A GOVERNMENT OF INDIA
Ministry of Environment and Forests
(Regional Office, Southern Zone)
Bangalore-34
MONITORING REPORT
PART – I

F. No. EP/12.1/79 (2012-13)/ SEIAA/KAR

Date:31.10.2019

<table>
<tr><td>1</td><td>Project type</td><td>Industry</td></tr>
<tr><td>2</td><td>Name of the project</td><td>Expansion of Active Pharmaceutical Ingredients (APIs), tablets and dry powder manufacture unit at Plot No. 30/1, 30/2, 30/3, 30/4, 31/1, 31/2, 39/1, 39/2, 40/1, Virgonagar Industrial Area, old Madras Road, Bangalore East Taluk, Bangalore of M/s. Cipla Ltd.,</td></tr>
<tr><td>3</td><td>Clearance letter No.& date</td><td>No. SEIAA:18: IND:2011, Dated: 07.07.2012.</td></tr>
<tr><td>4</td><td>Location: District & State / UT</td><td>Bangalore East Taluk, Bangalore-560049.</td></tr>
<tr><td>5</td><td>Address for correspondence:</td><td>Cipla ltd, old madras road, Virgonagar, Bangalore-560049.</td></tr>
<tr><td>6</td><td><u>Financial Details:</u></td><td></td></tr>
<tr><td>a</td><td>Project cost as originally planned and subsequent revised estimates and the years of price reference</td><td>NA</td></tr>
<tr><td>b</td><td>Allocations made for environmental management plans, with item wise and year wise breakup</td><td>NA</td></tr>
<tr><td>c</td><td>Total expenditure on the Project so far</td><td>NA</td></tr>
<tr><td>d</td><td>Actual expenditure incurred on the environmental management plans so far</td><td>NA</td></tr>
<tr><td>7.</td><td><u>Status of construction:</u></td><td>NA</td></tr>
<tr><td>a.</td><td>Date of commencement</td><td>NA</td></tr>
<tr><td>b.</td><td>Date of completion (actual and/or planned)</td><td>NA</td></tr>
<tr><td>8</td><td><u>Date of site visit:</u></td><td></td></tr>
<tr><td>a.</td><td>The dates on which the project was monitored by the Regional Office on previous occasions, if any</td><td>As stated below: Site inspection by KSPCB Officials

<table>
<tr><td>Date</td><td>Name</td><td>Remarks</td></tr>
<tr><td>07.06.2019</td><td>Mrs.Vijayalakshmi(RO)

Mrs. Shylaja (AEO)</td><td>World Environment day celebration</td></tr>
<tr><td>06.08.2019</td><td>Mrs. Shylaja (AEO)</td><td>Inspection</td></tr>
<tr><td>22.08.2019</td><td>Mrs.Vijayalakshmi(RO)

Mr. Puttaraju (DEO)</td><td>Inspection</td></tr>
</table></td></tr>
<tr><td>b.</td><td>Date of site visit for this monitoring report</td><td>Latest joint monitoring done for the stacks by KSPCB

<table>
<tr><td>Date</td><td>Month</td><td>Sampling by PCB</td></tr>
<tr><td>20.09.2019</td><td>September</td><td>VOC monitoring</td></tr>
</table></td></tr>
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PART A - SPECIFIC CONDITIONS

1) National Emission standards for organic chemical manufacturing industry issued by the ministry vide G.S.R 608 (E) dated 21st July, 2010 and amended time to time shall be followed by the unit.

Being followed.

2) The industrial effluent generation shall not exceed 145 KLD and it shall be treated in ETP. The domestic sewage shall be disposed through septic tank /soak pit.

Zero liquid discharge plant having the capacity of 200 KLD is in operation. The effluent generation on an average per day is 102 KL and domestic effluent generation is 36 KL.
Both domestic and process effluent are treated in same ETP, with suitable treatment system of ZLD.

3) Total water requirement from KIADB /BWSSB shall not exceed 280 KLD. No ground water shall be used.

On an average, about 194 KLD fresh water is being consumed. We are not using borewell water. Supply of water is outsourced.

4) The process emissions to be controlled. Acoustic enclosure shall be provided to the DG sets

The process emissions are controlled by the way of point exhaust & scrubber system arrangement. Stack monitoring is carried out for Boiler & DG set chimneys. Acoustic enclosures are provided to the DG sets.

5) Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S. R No. 826 (E) dated 16thSeptember, 2009 the levels of PM10, SO2, NOx, VOC and HCl shall be monitored in the ambient air and emissions from the stacks and displayed at a convenient location near the main gate of the company and at important public places. the company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the regional office of CPCB and the Karnataka state pollution control board.

12 parameters as mentioned in NAAQ are monitored on monthly basis at 3 different places.

Details of three places monitoring inside the premises is given in **Annexure-I**.

Monitoring details are displayed near main gate. The monitored data are forwarded to KSPCB, CPCB & MoEF offices. All the data uploaded in the Cipla website.

6) The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the regional office of MoEF, Bangalore, SEIA, Karnataka, the respective zonal office of CPCB and the Karnataka state pollution control board. The levels of SPM, RSPM, SO2, NOx and VOC (ambient levels) and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and important public places.

Noted and being compiled. Details are provided in point No. 5 above.

7) The company shall obtain authorization for collection, storage and disposal of hazardous waste under the hazardous waste (Management, handling and trans boundary movement) Rule 2008 for management of hazardous wastes and prior permission from KSPCB shall be obtained for disposal of solids / hazardous waste in the TSDF. the concerned company shall undertake measures for firefighting facility in case of emergency.

