Consent For Establishment -Expand (CFE-EXP)

Consent No. CTE-303865 Valid upto: 30/06/2021

Karnataka State Pollution Control Board
Parisara Bhavana,No.49, Church Street,Bengaluru-560001
Tele : 080-25589112/3, 25581383
Fax:080-25586321
email id: ho@kspcb.gov.in

Industry Colour: RED Industry Scale: LARGE

(This document contains 5 pages including annexure & excluding additional conditions)

Consent Order No: CTE-303865 **PCB ID:** 10206 **Date:** 09/10/2017

To,

The Applicant,

Mangalore Refineries And Petrochemicals Limited

Katipalla Via

Sir,

Sub: Consent for Expansion of the unit in the Existing premises under the Water (Prevention & Control of Pollution) Act,1974 & the Air (Prevention & Control of Pollution) Act, 1981

Ref: 1.CFE expansion application submitted by the organization on 07/06/2017 at Regional Office KSPCB

2.Inspection of the project site by Regional Officer on 26/07/2017

3.Proceedings of the CCM date 28/08/2017 held on22/08/2017

With reference to the above, Karnataka State Pollution Control Board hereby accords **Consent for Expansion** of the unit in the existing premises under the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981 at the location indicated below subject to the terms & conditions indicated in Schedule Annexed.

Location:

Name of the Industry:	Mangalore Refineries And Petrochemicals Limited	
Address:	, Kuthethoor Post	
Industrial Area:	Not In I.A,	Mangalore,
Taluk:	Mangalore,	District: Dakshina Kannada

CONDITIONS:

1. The Consent for Expansion is granted considering the following activities:

Sr	Product Name	CFE Qty	CFO Qty	Applied Qty/Month	Units	Existing/Proposed
1	high speed diesel bs vi grade	0.5840	0.000 - MMT	0.5840	MMT	Proposed
2	motor spirit bs vi grade	0.1000	0.000 - MMT	0.1000	MMT	Proposed

2. This consent for establishment is valid up to 30/06/2021 from the date of issue.
3. The applicant shall not undertake further expansion/diversification without the prior consent of the Board.
4. The applicant shall obtain necessary license/clearance from other relevant statutory agencies as required under the law.

I. WATER CONSUMPTION:

1. The source of water shall be from and shall obtain prior permission from the concerneds authority.Total water consumption shall not exceed as indicated below:

Particulars	Water Consumption(KLD)	Water Discharge(KLD)	Water Source	Existing/Proposed
Cooling Water	1752.0	0.0	Other	Proposed
Manufacturing Processes	288.0	168.0	Other	Proposed

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II. WATER POLLUTION CONTROL:

1. The discharge from the premises of the applicant shall pass through the terminal manhole/manholes where from the Board shall be free to collect samples in accordance with the provisions of the Act/Rules made there under.

2. The sewage/domestic effllluent shall be treated in Septic Tank with Soak pit.No overflow from the soak pit is allowed.The septic tank and Soak pit shall be as per IS 2470 Part-I & Part-II.

3. The Effluent Treatment Plant proposal is generally agreeable and shall be constructed as per the specifications mentioned in the proposal and it shall consist of following units.

Sr	ETP Code	Category Name	Capacity	Units	Existing/Proposed
1	BS-	Bar Screen	0.00	0	Existing
2	CDT	P-Chemical Dousing Tank	30.00	6	Existing
3	CDT	P-Chemical Dousing Tank	52.00	6	Existing
4	C+E	P-Collection cum Equalization	22146.00	4	Existing
5	COL	P-Collection Tank	4880.00	4	Existing
6	EQU	P-Equalization Tank	6250.00	3	Existing
7	EQU	P-Equalization Tank	0.00	0	Existing
8	FLM	P-Flash Mixer	47.00	7	Existing
9	FLO	P-Floculator	723.00	7	Existing
10	NUE	P-Nuetralization	212.00	4	Existing
11	PST	P-Pri Settling Tank	7.70	4	Existing
12	PST	P-Pri Settling Tank	100.00	5	Existing
13	PST	P-Pri Settling Tank	1253.00	5	Existing
14	PST	P-Pri Settling Tank	400.00	2	Existing
15	PST	P-Pri Settling Tank	7.60	2	Existing
16	AER	S-AERATION TANK	27766.00	5	Existing
17	CLS	S-Sec Clarifier	5948.00	4	Existing
18	SHT	S-SLUDGE HOLDING TANK	229.00	3	Existing
19	STP	Sewage Treatment Plants	20.00	1	Existing
20	CFL	T-CARBON FILTER	926.00	13	Existing
21	ROP	T-R.O Plant	1000.00	1	Existing
22	SFL	T-SAND FILTER	144.00	9	Existing
23	TER	Tertiary	0.00	0	Existing

4. The industry shall treat the domestic wastewater in the Sewage Treatment Plant (STP) as per the proposal submitted. It shall meet the standards specified in Annexure-I & shall be used on land for gardening/greenbelt within the factory premises.

5. If the treatment plant does not achieve the effluent standards stipulated in this consent order and/ or if it is found to be inadequate, then the industry shall have to modify the units so as to meet the standards with prior consent of the Board.

