MATIX
FERTILISERS AND CHEMICALS

Matix Fertilisers And Chemicals Ltd.
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Ref.: MFCL/ MoEF&CC/EC Compl/Phase-I/2023/02

The IGF& Incharge
Ministry of Environment, Forests and Climate Change
Integrated Regional Office, Kolkata
1 B-198, Salt Lake City
Sector III, Kolkata -700106

23rd Nov '2023

Sub: **Half yearly Environment Clearance (EC) Compliance Report for the period of April' 2023 to Sept' 2023.**

Ref.: **MoEFCC File No. J-11011/440/2009-IA II (I) dated April 22'2010 and its amendments dated 19th December 2013, 15th May 2015 & 23rd February 2018.**

Dear Sir,

This has reference to the Environmental Clearances issued to us vide letter nos. MoEF Ref. File No. J-11011/440/2009-IA II (I) dated April 22, 2010 and its amendments dated 19th December 2013, 15th May 2015 & 23rd February 2018, submitting herewith their half-yearly Compliance report along with relevant annexures for the period of **Apr' 2023 to Sep' 2023**.

This is for your kind information and record please.

Thanking you,

Yours faithfully,

23/11/2023

Dr. Rabindra Nath Sahu
(GM – EHS)

Enclosure: As above

Copy to:
1. Member Secretary, West Bengal Pollution Control Board
2. Zonal Officer, Zonal Office Kolkata, Central Pollution Control Board
3. Environment Engineer, Durgapur Regional Office, West Bengal Pollution Control Board.

MATIX FERTILISERS AND CHEMICALS LTD

Green Field Fertilizer Project (2200 MTPD Ammonia, 3850 MTPD Urea and 54 MW CPP) at Panagarh, Dist. - Burdwan, West Bengal

Sub : Six monthly compliance report of Environment Clearance.

Ref : MoEFCC File No: J-11011 / 440/2009 – IAII (I) dated 22nd April 2010 and its amendments dated (1) 19th December 2013, (2) 15th May 2015, (3) 23rd February 2018.

PERIOD: APR' 2023 – SEP' 2023

A.SPECIFIC CONDITIONS

NO.	CONDITIONS	COMPLIANCE STATUS
(i)	**The company shall undertake measures for water conservation. The specific water consumption shall not exceed 8 m^3/tonne of urea produced. The wastewater generated from all sources after treatment and recycled back in the process and use for green belt development to maintain zero discharges condition. The treated effluent shall conform to the prescribed standards. The process water condensate shall be recycled as boiler feed water. The process condensate from the urea and ammonia plant after stripping shall be recycled.**	Company has undertaken various water conservation measures like recycling of water in the process, reuse of treated wastewater in dust suppression and green belt watering purposes etc. The specific water requirement is 4.98 m3/MT of urea produced last year. Zero discharge condition was amended by MoEF&CC for discharge of 201 m3/hr treated effluent to River Damodar vide letter no. J-11011/440/2009 - IAII (I), dated 19th December 2013. Compliance status of the EC amendment dated 19th December 2013 is enclosed as **Annexure-I**. The treated effluent conforms to the standards as prescribed by WBPCB. Summary of the average results is given below for reference:

		<table><tr><th>Sl. No</th><th>Parameters</th><th>Prescribed standards by WBPCB</th><th>Observed values</th></tr><tr><td>1</td><td>pH</td><td>6.5-8.5</td><td>7.80</td></tr><tr><td>2</td><td>Ammonical Nitrogen as N (mg/l)</td><td>50</td><td>28.0</td></tr><tr><td>3</td><td>Oil & Grease (mg/l)</td><td>10</td><td><5.0</td></tr><tr><td>4</td><td>TSS (mg/l)</td><td>100</td><td>40.0</td></tr><tr><td>5</td><td>Nitrate Nitrogen as N (mg/l)</td><td>10</td><td>6.4</td></tr><tr><td>6</td><td>TKN as N (mg/l)</td><td>75</td><td>33.0</td></tr><tr><td>7</td><td>Free Ammonia (mg/l)</td><td>2.0</td><td><2.0</td></tr></table> The process condensate generated from stripping process in Ammonia and Urea plants is recycled back in process.
(ii)	**The project authority shall obtain prior permission for drawl of surface water from the State Irrigation Department. A copy of permission shall be submitted to the Ministry's Regional office.**	Permission for water drawl, from Damodar River, has been obtained from DVRRC and submitted to MoEF&CC, Regional Office vide our letter MFCL/MoEF/CG/2011 dated 05th February 2011. An agreement with DVC has also been executed as per the condition of the permission letter.