Hazardous waste management authorization issued by KSPCB vide no.
: PCB/WMC/2015/H. D No.87370/2015-16/ H339 is valid up to: 30.06.2020.
Amended Hazardous and other waste management authorization issued by KSPCB as per 2016 rules Vide No.:PCB/WMC/2415/HWM/2017-18/H-824 is valid up to 30.06.2020
Amended Hazardous and other waste management authorization issued by KSPCB as per 2016 rules Vide No.: 308075 is valid up to 30.06.2020

Details of HW disposed is enclosed as **Annexure-II.**

Firefighting facility like Hydrant system & sprinkler system, Fire extinguishers are provided.

8) In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided .Fugitive emissions shall be controlled by providing closed storage , closed handling & conveyance of chemicals/materials , multi cyclone separator and water sprinkling system .dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions .fugitive emissions in the work zone environment,product,raw materials storage area etc .Shall be regularly monitored. The emissions shall conform to the limits stipulated by the KSPCB.

Indoor monitoring as carried out for fugitive emissions by an external agency on monthly basis, report of the same enclosed as Annexure**-III.**

- Close loop storage and close loop process are practiced.
- Solvent batching system provided.
- Dust collectors are in place.
- Water sprinklers are provided at unloading areas.
- The emissions are within the KSPCB stipulated limits.

9) Hazardous chemicals shall be stored in tanks in tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps

Hazardous chemicals stored in tanks in tank farms, carboys and flame arresters provided on tank farm.

Solvent batching system (close loop handling) provided.

10) The company shall undertake following waste minimization measures: -

a. Metering and control of quantities of active ingredients to minimize waste

- We are monitoring raw material input and output (yield) batch by batch & continuously working on improving yield to minimize the waste generation.

b. Reuse of by-products from the process as raw materials or as raw material substitutes in other process.

- Solvent recovery plant installed for recovery and reuse the solvents for same product wherever feasible.

c. Use of automated filling to minimize spillage.

- Solvent batching system is installed for the all manufacturing blocks, to pump the required solvent to the required equipment in closed loop.

d. Use of close feed system into batch reactors

- Chemical which are corrosive in nature is charged to reactor in closed loop using Liquid Charging Station.
- Solid Material is charged to reactor in presence of solvent using closed loop Powder Transfer System.
- Reaction mass is transferred to other reactor for further processing is done through closed loop system by providing dedicated pump and transfer lines.
- Layer separation is done in closed loop by providing layer separation tank with adequate capacity.

e. Venting equipment through vapour recovery system.

- The reactors are provided with primary and secondary condenser designed as per the maximum vapour load.
- All the vent condensers are provided with Chilled brine (-20 ° C) as utility to condense any vapour escaping from primary condenser.
- All the Vacuum Driers relate to Pre-and post-condenser with Chilled Brine as utility in both the condensers.

f. Use of high pressure hoses for equipment cleaning to reduce waste water generation.

- Spray Nozzles are installed in the reactors for cleaning.
- For other equipment, High pressure hose with jet nozzles are used to minimize the water quantity.

11) For control of fugitive emission following steps shall be followed:

a. Closed handling system shall be provided for chemicals

- Closed Handling system provided for solvent charging, reaction mass transfer, acid charging, reagents charging.
- Powder Transfer System provided for charging solid raw material charging to reactor.

b. Reflux condenser shall be provided over reactor

- Reflux condensers (primary and secondary) are provided in reactors to prevent release of organic vapor to atmosphere.

c. System of leak detection and repair of pump/pipeline based on preventive maintenance.

- Preventive maintenance carried out as per annual schedule.

- All the reactors & associated pipelines are checked for leakages by the way of pressure test using nitrogen.

d. The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.

- Major consumption acids are stored in above ground tanks and pumped to required reactor in closed loop with flow measuring device.
- Storage tanks are provided vent is connected to trap receiver.

e. Cathodic protection shall be provided to the underground solvent storage tanks

- We have installed SS underground tanks; hence cathodic protection is not required. In addition, Impervious RCC tank is provided as secondary containment.

12) Solvent management shall be as follows:

a. Solvent used in the process shall be completely recovered and reused

- Solvent recovery system installed for solvent recovery. product wise solvent recovery done and used for same product wherever feasible.

b. Reactor shall be connected to chilled brine condenser system.

- Chilled (-20°c & -30°c) brine systems provided for condensers.

c. Reactor and solvent handling pump shall have mechanical seals to prevent leakages.

- All the pumps provided for reactor and solvent have mechanical seal.

d. The condensers shall be provided with sufficient HTA and residence time to achieve more than 95% recovery.

- Approx. 97 % of Solvent recovery is achieved across the condensers by providing sufficient HTA and adequate utility.

e. Solvents shall be stored in a separate space specified with all safety measures.

- Solvents are stored in separate area as per CCOE norms.

f. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.

- Earthing provided for all equipment's installed in the site. Periodic inspection is being done for all the earth pits in the site.

g. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

- All the equipment used inside the premises are selected as per electrical area classification guidelines.

- Solvent storage tanks are completely inertized with nitrogen and vent line of the tank consists of breather valve and flame arrestor.

- All the electrical and instruments used in solvent yard are flame proof.

h. Fugitive emissions in the work zone environment, product, raw materials storage area etc. Shall be regularly monitored. The emissions shall conform to the limits imposed by KSPCB.