6.All the treatment units shall be totally impervious.

7.The applicant shall provide separate flow meter for measuring the quantity of effluents through ETP and separate energy meter and shall maintain a logbook for the verification of inspecting officers.

8. The applicant shall operate and maintain Treatment Plant continuously and maintain at all times to achieve the stipulated standards as per Annexure-I & also maintain regular log-books/operation records.

9.There shall not be any increase in generation of Domestic sewage due to proposed expansion.

10. There shall be no bypass or discharge of effluents either within or outside the factory premises under any circumstances.

11. There shall not be any discharge of untreated trade/domestic sewage inside/outside the industry premises.

12. The applicant shall explore the possibility of reducing freshwater consumption & adopt recycling/ reuse.

III. WATER CESS:

1. The applicant shall comply with the provisions of Water (Prevention and Control of Pollution) Cess Act, 1977, by installing water meters, filing water cess returns in Form-I and other provisions as contained in the said Water (Prevention and Control of Pollution) Cess Act, 1977, and 2003.

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IV. AIR POLLUTION CONTROL:

1. The type of emissions, stack heights and the air pollution control equipment for the air pollution control sources to be installed as specified in **Annexure-II.**

2. The discharge of emissions from the air pollution sources shall pass through the stacks/chimneys mentioned in **Annexure-II** where from the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made there under.

3. The stacks shall have port holes and platforms as per the guidelines specified in **Annexure-II** to facilitate monitoring of emissions.

4. The applicant shall upgrade/modify/replace the control equipments if they are found inadequate to meet the standards stipulated with Prior permission of the Board shall be obtained for the same.

5. There shall not be any other sources of air pollution from the proposed expansion.

6. If there is going to be any new air pollution sources in future, the project authorities shall apply and obtain consent for establishment for the same from the Board.

7. Any fugitive emission has to be controlled to meet the ambient air quality standards.

V. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

1. The applicant shall collect, treat and dispose off all solid waste generated during construction i.e. Muck, and Garbage after construction if any in such manner so as not to cause environmental pollution.

2. The details of solid waste generated from the expansion activity shall be as follows

VI.HAZARDOUS AND OTHER WASTES (MANAGEMENT & TRANSBOUNDRY MOVEMENT) RULES 2016:

1. The industry shall apply and obtain authorization under Hazardous and Other Wastes (Management & Transboundry Movement) Rules 2016, and comply with the conditions of the authorization. The applicant shall apply for authorization along with the consent for operation (CFO) application under the Rules in Form-I to obtain authorization and comply with conditions.

2. There shall not be any Hazardous Waste generation from the proposed expansion project.

VII. NOISE POLLUTION CONTROL:

1. The applicant shall ensure that the ambient noise levels within its premises shall not exceed the limits i.e 75 dB(A) Leq during day time and 70 dB(A) Leq during night time as specified in the Environment (Protection) Rules.

VIII. GENERAL CONDITIONS:

1. The applicant shall transport and store the raw materials in a manner so as not to cause any damage to environment, life and property. The applicant shall be solely responsible for any damages to environment.

2. The applicant shall not commission the proposed plant for trial or regular production unless necessary pollution control measures are installed as specified in this Consent Order.

3. The applicant shall ensure that the treatment plant and control equipments are completed and commissioned simultaneously along with construction of the factory and erection of machineries.

4. The applicant shall not change or alter (a) raw materials or manufacturing process, (b) change the products or product mix (c) the quality, quantity or rate of discharge/emissions and (d) install/replace/alter the water or air pollution control equipments without the prior approval of the Board.

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5. The applicant shall immediately report to the Board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc. in excess of the standards stipulated. And the industry shall immediately take appropriate corrective and preventive actions under intimation.

6. The applicant is liable to reinstate or restore, damaged or destroyed elements of environment at his cost, failing which, the applicant/occupier as the case may be shall be liable to pay the entire cost of remediation or restoration in advance an amount equal to the cost estimated by Competent Agency or Committee.

7. The Board reserves the right to review, impose additional condition or conditions, revoke, change or alter the terms and conditions.

8. This CFE does not give any right to the Party/Project Authority/Industry to forego any *other* legal requirement that is necessary for setting/operation of the plant.

9. The applicant shall furnish point wise compliance to the conditions given under this consent for establishment within 30 days.

10. The applicant shall take measures to develop green belt all along the periphery of the factory premises.

11. This consent is issued without prejudice to any Court Cases pending in any Hon'ble Court

12. The applicant shall comply with all the Conditions and guidelines issued by the Board from time to time.

Please note that this is only consent for establishment issued to you to proceed with the formalities for expansion of the industry and does not give any right to proceed trial/regular production. For this purpose, separate consents of the Board for discharge of liquid effluent and the emissions to the air shall have to be obtained by remitting prescribed consent fee. The application forconsent has to be made 45 days in advance of commissioning for trial production of the plant.

The receipt of this letter may please be acknowledged.

NOTE:

The Conditions II(2) & IIImentioned in the schedule are not applicable.

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FOR AND ON BEHALF OF

KARNATAKA STATE POLLUTION CONTROL BOARD

B G MOHANKRISHNA - CHIEF/SENIOR ENVIRONMENTAL OFFICER

Encl.: Annexure-I & II.

