MCF
Mangalore Chemicals
& Fertilizers Limited

10602/MOEF/1202
Dt. 07.11.2023

The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests & Climate Change,
4th Floor, E & F Wing,
Kendriya Sadan, Koramangala,
**BENGALURU – 560 034**

Dear Sir,

**Sub: Setting up of Speciality Mixtures of Plant Nutrients manufacturing plant at Panambur, Mangalore, Karnataka by M/s. Mangalore Chemicals and Fertilizers Ltd. – EC No. J-11011/133/2009-IA-II (I) dated 03.06.2009 - Half yearly report for the 1st half of 2023-24.**

We have obtained Environmental Clearance from the Ministry of Environment & Forests, Government of India for setting up of Speciality Mixtures of Nutrients plant of capacity 2,21,000 TPA. We have also obtained Consent for Establishment (CFE) and subsequently Consent for Operation (CFO) from the Karnataka State Pollution Control Board for the Speciality Mixtures of Nutrients plant.

As stipulated in the Clause No. A (vi) & B (xvi) of the clearance letter we are enclosing herewith the six-monthly compliance report for the period ending on 30.09.2023.

Thanking you,

Yours faithfully,

**S. GIRISH**
**CHIEF MANUFACTURING OFFICER**

Encl: a/a

CC: 1. The Member Secretary,
Karnataka State Pollution Control Board,
# 49, Parisara Bhavan, 4th & 5th Floor, Church Street,
**BENGALURU – 560 001**

2. The Member Secretary,
Central Pollution Control Board,
"Parvesh Bhawan", C.B.D. Cum-office Complex,
East Arjun Nagar, Shahdara,
**DELHI - 110 032**

3. The Environmental Officer,
Karnataka State Pollution Control Board,

## INDUSTRY DETAILS

| | | |
|---|---|---|
| 1 | **The contact details with emails, telephone numbers, mobile numbers, fax numbers etc. of the responsible person of the project who is competent speak on behalf of the company and on environmental aspects** | **S. GIRISH,**<br>**CHIEF MANUFACTURING OFFICER**<br>**MANGALORE CHEMICALS & FERTILIZERS LTD.,**<br>**PANAMBUR, MANGALURU -575 010.** |
| | | **Phone No.: 0824 – 2220602** |
| | | **Fax No.: 0824 – 2407938** |
| | | **s.girish@adventz.com** |
| 2 | **Updated address of the project with all contact information, emails, details of Environmental management cell and GPS locations of the specified area** | **MANGALORE CHEMICALS & FERTILIZERS LTD,**<br>**PANAMBUR, MANGALURU -575 010** |
| | STD Code, Phone | **0824 – 2220600** |
| | Fax No. | **0824 – 2407938** |
| | Details of Environmental Cell: | **We have a well-established Environment cell and well-equipped in-house laboratory with sophisticated modern Analytical Instruments for carrying out various environmental monitoring parameters in water, wastewater and air emissions. The cell is headed by JGM – EHS&QC and is managed by qualified and trained officers.** |
| 3 | **Email address of the company, email address of any two responsible persons including the project head and website** | **1. Sadanand I.M, GM-Production**<br>**2. Harihara J, JGM- EHS&QC** |
| | Phone numbers of responsible persons | **1. 0824-2220611**<br>**2. 0824-2220668** |
| | E-mail address of responsible persons | 1. **sadanand.im@adventz.com**<br>2. **harihara.j@adventz.com** |
| | Website of the company | **www.mangalorechemicals.com** |
| 4 | **Land Balance Details:** | |
| | (a) Total land area | **192 acres** |
| | (b) Built up area | **77 acres** |
| | (c) Vacant Land | **51 acres** |
| | (d) Greenbelt area | **64 acres** |
| 5 | **Groundwater Usage** | **Groundwater is not used for any purpose** |
| 6 | **Green belt area** | **Developed and maintained about 64 acres of Greenbelt area with various varieties of trees. About 2000 saplings were planted during 2023-24 period.** |
| 7 | **Solid waste management** | **Annexure A** |
| 8 | **Rain Water harvesting** | **Implemented the schemes for harvesting roof water at our township and recharge bore wells. Total roof area covered is about 3500 $m^2$ and estimated water harvested is 13,300 $m^3$/year.** |
| 9 | **Solar Power generation** | **We have installed solar lightings at various locations inside the factory premises as well as in our township. Details are as below:**<br>**1. At MCF Plant premises.** |