Fugitive emissions are monitored regularly and emissions are within the stipulated limits.

13) No effluent shall be discharged outside the factory premises and "zero" discharge concept shall be adopted.

- Zero Liquid Discharge facility with 200 KLD capacity is in operation.

- Treated water is recycled back to cooling tower / boiler.

14) Multi- cyclone followed by bag filter shall be provided to the boilers to control particulate emissions within 100mg/nm3.the gaseous emissions shall be dispersed through stack of adequate height as per CPCB/APPCB guidelines.

The site uses furnace oil as fuel in the boilers. Gaseous emissions are dispersed through stack of adequate height as per CPCB guidelines. The particulate emissions are well within the limit of 100mg/Nm^3 as tabulated below.

BOILER	PARAMETERS	units	APRIL-2019 to SEPTEMBER-2019		
			Min	Max	Avg
3 TPH	Particulate Matter	mg/Nm^3	46.5	57.2	51.10
	Sulphur Dioxide	ppm	8.2	9.5	8.85
	Oxides of Nitrogen	ppm	14.4	21.3	17.53
	Acid Mist	mg/Nm^3	0	0	0.00
2TPH & 3TPH	Particulate Matter	mg/Nm^3	42.3	51.2	46.68
	Sulphur Dioxide	ppm	7.8	9.6	8.78
	Oxides of Nitrogen	ppm	14.3	20.2	16.30
	Acid Mist	mg/Nm^3	0	0	0.00

15) Two stage chilled water /caustic scrubber shall be provided to process vents to control HCl. Two stage scrubbers with caustic lye media solution shall be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.

Caustic / water media scrubbers installed as per requirement to control process emissions and fugitive emissions. Scrubber media after usage is sent to ETP for treatment. efficiency of scrubber monitored regularly and maintained.

16) As proposed process organic residue and spent carbon shall be sent to cement industries. ETP sludge, process (inorganic) & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers.

The Hazardous waste generated are disposed as per KSPCB authorization for "generation, storage and disposal of Hazardous waste". Authorization valid till 2020.

17) Boiler ash shall be stored separately as per CPCB guidelines so that it shall not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. direct exposure of workers to fly ash & dust shall be avoided.

As the site uses furnace oil, there is no generation of fly ash. The waste generated during stack cleaning is being sent for incineration.

18) During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.

Garland drains are constructed to avoid mixing of accidental spillage with domestic and storm drains.

19) The company shall harvest surface as well as rainwater from the rooftops of the buildings and storm water drains to recharge the groundwater and use the same water for the various activities of the project to conserve fresh water

Noted and rain water harvesting is done during project.

20) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per as per the oil industry safety directorate (OISD) 117 norms.

Firefighting system available as per requirement.

FIRE EXTINGUISHERS DETAILS

We have water Expelling Type Extinguishers for Solid Fires, Foam Extinguishers for Liquid Fires, Carbon dioxide type (CO2) Extinguishers for Electrical and Gas Fires and Dry chemical powder (DCP) Extinguishers (Can be used on all types of fires).

HYDRANT SYSTEM DETAILS

Water Storage - 300 KL*2 = 600 KL (2+hour backup)

Jockey Pump- 20 HP	Main Electrical Pump - 125 HP	Diesel Pump- 125 HP
Head: 70 M Flow: 10.8 cum m/hr.	Head: 70 M Flow: 273 cum/hr.	Head: 70 M Flow: 273 cum/hr.

21) Training shall be imparted to all employees on safety and health aspects of chemicals handling Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis training to all employees on handling of chemicals shall be imparted.

Trainings are imparted to employees on various safety and health aspects. Twice in a year medical examinations are conducted for all employees working at hazardous areas & annually once for other employees.

Details of trainings conducted are enclosed as **Annexure-IV.**

22) Usage of PPEs by all employees/ workers shall be ensured.

Noted and being practiced.

23) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the factories act.

Occupational health surveillance of the workers done on regular basis and records maintained as per the factories act.

- All three shifts & general shift nurses are available for first aid treatment.
- Tata wringer T-407 -1 Ambulance available.
- During emergency, all type of medicines is made available at OHC.

24) Greenbelt shall be developed in at least 33% of area with suitable species of the plants as per the CPCB guidelines to mitigate the effects of fugitive emissions. selection of plant species shall be as per the CPCB guidelines.

37% of the total available area is converted into Green belt area.
Number of trees present inside the premises: About 1200 Plants are available.

S No	Area Description	Area in Sqm
1	TOTAL PLOT AREA	60986
2	TOTAL BUILT UP AREA	60895
3	TOTAL PLINTH AREA	24080
4	TOTAL GREEN BELT AREA	22993 (37 %)
5	TOTAL OPEN SPACE (Road, pathways & Service area)	13913

25) The adequate financial provisions shall be made in the budget of the project for implementation of the above suggested environmental safeguards. Fund so earmarked shall not be diverted for any other purposes.

Adequate financial provision is made for environmental safeguards.

ETP department	Cost April -19 to September 2019 in (Rs.)
MBR membrane	--
NF & NFRC membranes	---
RO membranes	11,00,000
World environment day celebration	97,000
Plant distribution to employees	18,800
Safety week celebration	--
Storage tank (100 kl SS)	--
ASDS equipment purchase	--
Air pollution control equipment's (2 nos.)	---
SS railing	--
Stripper gratings change	1,20,000
Safety nets for open tanks	--
Incineration cost	8,72,000
Acoustic enclosure	--
Closed loop systems (Operations)	84,00,000
Green belt area	40,000

26) The company shall comply with the recommendations made in the EIA/EMP/risk assessment report. Risk assessment shall be included in the safety manual.