COPY TO:

1. The Environmental Officer, KSPCB, Regional Office Mangalore for information and necessary action.

1. Master copy (Dispatch).
2. Office copy.

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Chim.No.	Chimney attached to	Capacity/ KVA Rating	Minimum chimney height to be provided above ground level (in Mts)	Constituents to be controlled in the emission	Tolerance limits mg/NM3	Fuel	Air pollution Control equipment to be installed,in addition to chimney height as per col.(4)	Date of which air pollution control equipments shall be provided to achieve the stipulated tolerance limits and chimney heights conforming to stipulated heights.
1	Incinerator	Sulphur Recovery Unit 7	70	PM(mg/NM3),SO2 (PPM),NOx(PPM)	0,0,170	F.G	INC,LNB,PRT	Before commissioning.
2	Furnace	FCC Gasoline Treatment	70	PM(mg/NM3),SO2 (PPM),NOx(PPM)	0,0,0	F.O	HLS,LNB,PRT	Before commissioning.

Note:

INC,LNB,PRT : INC-convert SO2+Taila gas

HLS,LNB,PRT : Heater/Furnace-Low Sulphur Fuel

LOCATION OF SAMPLING PORTHOLES, PLATFORMS, ELECTRICAL OUTLET.

1. Location of Portholes and approach platform:

Portholes shall be provided for all Chimneys, stacks and other sources of emission. These shall serve as the sampling points. The sampling point should be located at a distance equal to at least eight times the stack or duct diameter downstream from any flow disturbance such as bend, expansion, contraction and visible flame. Further, the selected port has to be at least 2 stack/duct diameter before stack/duct exit or from any other flow disturbance. For rectangular stacks, an equivalent diameter can be calculated using following expression.

$$\text{Equivalent Diameter} = \frac{2\,(\text{Length} \times \text{Width})}{(\text{Length} + \text{Width})}$$

2. The diameter of the sampling port should not be less than 100mm dia".Arrangements should be made so that the porthole is closed firmly during the non sampling period.

3. An easily accessible platform to accommodate 3 to 4 persons to conveniently monitor the stack emission from the portholes shall be provided. Arrangements for an Electric Outlet Point off 230 V 15 A with suitable switch control and 3 Pin Point shall be provided at the Porthole location.

4. The ladder shall be provided with adequate safety features so as to approach the monitoring location with ease.

Additional Conditions to accompany Consent Order of M/s. Mangalore Refinery and Petrochemicals Limited. Kuthethur Post via Katipalla, Mangalore 575030, D K District.

Preamble:

M/s. Mangalore Refinery & Petrochemicals Ltd., (MRPL) is an existing Large-Red 17-category industry. The Board has issued combined consent under the Water Act and the Air Act for the period up to 30.06.2021 considering the total production capacity of 16.6 MMTA.

MRPL authorities have filed application on 10.06.2017 for consent for expansion for up-gradation/augmentation of its existing facilities to produce products that comply with BS-VI Auto Fuel Quality Compliance and Associated Projects Facilities (Stage 1) within the existing Refinery Premises.

The proposed project attracts Environmental Impact Assessment Notification 2006 and requires Clearance from the Ministry of Environment, Forest and Climate Change; New Delhi. TE MOEF & CC Government of India has issued Environmental Clearance vide No. J-11011/47/2016-IA-II (I) dated 10.07.2017. The subject of issue of CFE Exp was placed before the 112th Consent Committee Meeting held on 22.08.2017 and it was recommended to issue CFE Exp with conditions. CFE Exp is issued with the following additional conditions, Subject to compliance along with the condition stipulated in the EC as noted above.

Proposed New Unit/Facility Details:

Sr. No.	Unit/Facility	Capacity
1	PFCCU Gasoline Hydrotreating	0.8 MMTPA
2	Sulphur Recovery Unit (SRU)	185 TPD
3	Naphtha Splitter Unit	1000 KPTA
4	Tankages	9 Nos.
5	Pipeline to New Mangalore Port on the Existing MSEZL Pipeline Corridor	1 No.
6	Nitrogen/Inst Air/Plant Air	Matching capacity to be installed
7	Utilities, Offsite facility & other associated facilities	Matching capacity to be installed
8	Power Import Infrastructure	150 MW
9	Phase – III Refinery Complex's Flare Gas Recovery / Flare relocation / diversion to a new flare	Flare gas recovery @ 1500 Nm^3/hr & required relocation

Proposed Revamp Details:

Sr. No.	Proposed Revamp	Existing Capacity (KTPA)	Capacity after Revamp (KTPA)
1	Diesel Hydrotreater (DHDT)	3700	3852
2	Continuous Catalytic Reformer -Phase II (CCR II)	380	536
3	Reformate Splitter Unit (RSU)	640	1020
4	HCU I Sour Water Stripper (SWS I)	130	216
5	HCU II Sour Water Stripper (SWS II)	227	360

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Consent fee paid	Industry authorities have made the payment of Rs.4,00,000/- vide reference Voucher No.2202995 dated17.05.2017.
Capital Investment	Rs. 20663.58 Crores
Proposed Expansion Cost	Rs. 1810 Crores

The details of products after up gradation/augmentation of the existing shall be as follows: (in line with the EC issued dated: 10.7.2017)

Sl No	Proposed Product list (Product list post BS VI Project
1	Motor Sprit-BS VI(1.2MMTPA)
2	Diesel-BS VI (7 MMTPA)
3	Polypropylene
4	LPG
5	Naphtha
6	Kerosene
7	ATF
8	Fuel Oil
9	Bitumen
10	Sulphur
11	Xylols+Aromatics
12	Pet coke

The total capacity of products after up gradation/augmentation shall not exceed 16.6 MMTPA.

