSD into BS III/IV grade

Consent for Establishment obtained from Karnataka State Pollution Control Board vide letter no PCB/426/CFE/08/247 dated 8-8-2008.

Site activity / construction activity commenced September 2008. Target date for completion/ commissioning of the project is October 2014.

s. no	Environmental Clearance obtained for following Process Units (Environmental clearance issued by MoEF No.21-383/2007-IA-III dated 03.04.2008)	Following Process Units commissioned and in service as on 15-2-2014	Following process units yet to be commissioned as on 15-2-2014
	CDU3 HGU3 DHDT SRU4 SRU5, SRU6 ATU3 SWS3 DCU PFCC CHTU Mounded Bullet CPP3 (GT1, GT2, HRSG1, HRSG2, UB1, STG 6, STG 7, UB2, UB3, UB	CDU3 HGU3 DHDT SRU4 ATU3 SWS3	DCU PFCC CHTU Mounded Bullet CPP3 (GT1, GT2, HRSG1, HRSG2, UB1 STG 6, STG 7, UB2, UB3, UB4) SRU5, SRU6

Sl. No.	Environmental Clearance conditions	Compliance
A	SPECIFIC CONDITIONS	
(i)	No objection Certificate from the Karnataka State Pollution Control Board shall be obtained before initiating the project.	Consent for Establishment (CFE) for the MRPL Phase-III Project has been obtained from KSPCB ref. No.PCB/426/CFE/08/247 dated 08.08.2008.

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(ii)	The MSEZ project shall be restricted to the Phase-I of the project, proposed over 1,800 acres. The phase II of the project shall be considered by Ministry of Environment and Forests only after receipt of all requisite documents/information as laid down in the Environmental Impact Assessment Notification, 2006 and Coastal Regulation Zone Notification, 1991 as applicable.	This point pertains to M/s MSEZL for compliance.
(iii)	All Development in the Coastal Regulation Zone area shall be in accordance with the Coastal Regulation Zone Notification, 1991. No destruction of mangroves shall be undertaken except while undertaking the permissible activities in the Coastal Regulation Zone-1 areas.	Noted and shall be followed as applicable. Further, to the best of our knowledge, please be informed that MRPL Phase-III project land area does not cover areas classified as CRZ -1 area.
(iv)	The project proponent shall not take up any activity in 875 acres of Coastal Regulation Zone land, other than those permissible under the Coastal Regulation Zone Notification 1991 such as pipeline corridors, pipelines roads on stilts.	Noted and shall be followed as applicable. Further, to the best of our knowledge, please be informed that MRPL Phase-III project land area does not cover areas classified as CRZ -1 area.

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(v)	<p>With regard to the containing the suspected contamination of the groundwater near Atturkodi area of Kuthethoor village, MRPL have given an undertaking vide their letter dated 19.3.2008 which is as follows:-</p> <p>(a) "Implementation of recommendation of NGPRI will be started immediately after submission of their report.</p> <p>(b) Depending upon the nature of their recommendations, we will make efforts to complete necessary actions within 6 months from the date of receipt of their report.</p> <p>(c) In addition to above, a daily vigil is already in place to take samples from different places and to monitor any suspected oil leakage. This will continue till the problem is resolved.</p> <p>(d) We are also in continuous contact with the residents in the surround areas with regard to any contamination".</p> <p>KSPCB and MRPL shall ensure that (a) to (d) above is implemented in a time bound manner and a monthly report on the progress of the activities provided to the Regional Office of this Ministry at Bangalore. For this purpose a separate budget would be allocated by MRPL.</p>	<p>Copy of the final report from M/s. NGRI submitted to MoEF and KSPCB on 16/7/2009 and 2/7/2009 respectively.</p> <p>All Recommendations implemented.</p> <p>Daily vigil was in place.</p> <p>We are also in continuous contact with the residents in the surround area.</p> <p>NGRI study completed & MRPL has complied with all the recommendations of the report.</p>
(vi)	<p>The project proponent shall obtain a report from the Wildlife Department with regard to existence of wildlife in the proposed site as claimed by the public before implementing the project.</p>	<p>This point pertains to M/S MSEZL for compliance. Report from the Forest Dept. is obtained & submitted to Ministry by MSEZL.</p>