The recommendations made in EIA/EMP /risk assessment are Implemented.:

S.no.	Recommendations	Implementations
1.	Air pollution control measures	Scrubbers, dust collectors (Cyclone separators) and closed loop systems installed for solvent handling. Indoor and outdoor AAQ is done on monthly basis and reported to KSPCB.
2.	Water pollution control measures	Treated water completely recycled for utilities. Analysis of the treated water is done on daily and monthly basis; same is reported to KSPCB.
3.	Noise control measures	High noise level equipment's like 4DG sets and 6 blowers acoustic enclosures provided. Noise level of above said systems are measured monthly to check the efficiency of acoustic enclosure provided.
4.	Land scape	Green belt area implementation done Stage wise.

27) Provision shall be made for the housing for the construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. all the construction wastes shall be managed so that there is no impact on the surrounding environment.

Presently there is no any project constructions at our premises.

28) The project authorities shall spend Rs 5 lakhs towards the corporate social commitment made wide letter dated 09.02.2012 and the project authorities also shall earmark at least 5 % of the total cost of the project towards the future corporate social responsibility and item-wise details along with time bound action plan shall be prepared and submitted to the authority.

The company regularly engages in conducting CSR activities and these are undertaken, monitored and consolidated at corporate level through a dedicated CSR team. The details of CSR expenditure is published each year in the company's annual report. The site has completed CSR activities as commitment made vide letter 09.02.2012.

B. GENERAL CONDITIONS:

The projects authorities shall strictly adhere to the stipulations made by the Karnataka state pollution control board (KSPCB)

We are in compliance with the stipulations made by the Karnataka state pollution control board (KSPCB) as per the CFO conditions tabulated below:

S. No.	TERMS AND CONDITIONS	Compliance
A.	**TREATMENT AND DISPOSAL OF EFFLUENTS UNDER THE WATER ACT:**	
1.	The discharge from the premises of the occupier 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.	ZLD facility available, no discharge from the premises.
2 (a)	The sewage/domestic effluent shall be treated in septic tank and 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.	Combined treatment facility provided for sewage and effluent
2.(b)	The treated sewage effluent discharged shall conform to the standards specified in Annexure-I.	Noted and complies as per standards.
3 (a)	The trade effluent generated in the industry shall be treated in the ETP and treated effluent shall confirm to the standards stipulated by the Board in Annexure-1	Zero liquid discharge plant installed to treat generated effluent as well domestic effluent and treated effluent complies as per standards stipulated by the board.
(b)	The trade effluent shall be handed over to CETP and maintain logbook of effluent generated & sent every day.	NA

4.	The applicant shall install flow measuring/recording devices to record the discharge quantity and maintain the Record.	Digital flow meters are installed at inflow and outflow of ETP. And recorded the quantities.
5.	The applicant shall not change or alter either the quality or the quantity or the place of discharge or temperature Or the point of discharge without the previous consent/ permission of the Board.	Noted
6.	The applicant shall not allow the discharge from the other premises to mix with the discharge from his premises. Strom water shall not allowed to mix with the effluents on the upstream of the terminal manhole where the flow measuring devices are installed.	Noted
7.	The daily quantity of domestic effluent and trade effluent from the industry shall not exceed the limits as indicated in this consent order:	Complied
8.	The applicant shall discharge the effluents only to the place mentioned in the Consent order and discharge of Treated/untreated outside the premises is not permitted.	Zero liquid discharge plant in operation to treat generated effluent as well domestic effluent. Treated effluent completely recycled back to cooling tower/boiler.
B.	**EMISSIONS:**	
1.	The discharge of emissions from the premises of the Applicant 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. The stacks/chimneys heights shall be as per **Annexure-II.**	Emissions are passed through the stacks/ chimneys of adequate height.
2.	The applicant shall provide port holes for sampling the emissions, access platforms for carrying out stack sampling, electrical points and all other necessary arrangements including ladder as indicated in Annexure -II	Sample points are available for individual stacks.
3.	The applicant shall upgrade/modify/replace the control equipment with prior permission of the Board.	Noted
C	**WATER CESS**	
1.	The applicant shall provide water meter at all the intake points as specified under Section (5) of the Water Cess Act, 1977 and shall file the Water Cess returns regularly before fifth of every month and pay the Cess assessed with the time stipulated.	Digital flow meters are installed in the facility. NA
D	**MONITORING AND REPORTING:**	
1.	The applicant shall get the samples of effluents & emissions collected and get them analysed once a month/either by in house monitoring laboratory or through EP approved laboratories for the parameters as Indicated in Annexure I & II.	Monthly Analysis done and submitted to KSPCB.
2.	The applicant shall maintain log books to reflect the working condition of pollution control systems and self-monitoring Results and keep it open for inspection.	Log books are maintained & available for inspection.
E	**SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:**	
1.	The applicant shall segregate solid waste from Hazardous Waste, Municipal Solid Waste and store it properly till Treatment/disposal without causing pollution to the surrounding Environment.	Collected, stored in a secured manner and disposed to KSPCB authorized parties.
2	The solid waste generated shall be handled & disposed by scientific method without causing eye sore to the Public and to the surrounding environment.	Generated solid waste collected, stored in a secured manner and disposed KSPCB authorized parties.