| | | |
|---|---|---|
| | | a. Main plant – 251 kWp<br>b. Mangala Garden in front of Safety section-1no-10Watts (LED)<br>c. Mangala Garden Machinery group section Back side -1No- 11Watts (CFL)<br>d. Mangala Garden instrument back side -1No-11Watts (CFL)<br>2. At MCF Township premises<br>a. Children park-1No-10Watts (LED)<br>b. Main gate side-1no-10Watts (LED)<br>c. Inside Sewage Treatment plant-1No-10Watts (LED)<br>d. Near MCF Staff club-1No-10Watts (LED)<br>3. At MCF Guest house premises<br>a. Mangala/Ambica guest house walkway -2No-10x2=20Watts (LED) |
| 10 | Details of action taken under CREP | Annexure A |
| 11 | Current status of the plant with production details | Setting up of Speciality Mixtures of Plant Nutrients manufacturing plant completed and production started in April 2011.<br>Production of Speciality Mixtures of Plant Nutrients for the period from April 2023 to September 2023: 1,271.00MT |

**Compliance to the Environmental clearance issued by the Government of India Ministry of Environment and Forests vide letter F. No. J-11011/133/2009- IA II (I) Dated 3rd June, 2009 for setting up of Speciality Mixtures of Nutrients plant of capacity 2,21,000 TPA, at Panambur, Mangalore, Dakshina Kannada, Karnataka by M/s. Mangalore Chemicals and Fertilizers Ltd.**

SPECIFIC CONDITIONS:

| Sl.No. | Condition | Compliance |
|---|---|---|
| i) | The projects authorities shall ensure zero discharge from the proposed plant. The wastewater generated for the existing plant shall be treated as per the standards prescribed by the Karnataka Pollution Control Board. No utilities shall be developed for this project. | **We have noted the condition. There is no generation and discharge of effluents from the "Speciality Mixtures of Nutrients plant".** |
| ii) | The project authorities shall not manufacture the raw materials as this plant will be based on mixing process only. | **There is no manufacture of the raw materials and the plant will be based only on the mixing process.** |
| iii) | The project authority shall install dust collection system in fertilizer mixing and bagging plant to control particulate emissions. | **Bag filters have been installed for collecting the dust and to control particulate emissions.** |
| iv) | The company shall carry out air quality monitoring at vent/stacks and regular monitor the gaseous emissions along with particulate matter. The reports shall be submitted to the Ministry's Regional Office at Bangalore, CPCB and SPCB. | **There is no gaseous emission or any vent/stack for the "Speciality Mixtures of Nutrients plant". Therefore, air quality monitoring of vent/stack is not applicable to the "Speciality Mixtures of Nutrients plant"** |
| v) | The ambient air quality shall be monitored at least at 3 locations, minimum one in down wind direction. The location of monitoring stations shall be selected in consultation with the State Pollution Control Board. | **Ambient air quality monitoring stations have been set up in consultation with Karnataka State Pollution Control Board (KSPCB) and the Ambient air quality is being monitored regularly at four locations for $PM_{10}$, $PM_{2.5}$, $NH_3$, $SO_2$, $NO_x$ CO, Fluorine and Hydrocarbon and the reports are being submitted to the KSPCB every month.** |
| vi) | Data on ambient air quality, stack emissions and fugitive emissions shall be regularly uploaded on the website of the company and submitted on-line to the Ministry's Regional Office at Bangalore, Karnataka State Pollution Control Board (KSPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months. Data on SPM, $SO_2$ and $NO_x$ shall also be displayed outside the premises at the appropriate place for the general public. | **We would like to submit that there is no gaseous emission from "Speciality Mixtures of Nutrients plant". Ambient air quality data is being uploaded on company's website and hard copy is being submitted to Karnataka State Pollution Control Board every month. The hard copies are being submitted to Ministry's Regional Office at Bangalore, Karnataka State Pollution Control Board (KSPCB) and Central Pollution Control Board (CPCB) once in six months along with the compliance report. Consolidated ambient air quality data** |