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(vii)	The R&R package shall be strictly in accordance with the laid down norms of the State Government.	<p>This point pertains to M/S MSEZL for compliance. MSEZL is implementing R&R Package strictly as per the approved policy by Karnataka State Govt.</p> <p>Further, MRPL will abide by the directions of State Govt. regarding the implementation of the R&R package to the extent applicable.</p>
(viii)	A marine Environment Impact Assessment and Risk Assessment along with the Disaster Management Plan shall be prepared for the outfall facilities proposed in the Coastal Regulations Zone and the marine areas.	This point pertains to M/s. MSEZL for compliance.
(ix)	Project proponent shall put up a dedicated website and a display panel to inform the public regarding the Ambient Air Quality along with SO ₂ NO _x and other parameters as prescribed by Central Pollution Control Board (CPCB).	<p>MRPL web site displays the Ambient Air quality monitoring parameters such as SO_x, NO₂, CO PM₁₀, PM_{2.5} etc.</p> <p>Panel at MRPL gate display SO₂, NO_x, PM₁₀, PM_{2.5}, Oil content in treated effluent and % recycling of treated effluent parameters since year 2008.</p>

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x)	<p>The gaseous emissions (SO₂, NO_x, HC, VOC and Benzene) from various process units shall conform to the standards prescribed by the concerned State Pollution Control Board. All the measures detailed in the EMP and response to the Public Hearing shall be taken to control the point/stack and fugitive gaseous emissions from the proposed facilities, processes and storage units etc., for ensuring that the ambient air quality around the Refinery due to the expansion is maintained at the predicted 24 hourly average maximum concentration.</p>	<p>The Detailed Engineering of the Phase-III processing facilities have been carried out to meet the standards set for gaseous emissions, as applicable.</p> <p>Further, the following aspects have been considered for ensuring the Ambient air quality around the Refinery due to expansion is maintained at the predicted 24 Hourly average maximum concentration.</p> <ul style="list-style-type: none"> (a) The Sulphur in Liquid Fuel oil will be less than 0.5% wt as per stipulation. (b) The Design efficiency of the Sulphur Recovery units are 99.9% against the stipulation of 99.5%. (c) Low NO_x burners have been procured for all the fired heaters. (d) Vapour Recovery scheme from storage tanks for high RVP materials is being implemented. (e) Double seal arrangement is being implemented in all storage tanks being built. (f) VOC treatment system is being implemented in the Waste water treatment plant. (g) The heights of the stacks are either equal to or more than the values considered during EIA studies. (h) Separate and closed system for Spent Caustic treatment (Wet Air Oxidation Process) is commissioned. Trail run is in progress. <p>Moreover, with a view to be proactive, the Phase-III facilities (Process furnaces and boilers and Gas turbines) have been designed to burn Natural gas also.</p>
(xi)	<p>The emission levels of the other pollutants shall also remain within the permissible levels.</p>	<p>Emission levels of the pollutants maintained within the permissible levels.</p>

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(xii)	The industrial units in the SEZ and the associated facilities shall be strictly in accordance with the norms laid down by the Karnataka State Government and CPCB.	MRPL is committed to the full compliance to the norms laid down by KSPCB and CPCB.
(xiii)	The project proponent shall ensure that the greenery of the area is maintained. Further, 33% of the project area shall be dedicated for green belt development of which at least 5% shall be for mangrove afforestation. The local Forest Department shall be associated for this purpose and requisite budget earmarked.	<p>The green belt in existing Refinery complex meets the stipulations of 33% of plant area. On considering the additional green belt development area of about 120 acres (70 acres in Phase-III area and 50 acres in existing refinery area) in consultation with the State Forest Department, the stipulation of the Phase-III project is also met.</p> <p>Forest department has already started planting the saplings in the identified areas for greenbelt.</p>
(xiv)	The project proponent shall ensure that the water requirement of the Mangalore city does not get affected due to the SEZ operation. Adequate provision shall be made in the reservoirs to provide for the water requirement of the cities.	This point pertains to M/S MSEZL for compliance.
(xv)	The project proponent shall ensure that during construction and operation of the project the traffic in the city is not affected.	<p>MRPL has developed an exclusive road for moving large consignments from the NMPT port to Phase-III project site. This will drastically reduce the movement of consignments in other roads.</p> <p>During operation Phase, the same road shall be used for movement of products.</p>
(xvi)	All precautions of the highest standards shall be incorporated in the design of the project to ensure that there is no chance of emission/leakage of hazardous chemicals including Benzene. Detailed monitoring program shall be designed and the information provided to the public through display and dedicated website by means of online monitoring.	<p>The MRPL Phase-III project processing facilities have been designed conforming to the standards as applicable to a refinery project (Such as OISD guidelines, API standards etc). There is no Benzene production from the MRPL Phase-III project.</p> <p>LDAR program being implemented.</p>