F	**NOISE POLLUTION CONTROL:**	
	The industry 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 under the Air (Prevention and Control of Pollution) Act, 1981.	Noted
G	**HAZARDOUS WASTES (MANAGEMENT, HANDLING & TRANSBOUNDARY MOVEMENT) 2008:**	
	The applicant shall comply with the provisions of the Hazardous Wastes (Management, Handling & Transboundry Movement) Rules 2008.	Noted
H.	**GENERAL CONDITIONS:**	
1.	The applicant shall not allow the discharge from the other premises to mix with the discharge from his Premises.	Noted
2.	The applicant shall promptly comply with all orders and instructions issued by the Board from time to time or Any other officers of the Board duly authorized in this behalf.	Noted
3.	The applicant shall set-up Environmental Cell comprising of qualified and competent personnel for complying with the conditions specified.	Environmental cell established & qualified persons are available.
4.	The Board reserves the right to review, impose additional conditions, revoke, change or alter terms and Conditions of this consent.	Noted
5.	The applicant shall forthwith keep the Board informed of any accidental discharge of emissions/effluents into the atmosphere in excess of the standards laid down by the Board. The applicant shall also take corrective steps to mitigate the impact.	Noted
6.	The applicant shall provide alternative power supply sufficient to operate all Pollution control equipment's.	4 DG sets are provided as back-up power supply 1X1250 KVA & 3X1500 KVA
7.	The entire premises shall always be kept clean. The effluent holding area, inspection chambers, outlets, flow Measuring points should made easily approachable.	Premises kept clean and tidy.
8.	The applicant shall display the consent granted in a prominent place for perusal of the inspecting officers of the Board.	Displayed in the environment cell
9.	The applicant his heirs, legal representatives or assignee shall have no claims what so ever to the continuation or Renewal of this consent after expiry of the validity of consent.	Noted
10.	The applicant shall make an application for consent for subsequent period at least 45 days before expiry of this consent.	Noted and Complied
11.	The applicant shall develop and maintain adequate green belt all around the periphery.	Greenery maintained inside the premises.
12.	The applicant shall provide rain water harvesting system and shall provide proper storm water management system.	Facility available
13.	This consent is issued without prejudice to any Court Cases pending in any Hon'ble Court	Noted
14.	The applicant shall furnish the Environmental statement for every financial year ending with 31st March in Form-V as per Environment (Protection) Rules, 1986. The statement shall be furnished before the end of September.	2017-2018 Environment al statement submitted in September to KSPCB.

15	The applicant shall display flow diagram of the pollution control system near the pollution control system/s.	Flow diagrams Displayed in the site.

2) At no time, the emissions shall exceed the prescribed limits .in the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.

Noted. Being complied.

3) No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA/Ministry of Environment and forests as the case may be in case of deviations or alterations in the project proposal from those submitted to this authority for clearance, a fresh reference shall be made to the authority to assess the adequacy of conditions imposed and to add additional environmental protection measures required if any.

Noted and same will be followed.

4) The gaseous emissions (Nox, SO2 and SPM) and particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control systems (s) adopted by the unit, the perspective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack monitoring for SO2, Nox and SPM shall be carried.

Gaseous emissions from process units and stack emissions are being monitored on regular basis. The monitored parameters are well within the prescribed limits.

Details of Gaseous emissions, particulate matter are enclosed as **Annexure-V.**

5) The project authorities shall strictly comply with the rules and regulations under manufacture, storage and import of hazardous chemicals rules,1989 as amended in October 1994 and January 2000. All transportation of hazardous chemicals shall be as per the MVA, 1989 authorization from the KSPCB shall be obtained for collection, treatment, storage and disposal of hazardous waste.

Noted. Authorization from KSPCB is obtained for collection, storage & disposal of hazardous waste.
Hazardous waste management authorization issued by KSPCB vide no.
: PCB/WMC/2015/H. D No.87370/2015-16/ H339 is valid up to: 30.06.2020.
Amended Hazardous waste management authorization issued by KSPCB as per 2016 rules Vide No.:PCB/WMC/2415/HWM/2017-18/H-824 is valid up to 30.06.2020

6) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the hazardous wastes (Management and handling) rules 2003. Authorization from the KSPCB must be obtained for collection/treatment /storage /disposal of hazardous wastes.

Noted. Authorization from KSPCB is obtained for collection, storage & disposal of hazardous waste.
Hazardous waste management authorization issued by KSPCB vide no.
: PCB/WMC/2015/H. D No.87370/2015-16/ H339 is valid up to: 30.06.2020. Amended Hazardous waste management authorization issued by KSPCB as per 2016 rules Vide No.:PCB/WMC/2415/HWM/2017-18/H-824 is valid up to 30.06.2020

7) Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for lighting and heating should be provided. Details in `this regard should be submitted to SEIAA

6 number solar lights and one solar water heater are installed at the site.

8) The overall noise levels in and around the plant area shall be kept well within the standards 85 dB(A) 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 environment (Protection) Act, rules ,1989 viz dBa (DAY TIME) AND 70 dB(A) (night time).

The overall noise levels in and around the plant area is well within the stipulated limits. For high noise equipment's acoustic enclosures provided.

- 4 DG sets acoustic enclosure provided
- 6 blowers at ETP acoustic enclosure provided

S.no	Area	Noise levels in dB(A) (Day time)			Noise levels in dB(A) (Night time)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	Near security Gate-2	68	57.8	63	57	47.5	52.8
2	Near API- V	66	56	61	58.1	47.9	52.3
3	Near Weigh bridge	64	54.3	59	51.6	40.8	46.7
4	Near API III	65.5	55.6	60.6	58	47.6	52.3

9) The project proponent shall also comply with all the environmental protection measures and safeguards as per the information provided.