A. TREATMENT AND DISPOSAL OF EFFLUENTS UNDER THE WATER ACT.

I. Water Pollution Control:

1. The Sources of water are from river Netravathi through Sarpady pumping station, MSEZ reservoir and Sewage Treatment Plant (STP) of MSEZ provided to treat sewage of Mangalore City Corporation, Mangalore.

2. The details of water consumption and waste water discharge shall be as follows.

Water consumed for	Water consumption in KLD	Waste water generation in KLD	Remark
Cooling water	1752	00	No discharge
Manufacturing processes	288	168	Treated in the existing ETP and recycled

3. a. The applicant shall ensure that the combined trade and sewage effluent is treated in the Phase-I, Phase-II and Phase III treatment plants constructed as per the flow sheet submitted by the industry to the standards stipulated in **Annexure-I and also load based standards stipulated in Annexure-II.** No effluent shall be by passed or discharged into valley. The treated effluent discharged into sea shall always confirm to the standards stipulated in **Annexure-I & II.**

   b. Domestic effluent (colony sewage, plant sewage and canteen) shall be treated along with trade effluent in waste water treatment plant.

4. The applicant shall recycle treated trade effluent to the maximum extent and balance shall be discharged to sea at a distance of 650 meters inside the sea form Chitrapura shore and 6.5 meters below the surface, in respect of Phase I and Phase II effluent, excess treated effluent from Phase III shall be discharge through MSEZ pipeline into sea.

5. The open channel provided in the pipeline route should be covered with covers which could easily be lifted for inspection, it is the responsibility of the applicant to keep a watch and ward to avoid any tampering of the pipeline, open channel effluent etc.,

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6. It is the responsibility of the applicant to maintain the quality of the treated effluent at the sump after the open channel (at APMC yard) and before discharge into sea.
7. The applicant shall provide alternate power supply for pumping the effluent from sump provided at APMC yard.
8. The applicant shall continue to use the storage tank/guard pond of adequate capacity for storing the treated effluent before pumping the effluent into sea. As far as possible industry shall schedule its discharge to sea at a stretch during the day time. A Log-Book shall be maintained to record the discharges in to sea and the quantity of treated effluent recycled.
9. The applicant shall continue to operate the integrated flow measuring/recording devices on the effluent line leading to sea. A record of daily effluent discharge shall be maintained.
10. The industry shall continue to maintain alternate power supply to the ETP for its continuous operation.
11. The applicant shall protect all the oil transfer point from rain and oil collected in the catcha pit shall be collected without allowing it to reach storm water drain.
12. The applicant shall continue to maintain the guard pond to hold the untreated effluent in the event of emergency arising out of imbalance in treatment system etc.
13. All the contaminated rain water during monsoon shall be treated and discharged to sea through submarine pipeline.
14. The solid biodegradable waste from the colony and canteen shall be treated in bio-digester. The Biogas shall be used as fuel in the canteen.

C. EMISSIONS.

1. The discharge of emissions from the premises of the Applicant shall pass through the stacks/chimneys mentioned in **Annexure-III** where from the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made there under. The stacks/chimneys heights shall be as per **Annexure-III.**
2. The hourly rate of emissions discharged and the tolerance limits of the constituents forming the emissions in each of the chimneys/stacks shall not exceed the limits laid down in **Annexure-III**
3. The applicant shall operate the Air pollution control equipment as specified in the **Annexure III** continuously so as to ensure that the emission does not exceed the limits specified. The operation of the control equipment shall be synchronized with the operation of the emission source.
4. The Applicant shall maintain access platforms for carrying out stack sampling with electrical outlet points for sampling the emissions from port holes in all the stacks, as per the CPCB guidelines.
5. The industry shall use low Sulphur feed with 1% maximum sulphur in all Heater and boiler.
6. The applicant shall continue to operate Sulphur recovery unit with more than 99% efficiency.
7. Total emissions of SO_2 from the plant should not exceed 57 TPD maximum.
8. Emission of Mercaptan shall be controlled by using merox unit.
9. All efforts shall be made to control fugitive emissions.
10. The industry shall use the refinery gas to the maximum extent.
11. The industry shall provide continuous online monitoring system for SO2 and NOx emission in major stacks with proper calibration facilities.
12. Flare losses shall be minimized and shall be monitored regularly.
13. The industry shall take necessary steps to mitigate smell nuisance.