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(xvii)	Low Sulphur internal fuel oil and fuel gas shall be fired in process heaters and boilers.	Low Sulphur internal fuel oil (less than 0.5% sulfur) and fuel gas (less than 100 ppm) being fired in process heaters and boilers.
(xviii)	Quarterly monitoring of fugitive emissions shall be carried out by Fugitive Emission Detectors (GMI Leak Surveyor). Guidelines of CPCB will be followed for monitoring fugitive emissions. For control of fugitive emissions, all unsaturated hydrocarbons shall be routed to the flare system. The flare system shall be designed for smokeless burning. Flare Gas Recovery System shall be installed for reduction of Hydrocarbon loss and emission of VOCs, NO _x , N ₂ O, SO _x & CO ₂ to the environment.	<p>The monitoring and reporting of fugitive emissions shall be carried out as per stipulations once the facilities is fully operational.</p> <p>All unsaturated Hydrocarbons are designed to be routed to flare system, as required and the flare system is designed for smokeless flare.</p> <p>Further during normal operation the system is designed for minimum / Zero flaring. The data of flaring can only be collected during the operation of entire phase III units to enable the design of the flare gas recovery system. Therefore MRPL is committed and shall implement the flare gas recovery system once the facilities is fully operational. Suitable hook up points have already considered in the flare system.</p>
(xix)	Regular Ambient Air Quality Monitoring shall be carried out. The location and results of existing monitoring stations shall be reviewed in consultation with the concerned State Pollution Control Board based on the occurrence of maximum ground level concentration and downwind direction of wind. Additional Stations shall be set up, if required. It shall be ensured that at least one monitoring station is set up in up-wind & down-wind direction along with those in other directions.	Currently MRPL has seven AAQ monitoring stations located in consultation with the KSPCB including latest two numbers AAQ monitoring stations added exclusively to monitor Phase III areas also.

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(xx)	On-line data for air emissions shall be transferred to the CPCB and SPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated regularly. The monitoring protocol shall ensure continuous monitoring of all the parameters.	On line data being transferred to the CPCB and KSPCB server. The instruments used for Ambient Air Quality Monitoring calibrated regularly.
(xxi)	The practice of acoustic plant design shall be adopted to limit noise exposure for personnel to an 8 hr time weighted average of 90 db (A).	All the noise source equipments (Static and rotary) are designed to meet the laid down stipulations and standards.
(xxii)	All the pumps and other equipment's, where there is a likelihood of HC leakages, shall be provided with appropriate indicators and detectors. Provision for immediate isolation of such equipment, in case of a leakage shall also be made. The company shall adopt Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions.	HC leakage detectors have been provided in various locations of the processing facilities and the LDAR programme being implemented for Phase III units.
(xxiii)	The product loading gantry shall be connected to the product sphere is closed circuit through the vapour arm connected to the tanker. Data on fugitive emissions shall be regularly monitored and records shall be maintained.	No product loading gantry has been envisaged as a part of the Phase-III project facilities.
(xxiv)	The company shall ensure that no halogenated organic is sent to the flares. If any of the halogenated organic are present, then the respective streams may be incinerated, if there are no technically feasible or economically viable reduction/recovery options. Any stream containing organic carbon, other than halogenated shall be connected to proper flaring system, if not to a recovery device or an incinerator.	There is no generation of halogenated organic compound from the Phase-III facilities. For other streams containing organic carbon suitable flaring system has been designed.

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(xxv)	The new standards/norms that are being proposed by the CPCB for Petrochemical Plants and Refineries shall be applicable for the proposed expansion unit. The company shall conform to the process vent standards for organic chemicals including non-VOCs and all possible VOCs i.e., TOCs standards and process vent standards for top priority chemicals. Regular monitoring will be carried out for VOC and HC and On-line monitors for VOC measurements may be installed.	HC leakage detectors have been provided in various locations of the processing facilities and the LDAR programme being implemented in Phase III units.
(xxvi)	Regular monitoring of relevant parameters for the under ground water in the surrounding areas shall be undertaken and the results shall be submitted to the relevant States Pollution Control Board.	Monthly monitoring of relevant parameters for the under ground water samples being collected along with Karnataka State Pollution Control Board (KSPCB) in and around the Refinery complex regularly.
(xxvii)	Solid waste generated as Pretreater and Reformer Catalysts, Sulphur guard absorbent and Alumina Balls shall be disposed off as per the authorization from the State Pollution Control Board.	Noted and will be complied. The Spent catalysts will be disposed off to the CPCB/KSPCB Authorized Recyclers/Reprocessors as per the authorization of the Board.
(xxviii)	Oily sludge shall be sent to melting pit treatment for recovery of oil. The recovered oil shall be recycled into the refinery system. The residual sludge will be stored in HDPE lined pit for disposal after treatment. The sludge shall be incinerated in the premises only.	Noted and will be complied. Also, as a proactive measure MRPL has designed a system for reprocessing of oily sludge and the crude oil tank sludge in the Delayed Coking Unit (DCU) being constructed under the Phase-III project. Apart from the above, we have installed an advanced Closed Bioremediation unit which will help in bioremediation of oily sludge in phased manner. The Bioremediation Unit is commissioned.
(xxix)	The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Noted and will be complied.