Noted and followed.

10) The implementation of the project vis-à-vis environmental action plans shall be monitored by MoEF, regional office at Bangalore /KSPCB/CPCB and the department of environment & ecology, Bangalore. A six-monthly compliance status report shall be submitted to monitoring agencies.

The status report is being submitted to KSPCB, CPCB & MoEF offices bi annually.

11) The project proponent shall inform the public that the project has been accorded environmental clearance by the SEIAA and copies of the clearance letter are available with the KSPCB and may also be seen at website of the authority at http://www.seiaa.kar.nic.in. this shall be advertised within seven days from the date of issue of the clearance letter, at least in two local news papers 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 MoEF regional office at Bangalore/KSPCB/CPCB and the department of environment 7 ecology, Bangalore.

Noted. Environment clearance is published in two News Papers- clipping enclosed as **Annexure-VI**

12) The project authorities shall inform the MoEF regional office at Bangalore/KSPCB /CPCB and the department of ecology and environment, Bangalore, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

Completed.

13) The SEIAA Karnataka may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.

Noted.

14) The SEIA Karnataka reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner will implement these conditions.

Noted.

15) The above conditions will be enforced, inter –alia under the provisions of the water (prevention& control of pollution) Act,1981 the environment (protection)Act ,1986 hazardous wastes (management and handling) rules 2003 and the public liability insurance act, 1991 along with their amendments and rules.

Noted.

16) The issue of environment clearance doesn't confer any right to the project proponent to operate /run the project without obtaining statutory clearances/ sanctions form all other concerned authorities.

Noted.

17) Concealing factual data or submission of false /fabricated data and failure to comply with any of the conditions mentioned above may results in withdrawal of this clearance and attract action under the provisions of environmental (protection)Act 1986.

Noted.

18) Any appeal against this environmental clearance shall lie with the national green tribunal, if preferred within a period of 30days as prescribed under section 16 of the national green tribunal Act 2010.

Noted.

19) Officials from the department of environment and ecology, Bangalore / regional office of MoEF, Bangalore who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF /SEIAA should be forwarded to the CCF, regional office of MoEF, Bangalore /department of ecology and environment, Bangalore/regional officer KSPCB Bangalore.

Noted.

20) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this authority.

Noted.

21) The authority reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the environment clearance under the provisions of the environment (protection) act 1986 to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

Noted.

22) All other statutory clearances such as the approvals for storage of diesel from chief controller of explosives, fire department, civil aviation department, forest conservation act, 1980 and wild life (protection act 1972 etc shall be obtained, as applicable by project proponents from the competent authorities

Noted.

23) These stipulations would be enforced among others under the provisions of water (prevention and control of pollution) act, 1974 the air (prevention and control of pollution) act 1981 the environment (protection) act 1986 the public liability (insurance) act, 1991 and EIA notification 2006.

Noted.

24) Under the provisions of environment (Protection) Act 1986 legal action shall be initiated against the project proponent if it is found that construction of the project has been started without obtaining environmental clearance.

Noted.

ANNEXURE-I

Ambient air Quality Details:

Ambient air station	Parameter	Units	NAAQ Standards	APRIL-2019 to SEPTEMBER-2019		
				Min	Max	Avg
In front of Quality Control	Particulate matter - PM $_{10}$	µg/m^3	100.0	48.8	57.2	52.4
	Particulate matter - PM $_{2.5}$	µg/m^3	60.0	20.2	26.3	23.7
	Sulphur Dioxide	µg/m^3	80.0	6.2	8.4	7.3
	Nitrogen Dioxide	µg/m^3	80.0	13.6	16.2	15.0
	Lead, (Pb)	µg/m^3	1.0	0.0	0.0	0.0
	Carbon Monoxide, (CO)	µg/m^3	2.0	0.6	1.1	0.8
	Ammonia, (NH^3)	µg/m^3	400.0	20.5	21.8	21.3
	Benzene, (C_6H_6)	µg/m^3	5.0	0.0	0.0	0.0
	Benzo(a)pyrene, (BaP)	ng/m^3	1.0	0.0	0.0	0.0
	Arsenic, (As)	ng/m^3	6.0	0.0	0.0	0.0
	Nickel, (Ni)	ng/m^3	20.0	0.0	0.0	0.0
	Ozone, (O_3)	µg/m^3	180.0	10.2	11.2	10.8
	Hydrogen Chloride, (HCL)	ppm	---	1.2	2.2	1.7

Ambient air station	Parameter	Units	Standards	APRIL-2019 to SEPTEMBER-2019		
				Min	Max	Avg
Near API Block-IV	Particulate matter - PM 10	µg/m3	100.0	50.2	56.6	53.7
	Particulate matter - PM 2.5	µg/m3	60.0	20.9	27.8	25.5
	Sulphur Dioxide	µg/m3	80.0	7.2	9.5	8.4
	Nitrogen Dioxide	µg/m3	80.0	12.6	18.3	15.4
	Lead, (Pb)	µg/m3	1.0	0.0	0.0	0.0
	Carbon Monoxide, (CO)	µg/m3	2.0	0.8	1.8	1.1
	Ammonia, (NH3)	µg/m3	400.0	21.5	22.6	22.1
	Benzene, (C6H6)	µg/m3	5.0	0.0	0.0	0.0
	Benzo(a)pyrene, (BaP)	ng/m3	1.0	0.0	0.0	0.0
	Arsenic, (As)	ng/m3	6.0	0.0	0.0	0.0
	Nickel, (Ni)	ng/m3	20.0	0.0	0.0	0.0
	Ozone, (O3)	µg/m3	180.0	11.0	11.7	11.4
	Hydrogen Chloride, (HCL)	ppm	---	0.2	2.4	1.6