D.MONITORING & REPORTING:

1. The applicant shall monitor the emissions for all the parameters at the frequency indicated in **Annexure-III.**

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2. The applicant shall keep daily record of the readings of SOx and NOx from the continuous recorder and average daily readings shall be computed once in a month and report along with the manual monitoring results and the data shall be statistically analysed, represented in graphical format and reported to the Board office and to the Regional Office once in four months.

3. The applicant shall monitor the ambient air quality and submit the report to the Regional Office of the Board. The AAQM shall be carried out in all the Ten stations as per the requirement under the revised National Ambient Air Quality Monitoring Standards issued by MoEF (Notification GSR 826 dated 16.11.2009). Monitoring shall include the parameters PM 2.5, PM 10, Sulphur Dioxide, Nitrogen Oxide and Carbon monoxide. Additional stations shall be established as and when directed by the Board.

   The industry shall furnish statistical analysis for annual average of pollutants at all the locations as per Ambient Air Quality standards Notification once in a year.

4. The applicant shall follow the guidelines and requirements for fugitive emissions, Volatile liquids, and emission control for road tank trucks, standards for equipment leaks and the monitoring as prescribed in **MoEF Notification No. GSR 186E, dated 18.3.2008.**

5. The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, directions, temperature, humidity, rainfall etc., and the daily reading shall be recorded and the extract be sent to the Board once in a year.

   The industry shall once in a year for all the seasons prepare windrose diagram and furnish the same to the Board Office and Regional Office, Mangalore.

6. The applicant shall continue the self monitoring system for monitoring the effluents and emissions. The laboratory shall be certified under ISO/IEC 17025. Till such time, the analysis shall be carried out through laboratory approved under EP Act, 1986.

7. The total emission of SO2 from the plant should be furnished to the Board once in four months.

8. The applicant shall monitor the total HC and Benzene in the premises (particularly at loading and unloading operations and at ETP area) regularly and submit report.

9. For the purpose of protecting environment industry may consider

   - Heaters with LOW NO_x Burners
   - Maximum amount of heat recovery from flue gas
   - Heaters stacks fitted with Online analyzers for measuring the following:
     - Carbon Monoxide
     - Sulphur Dioxide
     - Nitrogen Oxides
     - Suspended Particulate matters

10. All the pumps and other equipments, 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.

11. The applicant shall install Online detectors for the following:

    - ✓ Benzene Detectors
    - ✓ H_2S Detector
    - ✓ Hydrocarbon Detectors
    - ✓ Hydrogen Detectors
    - ✓ Fire Detectors (In case of Fire)
    - ✓ Plant MCP's

12. 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; 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 VOC's, NOx, N_2O, SOx & CO_2 to the environment.

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13. The applicant maintain NOx, SO_2, PM & CO always in working condition and the online data shall be connected to CPCB/KSPCB server on continuous basis.

14. Once in a month by 5th, the max min and Avg values and also the number of times, the exigencies recorded shall be submitted to RO.

H. Solid Waste:

Estimated Hazardous Waste Generation from BS VI Auto Fuel Quality expansion project Associated Projects Facilities is given in the table below,

Sr. No.	Source	Estimated Generation (MT)	Category Of Waste	Method of Disposal
1.	FCC gasoline hydrodesulphurization Unit spent catalyst	16 / yr	Sch.1, Sr. No. 4.2	Proposed to be given to SPCB authorized / Registered re-processors/recyclers/TSDF
2.	SRU spent catalyst	9.4 / yr	Sch.1, Sr. No. 4.2	Proposed to be given to SPCB authorized / Registered re-processors/recyclers/TSDF

I. GENERAL CONDITIONS:

1. This consent for discharging sewage and/or trade effluents from the factory shall not be taken or construed as the Board's permission to continue to discharge the sewage and/or trade effluents from the factory into the place (as mentioned in this consent Order) which pollutes the water there-in endangering the life and property of the persons using the said water before, during or after the periods indicated in the Terms and Conditions of this Consent Order.

2. The applicant shall not change or alter either the quality or quantity or rate of emission or install/ replace or alter the air pollution control equipment, change in raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the prior permission of the Board.

3. The industry shall not change or alter (a) raw materials or manufacturing process,

4. Change the products or product mix (c) the quality, quantity or rate of discharge/ emissions and (d) install/replace/alter the water or air pollution control equipments without the prior approval of the Board.

5. The applicant shall not store any raw materials on naked ground.

6. The applicant shall appoint a qualified environmental engineer/ scientist for environment management in the factory and also establish an environmental cell.

7. Applicant shall maintain the Environmental Management System in conformity with ISO 14001:2015 standards.

8. The applicant shall comply with the guidelines under Corporate Responsibilities for Environment Protection (CREP) 2003 issued by Ministry of Environmental Forests and CPCB.

9. The applicant shall continue the self monitoring system for monitoring the effluents and emissions.

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10. The applicant shall maintain register recording the ambient air quality, stack monitoring and analysis report of treated effluents. The register shall be open for inspection by the Board Officers at all time.

11. An inspection Book shall be opened and made available to the Board Officers during their visit to the factory.

12. The industry shall transport and store the raw materials in a manner so as not to cause any damage to environment, life and property. The applicant shall be solely responsible for any damages to environment.