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| | | **for the last six months i.e. from April 2023 to September 2023 is attached as Annexure – III. Data on $PM_{10}$, $PM_{2.5}$, $NH_3$, $SO_2$ and $NO_x$ have been displayed outside the premises.** |
| vii) | The company shall develop the green belt in 33% area, out of total area to mitigate the effect of fugitive emissions and noise as per the guidelines CPCB. | **The company has planted about 63,000 trees like Teak, Mangium, Eucalyptus, Subabul, Acacia etc., developed in our green belt area. The area covered by the green belt is about 64 acres.** |
| viii) | The company shall implement all the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries for existing and proposed plant. | **MCF has implemented all the recommendations made in the Charter of Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries. Copy of compliance to CREP is enclosed as Annexure A.** |
| Ix) | Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act. | **MCF Occupational Health Centre consists of 7 beds and is manned by male nurses 24 x 7. Experienced doctor is available during general shift.**<br><br>**Occupational health surveillance and periodic medical examination of all employees is being carried out and records are being maintained.**<br><br>**General periodical medical examinations were conducted in the month of February and March 2023 for company employees.** |
| x) | The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. | **Fire hydrant system as per TAC stipulation is provided in plant area and periodic mock drills have been conducted. All plant personnel have been periodically trained in firefighting, safety aspects, rescue operation and emergency response and handling procedures.** |
| xi) | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. | **Necessary infrastructure and facilities are provided to all the construction labour within the factory premises. Construction work will be systematically managed to avoid the impact on the surrounding environment.** |

B. GENERAL CONDITIONS

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|---|---|---|
| i) | The project authorities shall strictly adhere to the stipulations of the | **The stipulations made by the Karnataka State Pollution Control Board and the** |

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| | SPCB/state government or any statutory body. | **State Government are complied with.** |
| ii) | The gaseous emissions ($SO_2$, HCl, $NO_x$, $NH_3$ fertilizer dust) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time. Emission data shall be periodically monitored and reports submitted to Ministry's Regional Office, CPCB and SPCB. | **The gaseous emission from various process units conform to the standards prescribed by the Karnataka State Pollution Control Board (KSPCB) /Central Pollution Control Board (CPCB). We have been monitoring the emissions of various stacks regularly and the analysis reports are being submitted to the KSPCB every month. Copy of the monitoring report sent to KSPCB for the month of September 2023 is enclosed as Annexure I.** |
| iii) | All the wastes generated from the various processes shall be recycled/reuse in the plant and zero discharge shall be maintained. The domestic waste water shall be treated in septic tanks and treated waste shall be used for irrigation in the green belt. | **There is no liquid effluent discharge, gaseous emissions & solid wastes disposal from the "Speciality Mixtures of Nutrients Plant".**<br>**The liquid effluent from Ammonia and Urea plants are treated in Process Condensate Stripper and deep Hydrolyser respectively. The treated effluent is reused. The treated effluent is regularly monitored for the parameters Ammonical nitrogen, Nitrate, Fluoride, pH etc. Analysis report is enclosed as Annexure IV. The wastewater from water treatment plant is treated in the wastewater recovery plant with RO, Ultra-filtration, Lamella Clarifier etc. The treated wastewater is being reused.**<br><br>**The additional quantity of domestic effluent generated due to "Speciality Mixtures of Nutrients Plant" is treated in the existing domestic effluent treatment plant and the treated water is reused as cooling water makeup.** |
| iv) | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any. | **We have not carried out any expansion or modifications without the prior approval of the Ministry of Environment, Forest and Climate Change.** |
| v) | 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 | **We would like to submit that there is no gaseous emission from the "Speciality Mixtures of Nutrients Plant", as the plant is based only on the mixing** |