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(xxx)	The company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	All the buildings being constructed under the Phase-III project have suitable facilities for rain water harvesting.
(xxxii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers done on a regular basis and records maintained by respective contractor.
(xxxiii)	The company shall implement all the recommendations made in the Environmental Impact Assessment/EMP report and risk assessment report.	Noted and will be complied.
(xxxiv)	The company will undertake all relevant measures, as indicated during the Public Hearing for improving the Socio-economic conditions of the surrounding area.	Noted and will be complied to the extent applicable to MRPL Phase –III project.
(xxxv)	With regard to R&R colony the project proponent shall obtain all requisite clearance as prescribed by the concerned agencies.	This point pertains to M/s. MSEZL for compliance.
B.	GENERAL CONDITIONS :	
(i)	The project authorities shall strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government.	Strictly adhere to KSPCB stipulation.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	No expansion or modifications will be carried out without prior approval of the Ministry of Environment and Forests.
(iii)	At no time, the emissions shall be allowed to go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	Emissions are always maintained below prescribed standard. Emission will be monitored continuously through online analyzers provided in all the units

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(iv)	Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the SPCB. Regular monitoring shall be carried out for relevant parameters for both surface and ground water.	In MRPL, regular monitoring is carried out in and around the refinery for both surface and ground water along with KSPCB for existing units as well as covering Phase – III area also.
(v)	Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Proper and suitable designs are in place for collection of Industrial waste water and an advanced waste water treatment plant commissioned for its treatment. Advance WWTP consists of latest technology like Sequential Batch Reactor (SBR), Membrane Bio Reactor (MBR), Ultra Filtration (UF) and Reverse Osmosis (RO) unit.
(vi)	The overall noise levels in an around the plant area shall be limited within the prescribed standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	The ambient Noise levels confirms to the standards prescribed under EPA Rules, 1989
(vii)	The project authorities shall strictly comply with provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	Necessary approvals from Chief Controller of Explosives are obtained before commissioning. On-site and Off-site Disaster Management Plans prepared.
(viii)	Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.	The Hazardous Waste Authorization application submitted to KSPCB. Authorization is awaited.

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(ix)	The project authorities shall provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.	Noted and will be complied.
(x)	The stipulated conditions shall be monitored by the concerned Regional Office of this Ministry/Central Pollution Control Board. A six monthly compliance report and the monitored data shall be submitted to them regularly. It shall also be displayed on the Website of the Company.	A six monthly compliance report and the monitored data is being submitted to MoEF/CPCB/KSPCB regional office.
(xi)	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 State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.envfor.nic.in . This should 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 should be forwarded to the concerned Regional office of this Ministry.	The same was carried out and the information regarding this was submitted to MoEF & KSPCB.
(xii)	The date of Financial Closure and final approval of the project by the concerned authorities and the date of commencing the land development work as the commissioning of the project shall be informed to the Ministry and /its Regional Office.	Data provided to MoEF.

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(xiii)	Proper House Keeping and adequate occupational health programmes shall be taken up. Regular Occupational Health Surveillance Programme for the relevant diseases shall be carried out and the records shall be maintained properly for at least 30-40 years. Sufficient preventive measures shall be adopted to avoid direct exposure to emission and other Hydrocarbons etc.	Proper House Keeping and adequate occupational health programmes taken up. A Occupational Health Center is already functioning round the clock inside the Refinery. Noted and will be complied.
(xiv)	A separate environment management cell with full fledge laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior executive.	A separate environment management cell with full fledge laboratory facilities to carry out various management and monitoring functions under the control of a Senior executive - General Manager (SHE).
4.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted.
5.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company shall implement these conditions in a time bound manner.	Noted.
6.	The above conditions will be enforced, inter-alia the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, Hazardous Waste (Management & Handling) Rules, 1989 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 along with their amendments and rules.	Noted.