13. Industry shall comply with all the consent conditions and furnish report within 30 days to the Regional Office.

14. The applicant shall display EC, Environmental Statement and Consent orders in the website of the industry and update regularly

SPECIFIC CONDITION

15. The applicant shall submit copy of Public Liability Insurance obtained under PLI Act, 1991 along with copy of Form III of Employees Relief Fund scheme under the PLI Act within 15 days.

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ANNEXURE – I

1. Effluent discharge standards as per MOEF notification No.G.S.R.186(E), dated 18.3.2008.

Sl. No	Characteristics.	Value for concentration (mg/l except for pH)
1.	pH Value.	6.0 to 8.5
2.	Oils and Grease	5.0
3.	Biochemical Oxygen Demand, (3 days at 27°C)	15
4.	Chemical Oxygen Demand	125
5.	Suspended Solids	20
6.	Phenols	0.35
7.	Sulphide (as S)	0.5
8.	Cyanide (as CN)	0.20
9.	Ammonia as N	15
10.	Total Kjeldhal Nitrogen	40
11.	Dissolved Phosphates (as P)	3.0
12.	Hexavalent Chromium (as Cr^{+6})	0.1
13.	Total Chromium (as Cr)	2.0
14.	Lead (as Pb)	0.1
15.	Mercury (as Hg)	0.01
16.	Zinc (as Zn)	5.0
17.	Nickel (as Ni)	1.0
18.	Copper (as Cu)	1.0
19.	Vanadium (as V)	0.2
20.	Benzene	0.1
21.	Benzo (a) – Pyrene	0.2

(b) Additional parameters to be complied with.

Sl. No	Characteristics.	Value for concentration (mg/l except for pH)
1.	Colour and Odour.	All efforts should be made to remove colour and unpleasant odour as for as practicable.
2.	Particle size of suspended Solids.	(a) Floatable solids Max. 3 mm. (b) Settleable solids, Max. 850microns
3.	Temperature °C	Shall not exceed 5°C above the receiving water temperature.
4.	Total Residual Chlorine	1.0
5.	Ammonical Nitrogen (as N)	15
6.	Free Ammonia (as NH_3)	5.0
7.	Arsenic (as As)	0.2
8.	Mercury	0.01
9.	Lead	2.0
10.	Cadmium (as Cd)	2.0
11.	Selenium (as Se)	0.05
12.	Fluoride(as F)	15
13.	Bio-assay test.	90% survival of fish after 96 hrs. in 100% effluent.
14.	Manganese (as Mn)	2.0
15.	Iron (as Fe)	3.0
16.	Nitrate Nitrogen	20

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Note:

(i) The parameters indicated Annexure-I (a) shall be monitored **on daily basis** from the samples of treated effluent collected as per condition No. II (1).

(ii) The parameters indicated in the Annexure-I (b) shall be monitored **once in four months** from the samples of treated effluent collected at the outlet of the effluent treatment plant.

(iii) Concentration limits shall be complied with at the outlet discharging effluent (excluding discharge from sea water cooling systems) to receiving environmental [surface water Bodies, marine systems or public sewers]. In case of application of treated effluent directly for irrigation/horticulture purposes (within or outside the premises of refinery), make-up water for cooling systems, fire fighting, etc. The concentration limits shall also be complied with at the outlet before taking the effluent for such application. However, any use in the process such as use of sour water in desalter is excluded for the purpose of compliance.

(iv) In case of circulating seawater cooling, the blow-down from cooling systems shall be monitored for pH and oil and grease (also Hexavalent & Total Chromium, if chromate treatment is given to cooling water) and shall conform to the concentration limits for these parameters. In case of reuse of treated effluent as cooling water make-up, all the parameters (as applicable for treated effluent) shall be monitored and conform to the prescribed standards.

(v) In case of once through cooling with seawater, the oil & grease content in the effluent from cooling water shall not exceed 1.0 mg/l.

(vi) **Emission Standards for VOC from Wastewater Collection and Treatment:**

(a) All contaminated and odorous wastewater streams shall be handled in closed systems from the source to the primary treatment stages (oil-water separator and equalization tanks).

(b) The collection system shall be covered with water seals (traps) on sewers and drains and gas tight covers on junction boxes.

(c) Oil-water separators and equalization tanks shall be provided with floating/fixed covers. The off-gas generated shall be treated to remove at least 90% of VOC and eliminate odour. The system design shall ensure safety (prevention of formation of explosive mixture, possible detonation and reduce the impact) by dilution with air/inert gas, installing LEL detector including control devices, seal drums, detonation arrestors, etc. The system shall be designed and operated for safe maintenance of the collection and primary treatment systems.

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ANNEXURE-II

Load Based Standards as per MOEF Notification No.G.S.R.186(E), dated 18.3.2008.

