Mangalore Chemicals
& Fertilizers Limited

10602/MOEF/938
11.05.2021

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: Expansion cum Modernization of Fertilizer Plant (Ammonia from 247500 to 328500 TPA, Urea from 429000 to 569400 TPA, DAP/NPK from 401500 to 1401500 TPA and Sulphonated Naphthalene Formaldehyde/ Ploy Carboxylate Ether from 85000 to 103000 TPA) by M/s Mangalore Chemicals and Fertilizers Ltd. – EC No. J-11011/159/2016-IA II (I) dated 14.08.2018 - Half yearly report for the 2nd half of 2020-21

We are enclosing herewith the six monthly compliance reports for the period ending on 31st March, 2021.

Thanking you,

Yours faithfully,

K. PRABHAKAR RAO
DIRECTOR – WORKS

Encl: a/a

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

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

3. The Environmental Officer
Karnataka State Pollution Control Board
Plot No.10B, Baikampady Industrial Area
MANGALURU - 575 011.

Compliance to the Environmental Clearance to the project for Expansion cum Modernization of Fertilizer plant (Ammonia from 247500 to 328500 TPA, Urea from 429000 to 569400 TPA, DAP/NPK from 401500 to 1401500 TPA and Sulphonated Naphthalene Formaldehyde/ Poly Carboxylate Ether from 85000 to 103000 TPA) by Mangalore Chemicals and Fertilizers Limited at Panambur, Mangalore, Dakshina Kannada District, Karnataka.
F. No. J-11011/159/2016-IA-II (I) dated 14th August 2018

Sl. No.	Terms and Conditions	Compliance
i.	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	**We have obtained Consent to Establish for the project to Karnataka State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.**
ii.	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises	**We have noted the condition.**
iii.	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms of 50 mg/Nm^3 for dispersed through stack of adequate height as per CPCB/SPCB guidelines.	**We have noted the condition.**
iv.	The present water requirement of 8928 cum/day is being supplied by Mangalore City Corporation and no additional fresh water shall be required for the proposed expansion	**We have noted the condition.**
v.	Process effluent/any waste water shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.	**All the process plant effluents are separately collected and treated in wastewater recovery unit and reused in Cooling Tower as makeup. No effluent streams are joining the storm water drains. Storm water drains are meant only for rainwater.**
vi.	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and solvent transfer through pumps.	**We have noted the condition.**
vii.	The project proponent shall strictly comply with the rules and guidelines under Manufacture, storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	**We have noted the condition.**
viii.	The project proponent shall undertake waste minimization measures such as: a) Metering and control of quantities of active ingredients to minimize waste. b) Use of high pressure hoses for equipment clearing to reduce wastewater generation.	**We have noted the condition.**
ix.	All the commitment made regarding issues raised during the Public Hearing/consultation meeting	**We have noted the condition.**

	held on 11th January, 2018 shall be satisfactorily implemented	
x.	The green belt shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction and along road sides etc.	**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.**
xi.	At least 0.25% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	**We have noted the condition. Item wise details with time bound action plan is attached as Annexure VII.**
xii.	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines, Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	**We have noted the condition.**
xiii.	The unit shall make the arrangement for protection of possible fire hazardous during manufacturing process in material handling. Firefighting system shall be as per the norms.	**We have noted the condition.**
xiv.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	**We have noted the condition.**
xv.	Transportation of raw materials/products should be carefully performed using GPS enabled vehicles.	**We have noted the condition.**
xvi.	Continuous online (24 x 7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent the unit shall install web camera with night vision capability and flow meters in the channel/ drain carrying effluent within the premises.	**We have noted the condition.**
	General Conditions	
i.	The project authorities shall adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.	**We have noted the condition.**
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. 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 noted the condition.**
iii.	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall	**We have noted the condition.**

	be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	
iv.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	**We have noted the condition.**
v.	The overall noise levels in and around the plant area shall be kept well within the standard 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, 1986 Rules, 1989 viz. 75dBA (day time) and 70 dBA (night time).	**The overall noise levels in and around the plant area is kept well within the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time). Noise Level around the boundary of the factory premises are measured regularly. Report is attached as Annexure VI.**
vi.	The company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	**We have completed the scheme for harvesting roof water at our township. The roof water is being used to recharge the bore wells. This scheme has been taken up for accomplishing our concern and social accountability for ground water conservation.**
vii.	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.	**Training programmes with respect to safety and health aspects of chemical handling are regularly imparted to all employees. Pre-employment and routine periodical medical examinations for all employees are being carried out and records are being maintained.**
viii.	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	**We have noted the condition.**
ix.	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.	**We have organized various CSR activities in the local villages as per the CSR guidelines.** • **Providing educational infrastructure to the backward indigenous tribal communities Sidhis, Goulis, Kunabis, Gondas and the Halakki in Uttara Kannada District.** • **Project "Sahaj"a program to improve the menstrual hygiene practices and sexual reproductive health of adolescent girls and young women at Koppal District of Karnataka**