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| | shall not be restarted until the desired efficiency has been achieved. | **process.** |
| vi) | The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated. | **Ambient air quality monitoring stations have been set up in consultation with Karnataka State Pollution Control Board (KSPCB) and the Ambient air quality is being monitored regularly for $PM_{10}$, $PM_{2.5}$, $NH_3$, $SO_2$, $NO_x$ CO, Fluorine and Hydrocarbon and the reports are being submitted to the KSPCB every month. Ambient air quality report for the period April 2023 to September 2023 is attached. Annexure – III.** |
| vii) | Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment. | **We would like to submit that, as indicated during the environmental clearance there is no gaseous emission from the "Speciality Mixtures of Nutrients Plant". Hence stack or scrubbing is not applicable for the proposed plant.** |
| viii) | Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Boards/Central Pollution Control Board. | **There are no any fugitive emissions in the work zone environment, product, and raw materials storage area as this plant will be based on mixing process only.** |
| ix) | The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January, 2000 and Hazardous Waste (Management and Handling) Rules, 1989 as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage and disposal of hazardous wastes. | **Rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January, 2000 and Hazardous Waste (Management and Handling) Rules, 1989 are complied with. There is no Hazardous waste generation from the "Speciality Mixtures of Nutrients plant". However, we have obtained authorization from Karnataka State Pollution Control Board for collection, treatment, storage and disposal of hazardous wastes for the existing plants. We have valid authorization issued by the KSPCB under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.** |
| x) | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under | **Additional noise generation due to the 'Speciality Mixtures of Plant Nutrients' facility is negligible. The noise levels of equipment and machinery is within the allowable limit.**<br>**The overall noise levels in and around the plant area is kept well within the** |

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| | Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time) | **standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time)**<br><br>**Noise monitoring details is attached as Annexure VI.** |
| xi) | The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water. | **We have completed the scheme for harvesting roof water at our township. The roof water is being used to recharge the bore well. This scheme has been taken up for accomplishing our concern and social accountability for ground water conservation.**<br>**Total roof area covered – 3500 Sq. mt.**<br>**Approximate water harvested–13300 m3 per year.** |
| xii) | The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval. | **The eco-development plan has been submitted to Karnataka State Pollution Control Board vide letter No.10602/KSPCB/565 dated 26.08.2009 and implementation is completed.** |
| xiii) | The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report. | **We would like to bring to your kind attention that the good office of Ministry of Environment and Forests has decided that no EIA is required for the proposed expansion. Therefore, this clause may not be applicable to the "Specialty Mixtures of Nutrients plant".** |
| xiv) | A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. | **We have a well-established Environment cell and well equipped in-house laboratory with sophisticated modern Analytical Instruments for carrying out various environmental monitoring parameters in water, wastewater and air emissions. The cell is headed by JGM – EHS&QC and is managed by qualified and trained Manager-Environment and officers.**<br>**Regular meetings are conducted by the Environment cell. Last meeting was conducted on 18.08.2023.** |
| xv) | The project authorities shall earmark adequate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose. | **The required fund has been earmarked to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government.**<br>**Recurring costs: Rs.3.0 crores.** |
| xvi) | The implementation of the project vis- | **Six monthly compliance status report is** |

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|---|---|---|
| | a-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB/CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the company. | **being submitted to the monitoring agencies and is being posted on the website of the company.** |
| xvii) | The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter; at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry | **As per the condition we have advertised in English daily "Deccan Herald" and in Kannada daily "Prajavani" on 19.06.2009 about the environmental clearance accorded by the Ministry of Environment & Forests, Government of India for "Setting up of Speciality Mixtures of Nutrients manufacturing plant of capacity 2,21,000 TPA (Micronutrients-10,000 TPA, Speciality Fertilizers-1,00,000 TPA, Fertigation products–11,000 TPA and Soil conditioners–1,00,000 TPA)". A copy of the same has been forwarded to the Ministry's Regional Office, Bangalore vide letter No. 10602/MOEF/527 dated 20.06.2009.** |
| xviii) | The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project. | **Project is financed by the internal source. Hence the date on financial closure is not applicable to this project. The approval has been obtained for the project by the concerned authorities. As indicated in covering letter installation and commissioning of plant equipment is completed.** |