Sl. No.	Parameter	Quantum limit in Kg/1000 T of Crude Processed
1.	Oil & Grease.	2.0
2.	B.O.D. (3 days 27° C)	6.0
3.	COD	50
4.	Suspended Solids.	8.0
5.	Phenols	0.14
6.	Sulphides	0.2
7.	Cyanide	0.08
8.	Ammonia as N	6.0
9.	TKN	16.0
10.	P	1.2
11.	Cr (Hexavalent)	0.04
12.	Chromium (Total)	0.8
13.	Lead	0.04
14.	Hg	0.004
15.	Zn	2.0
16.	Ni	0.4
17.	Cu	0.4
18.	V	0.8
19.	Benzene	0.04
20.	Benzo (a) – Pyrene	0.08

NOTE:

(i) Quantum limits shall be applicable for discharge of total effluent (process effluent, cooling water blow down including sea cooling water blow down. Washing etc.) to receiving environment (excluding direct application on land for irrigation/ horticulture purposes within the premises of refinery).

(ii) In order to measure the quantity of effluent (separately for discharge to receiving environmental, application for irrigation/horticulture purposes within the premises of refinery and blow-down of cooling systems), appropriate flow measuring devices (e.g. V-notch, flow meters) shall be provided with.

(iii) Quantum of pollutants shall be calculated on the basis of daily average of concentration values (one 24-hourly composite sample or average of three grab samples, as the case may be), average flow of effluent during the day and crude throughput capacity of the refinery.

(iv) Limit for quantity of effluent discharged (excluding blow-down from seawater cooling) shall be 400 m^3/1000 tonne of crude processed. However during monsoon, limit of quantity of effluent during rainy days shall not exceed 700 m^3/1000 tonne of crude processed.

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ANNEXURE-III

Details of additional Air Pollution sources

Sl No.	Chimney attached to	Minimum chimney height to be provided above ground level(in Mts)	Fuel	Air pollution control equipment to be installed, in addition to chimney height as per col.(3)	Date of which air pollution control equipments shall be provided to achieve the stipulated tolerant limits and chimney heights conforming to stipulated heights.
1.	Sulphur Recovery Unit (SRU) - 7 Incinerator	70	F.G	Chimney as per col. (3) with TGTU section for higher efficiency of H_2S removal	Before Commissioning.
2.	FCC Gasoline Treatment Unit, Heater	70	F.O	Chimney as per col. (3)	Before Commissioning.

NOTE:

Emission of air pollutants shall conform to the standards mentioned below(;

	Parameters	Fuel Type	Limiting concentration in mg/Nm^3, unless stated
(Furance, Boiler and Captive Power Plant	Sulphur Dioxide (SO_2)	Gas	50
		Liquid	850
	Oxides of Nitrogen (NOx)	Gas	250
		Liquid	350
	Particulate Matter (PM)	Gas	5
		Liquid	50
	Carbon Monoxide (CO)	Gas	100
		Liquid	150
	Hydrogen Sulphide (H_2S) in fuel gas	Gas/ Liquid	150
	Sulphur content in liquid fuel, weight %	Gas/ Liquid	0.5
	Nickal and vanadium (Ni+V)	Liquid	5.0

Sulphur Recovery Units (SRU) - Emission of air pollutants shall be regulated as below;

	Parameters	Plant capacity (Tonnes/day)	Limiting concentration
Sulphur Recovery Units (SRU)	Sulphur recover, %	Above 20	99.5
	H_2S mg/Nm^3		10
	Oxides of Nitrogen (NOx) mg/Nm^3	All capacity	250
	Carbon Monoxide (CO), mg/Nm^3	All capacity	100

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Note: I

(a) Sulphur recovery units shall have continuous systems for monitoring of SO_2, Manual monitoring for all the emission parameters shall be carried out once in a month.

(b) Data on Sulphur Dioxide emissions (mg/Nm^3) shall be reported regularly.

(c) Sulphur recovery efficiency shall be calculated on monthly basis, using quantity of sulphur in the feed to SRU and quantity of sulphur recovered.

II. In case of mixed fuel (gas and liquid) use, the limit shall be computed based on heat supplied by gas and liquid fuels.

III. All the furnaces/boilers with heat input of 10 million Kilo calories/hour or more shall have continuous systems for monitoring of SO_2 and NOx. Manual monitoring for all the emission parameters in such furnaces or boilers shall be carried out once in two months. **(Wherever the continuous monitors are not provided the same shall be provided immediately and reported).**

IV. At the emission parameters in furnaces/boilers having heat input less than 10 million kilo calories/hour will be monitored once in three months.

V. In case of continuous monitoring, one hourly average concentration values shall be complied with 98% of the time in a month. Any concentration value obtained through manual monitoring, if exceeds the limits concentration value, shall be considered as non-compliance.

VI. Data on Nickel and Vanadium content in the liquid fuel (in ppm) shall be reported. Nickel and Vanadium in the liquid fuel shall be monitored at least once in six months, if liquid fuel source and quality are not changed. In case of changes measurement is necessary after every change.

FUGITIVE EMISSIONS:

Control of fugitive emissions shall be as per the guidelines in MOEF Notification No.G.S.R. 186(E), dated 18th March 2008.

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Ministry of Environment, Forest and Climate Change Conditions:

I. **Industry shall comply the following Directions issued by CPCB to the Karnataka State Pollution Control Board, vide NO.B-29016/04/06/PCI-I/5401 Dated:5.2.2014 and NO.B-29016/04/06/PCI-I/7187 Dated:2.3.2015.**

1. Industry shall install Online continuous Stack Emission Monitoring Systems(CSEMS) for the measurement of emissions (Industry/Sector specific parameter) like,PM,NO_x,SO_2,Co etc.