		• **Conducting free health and eye camps in the neighboring villages under Project Eye Care initiatives.** • **Promotion of Education under Mangala Akshara Mitra program - Providing necessary School furniture and fixtures to Government Higher Primary Schools to enable the rural children to pursue better standard of education.**
x.	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	**We have undertaken many eco-developmental measures including community welfare measures in the project area. Some of the measures are,** • **Planting flower saplings along the median of National Highway 66 and Conservation of water bodies-rejuvenation of Theertha Lake in Mangaluru.** • **Development/maintenance of working models of industry at "Urban Ecopark" in Pilikula Nisargadhama.** • **Adoption of Animals –Feeding and maintaining Sambhar Deer species at Pilikula Biological Park.** • **Development of golf course at Pilikula.** • **Conducting Public Awareness program for educating the public about environment and safety aspects for the public in the neighboring villages, colleges etc.** • **Sanitation & Drinking water - Construction of toilets and providing drinking water to Government Schools under Swaccha Vidyalaya program**
xi.	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 DGM – EHS&QC and is managed by qualified and trained Deputy Manager-Environment and officers. Regular meetings are conducted by the Environment cell.**

		Last meeting was conducted on 28.01.2021.
xii.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	**We have noted the condition.**
xiii.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Muncipal Corporation, Urban local body and local NGO, if any from whom suggestions/representations, if any were received while processing the proposal.	**A copy of the clearance letter is sent to Zila Panchayat and Mangalore City Corporation and also a copy is made available to public by displaying at our company's website.**
xiv.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	**Six monthly compliance status reports are submitted to monitoring agencies regularly and are posted in the website of the Company.**
xv.	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	**The Environment Statement for the year 2019-20 is submitted to KSPCB. It is posted on the website of the Company. It is also being sent to regional office of MOEF & CC at Bengaluru by Email.**
xvi.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry 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 31.08.2018 about the environmental clearance accorded by the Ministry of Environment & Forests, Government of India for "Expansion cum Modernization of Fertilizer Plant (Ammonia from 2,47,500 to 3,28,500 TPA, Urea from 4,29,000 to 5,69,400 TPA, DAP/ NPK from 4,01,500 to 14,01,500 TPA and Sulphonated Naphthalene Formaldehyde/ Poly carboxylate Ether from 85,000 to 1,03,000 TPA)". A copy of the same has been forwarded to the Ministry's**

		Regional Office, Bangalore vide letter No. 10602/MOEF/608 dated 07.09.2018.
xvii.	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.	**We have noted the condition.**

ANNEXURE A

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 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20 and 2020-21 are 6.05, 5.36, 5.31, 5.35, 5.75 , 5.49 and 6.20 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. 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. 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. 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

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 <2 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 50-90 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	Presently we are not generating any chromate sludge because cooling water treatment system has been

Sl.No.	Stipulation	Compliance
	recovery of chromium from the sludge. CPCB will provide guidelines for proper disposal of the sludge.	changed over from chromate to non-chromate programme in September 1991. Chromate sludge generated prior to September 1991 was disposed in a secured on-site landfill during February 2006. 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- VI

NOISE LEVELS AT PLANT BOUNDARY

Noise Levels monitored at the plant boundary for the period: **01.10.2020 to 31.03.2021**

Month	Location	Noise Level in dB(A)	
		Day	Night
October 2020	Near Administration Building	60	52
	Near Captive Power Plant	61	57
	Near Hermit Storage	56	52
	Near 18 MG Reservoir	53	49
	Near Main Gate	62	58
November 2020	Near Administration Building	54	50
	Near Captive Power Plant	52	48
	Near Hermit Storage	50	47
	Near 18 MG Reservoir	49	47
	Near Main Gate	60	54
December 2020	Near Administration Building	56	52
	Near Captive Power Plant	59	53
	Near Hermit Storage	53	50
	Near 18 MG Reservoir	51	48
	Near Main Gate	62	56
January 2021	Near Administration Building	57	54
	Near Captive Power Plant	60	55
	Near Hermit Storage	52	49
	Near 18 MG Reservoir	53	47
	Near Main Gate	59	55
February 2021	Near Administration Building	55	52
	Near Captive Power Plant	58	56

HARIHARA J.
DGM - EHS & QC
MANGALORE CHEMICALS & FERTILIZERS LTD.,
PANAMBUR, MANGALURU - 575 010

	Near Hermit Storage	51	48
	Near 18 MG Reservoir	52	49
	Near Main Gate	58	54
March 2021	Near Administration Building	54	51
	Near Captive Power Plant	59	54
	Near Hermit Storage	53	50
	Near 18 MG Reservoir	51	49
	Near Main Gate	59	55

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DGM - EHS & QC
MANGALORE CHEMICALS & FERTILIZERS LTD.,
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ANNEXURE VII

CORPORATE ENVIRONMENT RESPONSIBILITY

Total Investment for the project: Rs.1547 crores.

Sl. No.	Activities proposed around project site	Total fund allocation for three years in Rs. lakh
1	Water Supply and Sanitation (Public Toilets, Toilets to schools)	80
2	Roads and cross drains in nearby area (Kulur)	120
3	Solar Lightings	30
4	Plantations in community area / Public place	30
5	Soil testing and farmer education	15
6	Health and Eye Check-up camps for the people of nearby area	60
7	Animal adoption in Zoological Park in Pilikula	27
8	Scientific Model of EMP for education purpose in Urban Eco Park at Pilikula	25

Total fund allocated: Rs.387 lakh (0.25% of total project cost)

Timeline: 3 years

HARIHARA J.
DGM - EHS & QC
MANGALORE CHEMICALS & FERTILIZERS LTD.,
PANAMBUR, MANGALURU - 575 010