# CHARTER ON CORPORATE RESPONSIBILITY FOR ENVIRONMENTAL PROTECTION (CREP)

## Fertilizer Industry

**Wastewater Management**

| Sl.No. | Stipulation | Compliance |
|---|---|---|
| 1 | Efforts will be made for conservation of water, particularly with a target to have consumption less than 8, 12 and 15 m3/tonne of urea produced for plant based on gas, naphtha and fuel oil, respectively. In case of plants using Naptha and Gas both as feed stocks, water consumption target of less than 10 m3/tonne will be achieved. An action plan for this will be submitted by June 2003 and targets will be achieved by March 2004. | In case of Mangalore Chemicals & Fertilizers (MCF) the average water consumption for the year 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 are, 5.31, 5.35, 5.75, 5.49, 6.20, 6.28, 6.99 $m^3$/MT of urea produced respectively. Thus, as our plants are based on Natural gas the water consumption is well within the target of less than 8 $M^3$/MT of Urea produced. |
| 2 | Use of arsenic for CO2 absorption in ammonia plants and chromate based chemicals for cooling systems, which is still continuing in some industries, will be phased out and replaced with non-arsenic and non-chromate systems by December 2003. In this regard, action plan will be submitted by June 2003. | We are using Benfield solution for $CO_2$ absorption in Ammonia plant ever since commissioning of our plants. Thus there is no source of arsenic. Hence there is no Arsenic waste generation or pollution due to arsenic from our industry.<br><br>We have changed over chromate to non-chromate cooling water treatment programme in 1991. Thus there is no chromate waste generation or pollution due to chromate from MCF |
| 3 | Adequate treatment for removal of oil, chromium (till non-chromate based cooling system is in place) and fluoride will be provided to meet the prescribed standards at the source (end of respective process unit) itself. Action plan will be firmed up by June 2003 for compliance by March 2004. | We have procured mechanical oil skimmers for removing oil from oil separators in our plants. The oil content in final treated effluent is less than 10 ppm.<br><br>We have changed over our Cooling Water treatment system from chromate to non chromate since 1991. Our DAP Plant is zero liquid effluent plant. We do not have Phosphoric Acid plant or any other process generating effluents bearing fluoride. Hence, chromium and fluoride are not present in our liquid effluent. |
| **Sl.No.** | **Stipulation** | **Compliance** |

| | | |
|---|---|---|
| 4 | Proper and complete nitrification and de-nitrification will be ensured, wherever such process is used for effluent treatment, by September 2003. | MCF is employing thermal urea hydrolysis and steam stripping system for treating ammonia and urea bearing effluent streams from our Ammonia and Urea plants. We are not following any biological nitrification method for effluent treatment. Hence this clause is not applicable to MCF. |
| 5 | Ground water monitoring around the storage facilities and beyond the factory premises will be carried out at regular intervals particularly for pH, fluoride. CPCB will finalize the guidelines for groundwater monitoring by December 2003. | We are monitoring ground water by collecting and analyzing the well water outside our factory boundary. We are also analyzing the water from the test borewells provided near hermit storage area. |
| 6 | No effluent arising from process plants and associated facilities will be discharged to the storm water drain. The quality of storm water will be regularly monitored by all the industries. | We have achieved the aim of reusing the entire treated wastewater and the target of zero wastewater discharge during 2010. This is achieved by up gradation of our trade effluent and sewage treatment system by installation of Lamella clarifier, Ultrafiltration & Reverse Osmosis technology (RO) for treatment of trade effluent and Membrane Bio-reactor (MBR) technology for treatment of sewage effluent. The treated wastewater and sewage effluent streams are completely reused and there is no discharge of any effluent.<br><br>The effluent streams are not discharged to storm water drain. The quality of storm water is being monitored regularly. |
| 7 | The industries, where waste water/effluent flows through the storm water drains even during the dry season will install continuous systems for monitoring the storm water quality for pH, ammonia and fluoride. If required, storm water will be routed through effluent treatment plant before discharging. An action plan will be submitted by June 2003 and necessary action will be taken by June 2004. | As mentioned in point No. 6 the effluent streams are not discharged to storm water drain. Hence this is not applicable to MCF. |