2. Industry shall install Online Effluent quality monitoring system at the outlet of effluent treatment plants for the measurement of parameters (Industry/Sector specific parameter) like flow, pH, BOD, COD, and TSS etc.

3. Industry shall provide Online emission and effluent monitoring data shall be connected and uploaded to Board's and Central Pollution Control Board's Server.

4. Once in a month by 5th, the max, min & Average values and also the number of time, the exigencies recorded shall be submitted to Concerned Regional office of KSPCB.

II. **Ministry of Environment & Forest & climate Change has issued a Notification on 23rd November 2016,** in respect of industries who are exempted from ministry for obtaining prior Environmental Clearance for expansion or modernization or change of product mix in the existing projects. In the said notification, it is directed to constitute a "Technical Committee" for evaluating such proposals submitted to State Pollution Control Board for obtaining Consents. Accordingly the Karnataka State Pollution Control Board has Constituted a Technical Committee vide dated:22.2.2017 for scrutiny of such application received for "No increase in Pollution Load" Certification. The applicants who desires to claim "No increase in Pollution Load" Certificate shall submit the application to the respective Regional Officer, in the prescribed format, to examine before the above Committee in accordance with the procedure laid down in the 23rd November 2016 Notification.

III. **Ministry of Environment, Forest and Climate Change has published Notification on 14.3.2017** for finalizing the process for apprised of projects for grant of Terms of Reference and Environmental Clearance, which have started the work on site, expanded the production beyond the limit of environmental clearance or changed the product mix without obtaining prior environmental clearance under the Environment Impact Assessment Notification, 2006.As per the said notification the Central Government directs that the projects or activities or the expansion or modernization of existing projects or activities requiring prior environmental clearance under the Environment Impact Assessment Notification, 2006 entailing capacity addition with change in process or technology or both undertaken in any part of India without obtaining prior environmental clearance from the Central Government or by the State Level Environment Impact Assessment Authority, as the case may be, duly

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constituted by the Central Government under sub-section (3) of section 3 of the said Act, shall be considered a case of violation of the Environment Impact Assessment Notification, 2006 and will be dealt strictly as per the procedure specified in the following manner:-

1. In case the Projects or activities requiring prior Environmental clearance Environment Impact Assessment Notification, 2006 from the concerned Regulatory Authority are brought for environmental clearance after starting the construction work, or have undertaken expansion, modernization, and change in product mix without prior environmental clearance, these projects shall be treated as cases of violations and in such cases, even Category B projects which are granted environmental clearance by the State Environment Impact assessment Authority constituted under sub-section (3) section 3 of the Environment(Protection) Act, 1986 shall be apprised for grant of environmental clearance only by the Expert Appraisal Committee and environmental clearance will be granted at the Central level.

2. In cases of violation, action will be taken against the project proponent by the respective state or state pollution Control Board under the provisions of section 19 of the environment (protection)Act, 1986 and further, no consent to operate or occupancy certificates will be issued till the project is granted the environmental clearance.

3. The cases of violation will be apprised by respective sector Expert Appraisal Committee constituted under sub-section (3) of Section 3 of the Environment(Protection) Act, 1986 with a view to assess that the project the project has been constructed at a site which under prevailing laws is permissible and expansion has been done which can be run sustainably under compliance of environmental norms with adequate environmental safe guards, and in case, where the finding of the Expert Appraisal Committee to negative, closure of the project will be recommended along with other actions under the law.

4. In case, where the findings of the Expert Appraisal Committee on point at sub-Para (3) above are affirmative, the projects under this category will be prescribed the appropriate terms of Reference for undertaking Environmental impact Assessment and preparation of Environment Management Plan. Further, the expert Appraisal Committee will prescribe a specific Terms and reference for the project on assessment of ecological damage, remediation plan and natural and community resource augmentation plan and it shall be prepared as an independent chapter in the environment impact assessment report by the accredited consultants. The collection and analysis of data for assessment of ecological damage, preparation of remediation plan and natural and community resource augmentation plan shall be done by an environmental laboratory duly notified under Environment (Protection) Act, 1986, or a environmental laboratory accredited by National accreditation Board for testing and calibration Laboratories, or a laboratory of a Council of Scientific and Industrial research institution working in the field of environment.

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5. The Expert Appraisal Committee shall stipulate the implementation of Environmental Management Plan, comprising remediation plan and natural and community resource augmentation plan corresponding to the
Ecological damage assessed and economic benefit derived due to violation as a condition of environment clearance.

6. The project proponent will be required to submit a bank guarantee equivalent to the amount of remediation plan and Natural and Community Resource Augmentation Plan with the State Pollution Control Board and the quantification will be recommended by Expert Appraisal Committee and finalized by Regularity Authority and the bank guarantee shall be deposited prior to the grant of environmental clearance and will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regularity Authority.

The projects or activities which are in violation as on date of this notification only will be eligible to apply for environmental clearance under this notification only within six months from the date of this notification.

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