Ambient air station	Parameter	Units	Standards	APRIL-2019 to SEPTEMBER-2019		
				Min	Max	Avg
Near Security 2nd Gate	Particulate matter - PM $_{10}$	µg/m^3	100.0	55.7	66.4	60.3
	Particulate matter - PM $_{2.5}$	µg/m^3	60.0	24.3	29.2	27.1
	Sulphur Dioxide	µg/m^3	80.0	7.2	12.8	9.9
	Nitrogen Dioxide	µg/m^3	80.0	15.8	22.6	18.4
	Lead, (Pb)	µg/m^3	1.0	0.0	0.0	0.0
	Carbon Monoxide, (CO)	µg/m^3	2.0	1.1	1.3	1.2
	Ammonia, (NH^3)	µg/m^3	400.0	21.2	22.2	21.7
	Benzene, (C_6H_6)	µg/m^3	5.0	0.0	0.0	0.0
	Benzo(a)pyrene, (BaP)	ng/m^3	1.0	0.0	0.0	0.0
	Arsenic, (As)	ng/m^3	6.0	0.0	0.0	0.0
	Nickel, (Ni)	ng/m^3	20.0	0.0	0.0	0.0
	Ozone, (O_3)	µg/m^3	180.0	11.0	11.9	11.5
	Hydrogen Chloride, (HCL)	ppm	---	1.8	2.4	2.2

ANNEXUTURE-II

Details of hazardous waste quantity disposed in the year April 2019 to September -2019 is given below in a category wise segregated manner:

Types of hazardous waste	Units	KSPCB Limits/anum	Disposal of hazardous waste APRIL-19 to SEPTEMBER-19
Distillation residues	Kgs	10000	3374
Process residues and waste	Kgs	56000	22540
Spent catalyst	Kgs	6000	0
Spent carbon	Kgs	40000	11618
Off specification products	Kgs	4000	694
Date expired products	Kgs	4000	542.41
Used oil	KL	25	2.91
Spent mother liquor, Spent Organic solvents, spent mixed solvents (Spent solvent)	KL	2349	1517.502
Empty barrels/containers/liners contaminated with hazardous chemicals wastes	Kgs	15000	7313
Chemical sludge from wastewater treatment, Powder from MEE (Organic/inorganic sludge)	MT	593	181.065
Contaminated cotton rags or other cleaning	MT	5	3.035
Sludge from wet scrubber	MT	10	0

Other waste

Types of Other waste	Units	KSPCB Limits/ Anum	Disposal of other waste APRIL-19 to SEPTEMBER-19
Glass waste in non-dispersible form	Kgs	10000	0
Ceramic waste in non-dispersible form	Kgs	500	0
Waste electrical & electronic assemblies	Kgs	2000	0
Spent activated carbon	Kgs	2000	0
Rubber waste	Kgs	2000	0
resins, Latex, Plastizers, Glues & adhsives	Kgs	4000	0
Iron and steel scrap	Kgs	500000	146753
Paper, paperboard & paper product wastes	Kgs	500000	9526
Untreated cork & wood waste	Kgs	500000	5550

ANNEXURE-III

Indoor air quality Monitoring Details: April -2019 to SEPTEMBER -2019

Area	Parameter	Unit	MIN	MAX	AVG
Production area-1 SYN- 7	PM-RSPM	µg/m³	3.8	6.1	4.73
	Sox	PPM	0.06	2.8	1.49
	NOx	PPM	0.09	3.8	2.13
	H2S	PPM	BDL	BDL	BDL
Production area-2 API-III	PM-RSPM	µg/m³	3.4	5.7	4.53
	Sox	PPM	0.1	2.4	1.36
	NOx	PPM	0.3	3.8	2.17
	H2S	PPM	BDL	BDL	BDL

ANNEXURE-IV

Trainings conducted from April -2019 to SEPTEMBER -2019 trainings are listed below:

Si.no.	Topics	Month	Status
1	Fire safety	Apr.19	Completed
2	CFO Conditions		Completed
3	ISO-14001 & OHSAS-18001	May.19	Completed
4	Data integrity & Documentation Control	Jun.19	Completed
	PPE'S Selections & Usages		Completed
5	Handling of water reactive chemicals	Jul.19	Completed
6	MEE Operation	Aug.19	Completed
7	Effluent handling, segregation & Analysis	Sep.19	Completed

ANNEXURE-V

Latest emission level from all the stacks given below:

Scrubber code	Parameter	Units	APRIL-2019 to SEPTEMBER-2019 Results		
			Max	Min	Avg
E2-SCR-27	Particulate matter	mg/Nm^3	14.6	10.2	12.1
	Acid mist	mg/m^3	2.8	2.2	2.5
E2-SCR-29	Particulate matter	mg/Nm^3	12.6	9.8	10.9
	Acid mist	mg/m^3	2.4	2	2.1
E2-SCR-30/B	Particulate matter	mg/Nm^3	12.3	10.8	11.7
	Acid mist	mg/m^3	2.5	2	2.3
E2-SCR-31/B	Particulate matter	mg/Nm^3	11.6	10.5	11.2
	Acid mist	mg/m^3	2.4	2	2.2
E2-SCR-32/B	Particulate matter	mg/Nm^3	12.7	11	11.7
	Acid mist	mg/m^3	3.1	2.2	2.6
E3-SCR-38	Particulate matter	mg/Nm^3	13.4	10.9	12.2
	Acid mist	mg/m^3	3.4	2.5	2.9
E3-SCR-39	Particulate matter	mg/Nm^3	13.6	11.6	12.5
	Acid mist	mg/m^3	3.5	2.4	2.9
E4-SC-182	Particulate matter	mg/Nm^3	12.4	10.2	11.6
	Acid mist	mg/m^3	2.8	2	2.4
E4-SC-183	Particulate matter	mg/Nm^3	13.8	10.4	12.1
	Acid mist	mg/m^3	3.2	2.4	2.8
E4-SC-184	Particulate matter	mg/Nm^3	12.8	11.6	12.1
	Acid mist	mg/m^3	3	2.3	2.7
E4-SC-185	Particulate matter	mg/Nm^3	12.2	10.6	11.4
	Acid mist	mg/m^3	2.9	2.2	2.6
E6 - SCR -69	Particulate matter	mg/Nm^3	13.2	11.8	12.3
	Acid mist	mg/m^3	3.4	2	2.7
E6 - SCR -70	Particulate matter	mg/Nm^3	13.4	11.2	12.2
	Acid mist	mg/m^3	3.4	2.1	2.6
QC-SC-01	Particulate matter	mg/Nm^3	12.2	10.8	11.5
	Acid mist	mg/m^3	2.8	2.3	2.5
SY-1-SC-31	Particulate matter	mg/Nm^3	14.2	10.6	12.2
	Acid mist	mg/m^3	2.9	2.3	2.6
SY-7-SCR-116	Particulate matter	mg/Nm^3	13.2	10.5	12.1
	Acid mist	mg/m^3	3.1	2.2	2.7
BRD/E - 059	Particulate matter	mg/Nm^3	13.5	10.6	11.9
	Acid mist	mg/m^3	3.2	2.5	2.8
BRD/ E- 060	Particulate matter	mg/Nm^3	13.1	10.2	12.0
	Acid mist	mg/m^3	3.1	2.3	2.7
L-II SCR - 55	Particulate matter	mg/Nm^3	13.2	10.2	11.9
	Acid mist	mg/m^3	2.8	2	2.5
L-III SCR - 42	Particulate matter	mg/Nm^3	13.7	10.1	12.3
	Acid mist	mg/m^3	2.6	2	2.3

Equipment code	PARAMETERS	Standard	units	APRIL-2019 to SEPTEMBER-2019		
				Min	Max	Avg
1250 KVA DG Set	Particulate Matter	75 Max	mg/Nm³	48.7	58.3	53.70
	Sulphur Dioxide	NOT SPECIFIED	ppm	9.1	11.3	10.40
	Oxides of Nitrogen	700 Max	ppm	23	28.4	25.72
	NMHC	100 Max	ppm	9	20	15.77
	Carbon Monoxide as CO	150 Max	ppm	100	130	111.67
1500 KVA DG Set-1	Particulate Matter	75 Max	mg/Nm³	50.3	58.4	53.80
	Sulphur Dioxide	NOT SPECIFIED	ppm	11.7	12.8	12.20
	Oxides of Nitrogen	700 Max	ppm	22.7	28.6	25.73
	NMHC	100 Max	ppm	20	23.6	21.60
	Carbon Monoxide as CO	150 Max	ppm	100	140	118.33
1500 KVA DG Set-2	Particulate Matter	75 Max	mg/Nm³	49.7	61.4	54.75
	Sulphur Dioxide	NOT SPECIFIED	ppm	11.3	13.2	12.15
	Oxides of Nitrogen	700 Max	ppm	22.9	29.3	25.60
	NMHC	100 Max	ppm	19	27	23.60
	Carbon Monoxide as CO	150 Max	ppm	100	120	113.33
1500 KVA DG Set-3	Particulate Matter	75 Max	mg/Nm³	50.6	57.2	53.78
	Sulphur Dioxide	NOT SPECIFIED	ppm	11.6	13.2	12.28
	Oxides of Nitrogen	700 Max	ppm	23	30.4	26.85
	NMHC	100 Max	ppm	16	24	21.37
	Carbon Monoxide as CO	150 Max	ppm	100	120	108.33
3 TPH Boiler	Particulate Matter	150 Max	mg/Nm³	46.5	57.2	51.10
	Sulphur Dioxide	NOT SPECIFIED	ppm	8.2	9.5	8.85
	Oxides of Nitrogen	NOT SPECIFIED	ppm	14.4	21.3	17.53
	Acid Mist	50 Max	mg/Nm³	0	0	0.00
2 & 3 TPH Boiler combined chimney	Particulate Matter	150 Max	mg/Nm³	42.3	51.2	46.68
	Sulphur Dioxide	NOT SPECIFIED	ppm	7.8	9.6	8.78
	Oxides of Nitrogen	NOT SPECIFIED	ppm	14.3	20.2	16.30
	Acid Mist	50 Max	mg/Nm³	0	0	0.00

ANNEXURE-VI

Times of India dated 13.07.2012	Vijaya Karnataka dated 13.07.2012