**Air Pollution Management**

**Air Pollution Management**

| Sl.No. | Stipulation | Compliance |
|---|---|---|
| 1 | All the upcoming urea plants will have urea prilling towers based on natural draft so as to minimize urea dust emissions | Our Urea plant was commissioned in 1976 and hence not applicable to us. |
| 2 | The existing urea plants, particularly, the plants having forced draft prilling towers, will install appropriate systems (e.g. scrubber, etc.) for achieving existing norms of urea dust emissions. In this regard, industries will submit action plan by June 2003 and completion of necessary actions by June 2004. | In case of MCF, the SPM emission level from urea prilling tower is in the range of 50-90 mg/$Nm^3$ and is well within the stipulated limit of 150 mg/$Nm^3$. Hence dust scrubbing system is not necessary to our urea plant |
| 3 | The sulphuric acid plants having SCSA system will switch over to DCDA system by March 2004 to meet the emission standard for SO2 as 2 kg/tonne of $H_2SO_4$ produced. An action plan for this will be submitted by June 2003. | Our Sulphuric acid Plant was commissioned during 2006 and is DCDA technology. |
| 4 | Sulphuric acid plants having DCDA system will improve the conversion and absorption efficiencies of the system as well as scrubbers to achieve SO2 emissions of 2 kg/tonne of acid produced in case of plants having capacity above 300 tpd and 2.5 kg/tonne in case of plants having capacity upto 300 tpd. An action plan will be submitted by June 2003 and emission levels will be complied with by September 2004. | In our Sulphuric Acid plant $SO_2$ emission is <1.5 kg/tonne of acid produced |
| 5 | Stack height for sulphuric acid plants will be provided as per the guidelines and on the basis of normal plant operations (and not when the scrubbers are in use) by June 2003. The scrubbed gases are to be letout at the same height of the stack. | Stack height for sulphuric acid plant is provided as per the KSPCB guidelines and the scrubbed gases are letout at the same height of the stack. |
| 6 | An action plan for providing proper dust control system at rock phosphate grinding unit in Phos Acid/SSP Plants. | This is not applicable to MCF as we are not having Phosphoric Acid /Single Super Phosphate plants. |
| 7 | Particulate as well as gaseous fluoride will be monitored and adequate control systems | Present emission levels are well within the limits in our DAP plant. SPM level is |

| Sl.No. | Stipulation | Compliance |
|---|---|---|
| | will be installed by June 2004 to achieve the norms on total fluoride emissions (25mg/$Nm^3$) | in the range of 70-90 mg/$Nm^3$ and fluoride is <5 mg/$Nm^3$. |
| 8 | Continuous $SO_2$ emission monitoring systems will be installed in sulphuric acid plants (having capacity 200 tpd and above) by March 2004. Action plan for this will be submitted by June 2003. | Continuous $SO_2$ emission monitoring systems has been installed in our Sulphuric Acid plant and the system is working satisfactorily. |
| 9 | Regular monitoring of ambient air quality with regard to $SO_2$, $NO_x$, PM, $SO_3$, fluoride and acid mist will be carried out. | Monitoring ambient air quality with regard to $SO_2$, $NO_x$, SPM, fluoride and acid mist are being carried out. |

**Solid Waste Management**

| Sl.No. | Stipulation | Compliance |
|---|---|---|
| 1 | Gypsum will be effectively managed by providing proper lining, dykes with approach roads and monitoring of groundwater quality around storage facilities. Accumulated gypsum will be properly capped. In this regard, action plan will be submitted by June 2003 and for compliance by December 2003. | This is not applicable to MCF as there is no process plant which generates gypsum. |
| 2 | An action plan for proper handling, storage and disposal of spent catalyst having toxic metals will be submitted by June 2003 and implemented by September 2003. The industry will also explore recovery/buy-back of spent catalyst by September 2003. | Spent catalysts are sold to outside parties who are having Authorisation from CPCB for reprocessing the waste and recovery of metals. |
| 3 | Carbon slurry, sulphur muck and chalk will be properly managed and disposed of in properly designed landfill either within premises or in common facility. Action plan on this will be submitted by June 2003 and implemented by March 2004. | Sulphur Cake generated at Sulphuric Acid Plant is used as filler material in DAP Plant. There is no generation of Carbon slurry, and chalk at our industry |
| 4 | Existing stock of chromium and arsenic bearing sludge will be properly disposed by December 2003. Industries will also explore recovery of chromium from the sludge. CPCB will provide guidelines for proper disposal of the sludge. | Presently we are not generating any chromate sludge because cooling water treatment system has been changed over from chromate to non-chromate programme in September 1991.<br><br>Chromate sludge generated prior to |

| Sl.No. | Stipulation | Compliance |
|---|---|---|
| | | September 1991 was disposed in a secured on-site landfill during February 2006.<br><br>We are using Benfield solution for $CO_2$ absorption in Ammonia plant ever since commissioning of our plants. Hence, we do not use any arsenic containing chemical in our plant and there is no arsenic bearing sludge generation. |