(iii)	**The gaseous emissions (NOx, NH_3, Urea dust) from various units including prilling tower shall conform to the prescribed standards. At no time the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system (s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.**	The emission control has been taken into account from the design stage itself to achieve the stipulated standards all the time. In the event of emissions exceeding the stipulated norms, the concerned section comes to a standstill and necessary corrective action being immediately taken to bring the emissions within the prescribed norms.
(iv)	**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, the respective Zonal office of CPCB and the State Pollution Control Board. The levels of PM10/PM2.5, NH3 and NOx (ambient levels) and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.**	EC compliance report along with the monitoring data, are being uploaded on company website periodically. The copies of the same are being submitted to Regional Offices of MoEF&CC, Zonal office CPCB Kolkata and WBPCB. Last six monthly compliance report was sent vide our letter no.- MFCL/MoEF&CC/EC Compl/Phase-I/2023/01 dated 26th May 2023. The monitoring data of Ambient Air Quality (AAQM) as **Annexure-II**. Effluent Water Quality as **Annexure-IIIA,** Ground water Quality as **Annexure-IIIB,** Stack Emissions as **Annexure-IV** for the period of Apr'2023- Sep'2023 are enclosed. Parameters observed in Continuous Ambient Air Quality Monitoring (CAAQMS) are displayed in the Environment information board at factory main gate and updated on a regular basis.
(v)	**To control fugitive emissions, regular monitoring of shop floor environment shall be carried. Leakages in the form of gases, liquid and dust emission shall be checked and mitigative measures taken. The company shall provide de-dusting system at all the transfer points in the bagging system.**	Monitoring of fugitive emissions is carried out on regular basis by putting online detectors with local display and the display in DCS.

<table>
<tr>
<td></td>
<td></td>
<td>Gas detectors have been placed in all strategic locations for monitoring and mitigation of any leakage of ammonia, hydrocarbon, CO, Cl_2 etc. Their location and numbers in each location are tabulated below:
<table>
<tr><th>SN</th><th>Locations</th><th>NH3</th><th>CO</th><th>HC</th><th>Cl2</th><th>H2</th></tr>
<tr><td>1</td><td>Ammonia Plant</td><td>4</td><td>3</td><td>6</td><td>0</td><td>5</td></tr>
<tr><td>2</td><td>Urea Plant</td><td>29</td><td>0</td><td>2</td><td>0</td><td>2</td></tr>
<tr><td>3</td><td>Ammonia Storage</td><td>6</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>4</td><td>OSBL</td><td>0</td><td>0</td><td>0</td><td>6</td><td>0</td></tr>
</table>
A wet de-dusting system in urea bagging plant has been installed and running for collection and dissolving of urea dust. The liquid after dissolving is recycled to the process.
In case of any leakage of dust and liquid mitigative measures are taken immediately.</td>
</tr>
<tr>
<td>(vi)</td>
<td>The company shall provide double walled ammonia storage tank and leak detection and repair programme shall be in place and ammonia sensors shall be installed to detect the leakage of ammonia and measures shall be taken to prevent leakage of pipeline for ammonia by regular inspection of the pipeline.</td>
<td>Ammonia Tanks are double integrity cup-in tank, cone type comprising of an inner cup and an outer tank. The outer tank is designed for full containment of vapors and liquid in the event of failure of inner tank. 6 nos. of Ammonia detectors have been provided in Ammonia Storage area and other strategic locations. Regular inspection and Preventive maintenance system are carried out on regular basis.</td>
</tr>
</table>

(vii)	**The company shall undertake adequate protection measures for handling of ammonia vapour in case of plant upset condition. Safety valve exhaust and drains shall be connected to flare and vent stack.**	Ammonia Plant, Ammonia storage facilities and Urea Plants are equipped with adequate safety valve and flare stacks for handling of any emergency conditions.
(viii)	**The catalyst generated shall be sent to recycler for reuse instead of disposal at the waste disposal facility.**	Noted. Will be followed as and when the spent catalyst is generated at plant, this shall be sold out/disposed through WBPCB recognized 3rd party agency, within a stipulated time of 90 days.
(ix)	**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.**	33% area comprising of 165 acre have been earmarked as green belt area. In this session, approx. 2500 nos. of saplings of local industrial species had been planted through various tree plantation program like World Environment Week, Van mahotsab and other small promotional celebrations inside factory premises and in local areas. We have also distributed around 500 nos. of mango and other fruit saplings to the local villagers for plantation at their available areas.
(x)	**The company shall implement all the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries.**	All applicable conditions of CREP guidelines for Fertilizer industry have been complied with.
(xi)	**Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.**	Pre-employment health checkup has been carried out for new joinees and apprentice. Regular periodic health checkup (six monthly and annual) for