**Annexure-I**

**September, 2023**

## A. Stack Emission Monitoring:

| | Stack | | *PM, mg/Nm³* | *Fluorine, mg/Nm³* |
|---|---|---|---|---|
| 1 | Urea Prill Tower | Fan A | 62 | -- |
| | | Fan B | 77 | -- |
| | | Fan C | 70 | -- |
| | | Fan D | 88 | -- |
| 2 | DAP Stack | | 79 | 0.7 |
| 3 | Incinerator Stack | | 15 | -- |

| | Stack | *$SO_2$, mg/Nm³* | NOx, mg/Nm³ | *Acid mist, mg/Nm³* |
|---|---|---|---|---|
| 1 | Primary Reformer | BDL | 93@3% $O_2$ | -- |
| 2 | IJT Boiler | Not in operation | -- | -- |
| 3 | Process Air Heater | BDL | -- | -- |
| 4 | Process N.G. Heater | BDL | -- | -- |
| 5 | Ammonia Converter start up heater | Not in operation | -- | -- |
| 6 | BHEL Boiler | BDL | 98 | -- |
| 7 | DAP Package Boiler | Not in operation | -- | -- |
| 8 | Sulphuric Acid Plant Stack | 581 | -- | 24 |

## B. Analysis of CPP Stack Emission:

| Stack | $SO_2$, mg/Nm³ | NOx, mg/Nm³ | Stack | $SO_2$, mg/Nm³ | NOx, mg/Nm³ |
|---|---|---|---|---|---|
| **DG # 1** | Not in Operation | | **DG # 4** | BDL | 57 |
| **DG # 2** | BDL | 105 | **DG # 5** | BDL | 152 |
| **DG # 3** | Not in Operation | | **DG # 6** | BDL | 89 |

## C. Meteorological Data:

| | | |
|---|---|---|
| 1 | Relative Humidity, % | : 73.0 – 96.0 |
| 2 | Wind Velocity, Km/Hr | : <1.0 – 12.2 |
| 3 | Rainfall, mm | : 626.20 |
| 4 | Barometric Pressure, mm of Hg | : 757.14 – 758.95 |
| 5 | Maximum Temperature, °C | : 30.0 – 33.5 |
| 6 | Minimum Temperature, °C | : 23.5 – 26.5 |

BDL - Below Detection Limit (5 mg/Nm³)

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**Annexure - III**

## Ambient Air Quality inside MCF premises from April 2023 to September 2023

| Details | | Particulate Matter (size less than 10 µm) or $PM_{10}$, $\mu g/m^3$ | Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$, $\mu g/m^3$ | Ammonia $\mu g/m^3$ | Sulphur Dioxide as ($SO_2$) $\mu g/m^3$ | Oxides of Nitrogen as ($NO_2$) $\mu g/m^3$ | Ozone ($O_3$) $\mu g/m^3$ | Carbon Monoxide (CO) $mg/m^3$ | Hydrocarbon $\mu g/m^3$ | Fluorine $\mu g/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|
| National Ambient Air Quality Standard for Industrial Area ( 24 hours) | | 100 | 60 | 400 | 80 | 80 | 100 (8 hour) | 4 (1 hour) | Not specified | Not specified |
| April 2023 | Maximum | 59 | 29 | 58 | 7 | 14 | 16 | <0.1 | ND | ND |
| | Minimum | 35 | 18 | 18 | <5 | <5 | 10 | <0.1 | | |
| May 2023 | Maximum | 59 | 28 | 46 | 8 | 14 | 18 | <0.1 | ND | ND |
| | Minimum | 30 | 18 | 17 | <5 | 5 | 10 | <0.1 | | |
| June 2023 | Maximum | 55 | 27 | 41 | 7 | 12 | 15 | <0.1 | ND | ND |
| | Minimum | 32 | 16 | 15 | <5 | <5 | 9 | <0.1 | | |
| July 2023 | Maximum | 51 | 29 | 37 | 8 | 9 | 13 | <0.1 | ND | ND |
| | Minimum | 32 | 15 | 15 | <5 | <5 | 8 | <0.1 | | |
| August 2023 | Maximum | 52 | 32 | 39 | 6 | 9 | 14 | <0.1 | ND | ND |
| | Minimum | 30 | 19 | 20 | <5 | <5 | 9 | <0.1 | | |
| September 2023 | Maximum | 49 | 33 | 38 | 7 | 9 | 14 | <0.1 | ND | ND |
| | Minimum | 30 | 17 | 16 | <5 | <5 | 9 | <0.1 | | |

ND – Not detectable

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**Annexure- IV**

## CONTINUOUS ONLINE MONITORING SYSTEMS

Values from Continuous online monitoring systems for the period: **01.04.2023 to 30.09.2023**

| Month | Parameter | Analyser Values (in mg/l except for pH) | |
|---|---|---|---|
| | | Min. | Max. |
| April 2023 | pH | 6.7 | 7.2 |
| | Ammoniacal Nitrogen, mg/l | 0.2 | 1.25 |
| | TSS, mg/l | 5 | 9 |
| May 2023 | pH | 6.8 | 7.4 |
| | Ammoniacal Nitrogen, mg/l | 0.1 | 1.6 |
| | TSS, mg/l | 5 | 8 |
| June 2023 | pH | 6.8 | 7.6 |
| | Ammoniacal Nitrogen, mg/l | 0.1 | 1.4 |
| | TSS, mg/l | 6 | 10 |
| July 2023 | pH | 6.7 | 7.5 |
| | Ammoniacal Nitrogen, mg/l | 0.1 | 1.5 |
| | TSS, mg/l | 5 | 11 |
| August 2023 | pH | 6.7 | 7.4 |
| | Ammoniacal Nitrogen, mg/l | 0.1 | 1.4 |
| | TSS, mg/l | 4.5 | 8 |
| September 2023 | pH | 6.6 | 7.5 |
| | Ammoniacal Nitrogen, mg/l | 0.1 | 1.5 |
| | TSS, mg/l | 5 | 10.5 |

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Annexure- VI

## NOISE LEVELS AT PLANT BOUNDARY

Noise Levels monitored at the plant boundary for the period: **01.04.2023 to 30.09.2023**

| Month | Location | Noise Level in dB(A) | |
|---|---|---|---|
| | | Day | Night |
| April 2023 | Near Administration Building | 59 | 55 |
| | Near Captive Power Plant | 66 | 61 |
| | Near Hermit Storage | 58 | 55 |
| | Near 18 MG Reservoir | 56 | 51 |
| | Near Main Gate | 66 | 62 |
| May 2022 | Near Administration Building | 56 | 51 |
| | Near Captive Power Plant | 64 | 60 |
| | Near Hermit Storage | 55 | 52 |
| | Near 18 MG Reservoir | 55 | 50 |
| | Near Main Gate | 65 | 60 |
| June 2023 | Near Administration Building | 58 | 52 |
| | Near Captive Power Plant | 63 | 59 |
| | Near Hermit Storage | 55 | 51 |
| | Near 18 MG Reservoir | 57 | 50 |
| | Near Main Gate | 66 | 61 |
| July 2023 | Near Administration Building | 58 | 50 |
| | Near Captive Power Plant | 64 | 58 |
| | Near Hermit Storage | 57 | 50 |
| | Near 18 MG Reservoir | 58 | 51 |
| | Near Main Gate | 64 | 60 |

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| | | | |
|---|---|---|---|
| August 2023 | Near Administration Building | 60 | 53 |
| | Near Captive Power Plant | 63 | 57 |
| | Near Hermit Storage | 58 | 51 |
| | Near 18 MG Reservoir | 57 | 50 |
| | Near Main Gate | 66 | 58 |
| September 2023 | Near Administration Building | 60 | 51 |
| | Near Captive Power Plant | 61 | 56 |
| | Near Hermit Storage | 59 | 50 |
| | Near 18 MG Reservoir | 58 | 50 |
| | Near Main Gate | 65 | 57 |

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