		the employees is conducted and its records maintained in our OHC, as per requirements of the Factories act/rules.
(xii)	**The Company shall comply with the recommendations made in the EIA/EMP and Risk Assessment and public hearing reports**	Being Complied, as applicable. Commitment made in Public Hearing (PH) with its compliance status was submitted to MoEF& CC regional office, Bhubaneswar vide our letter dated 22.09.2016. It is being monitored and updated on a regular basis. All Recommendations in EIA/EMP and Risk assessment have been implemented and are being followed for its continual improvement and fulfill as per requirement.
(xiii)	**The Company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.**	Adequate fire-fighting equipment and Fire network are in place for protection of possible fire hazards during manufacturing process. There is a separate Fire & Safety department with well trained and experienced professionals to handle any such untoward situation. The following resources and practices are available at site: 1. Adequate water storage with independent pumping (supplying constant pressure) system. Storage of Fire water in 2 nos. of storage tanks with 4800 M3 capacity of each.

2. Fire hydrants and monitors are provided at strategic locations in the following numbers.

Sr. No.	Item Description	Total Nos.
1	Double Headed Hydrant	239
2	Single Headed Hydrant	12
3	Fire Escape Hydrant	28
4	Fire water Monitors	28

3. Adequate numbers of fire extinguishers have been placed at various locations inside the plant.

Sr. No.	Item Description	Total Nos.
1	Ammonia & Ammonia Storage	183
2	Urea Plant	42
3	Outside Battery limit Area	87
4	Urea Product Handling	80
5	South-west of NG Metering	25
6	North-east of NG metering	18

<table>
<tr><td></td><td></td><td>4. Fire alarms are placed in strategic locations of the plant.

<table>
<tr><th>Sr. No.</th><th>Item Description</th><th>Total (Nos.)</th></tr>
<tr><td>1</td><td>Microprocessor based addressable fire alarm Panel</td><td>04</td></tr>
<tr><td>2</td><td>Combined Smoke & Heat detectors</td><td>1140</td></tr>
<tr><td>3</td><td>Heat Detectors</td><td>20</td></tr>
<tr><td>4</td><td>Break glass (Manual call Point)</td><td>139</td></tr>
<tr><td>5</td><td>Break Glass- Ex-d (Manual call Point)</td><td>10</td></tr>
<tr><td>6</td><td>Addressable Hooters</td><td>64</td></tr>
<tr><td>7</td><td>Repeater Panel</td><td>01</td></tr>
<tr><td>8</td><td>Response Indicators</td><td>404</td></tr>
<tr><td>9</td><td>Hydrogen detectors</td><td>18</td></tr>
<tr><td>10</td><td>Siren</td><td>02</td></tr>
</table>

5. Necessary PPEs are made available for the plant personnel.
6. Two nos. of dedicated fire tenders with foam system are in place.
7. Fire Safety Certificate (NOC) obtained from West Bengal Fire Service Department.
8. Regular Mock Drills, Disaster Drills are being carried out to enhance preparedness for handling emergency situations. Last fire Mock drill was performed in urea plant on 29th Sep' 2023.</td></tr>
<tr><td>(xiv)</td><td>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.</td><td>All care has been taken to avoid Spillage during material transfer. Spillages, if any, are recovered and recycled to the best possible extent. Storm water drains and effluent drain/oil collection trench are constructed separately to avoid mixing of effluent with storm water.</td></tr>
</table>

(xv)	**The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water.**	Rain Water Harvesting (RWH) pond has been constructed to collect the Run-off water for reuse and recycle. Arrangements have been made to recover the harvested water to the raw water storage reservoir/greenbelt for its reuse.
(xvi)	**Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel of 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.**	Now the project activities are completed, and the plant is operating. Construction laborers, involved during project, were mostly local & residing in nearby areas. Safe drinking water, medical facilities, Permanent toilets, etc. had been provided to construction labors during construction phase of the project.
B.GENERAL CONDITIONS		
(i)	**The project authorities shall strictly adhere to the stipulations of the SPCB/ State Government or any statutory body.**	All the conditions stipulated in CTE, CTO, issued by WBPCB as well as conditions imposed by state authorities are complied with and compliance reports submitted to the concerned authorities from time to time as per the requirements.
(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.**	Gaseous emissions monitoring is being regularly carried out and was found well within the stipulated standards. NABL recognized 3rd party laboratory has also been engaged for the purpose. The results of monitoring data are being regularly submitted to the concerned authorities.

		Realtime monitoring data is also connected to CPCB server as per the directions. The monitoring data of Ambient Air Quality as **Annexure-II,** Effluent Water Quality and Ground Water Quality as **Annexure-IIIA & IIIB,** Stack Emissions as **Annexure-IV** for the duration of Apr' 2023 to Sep '2023 are enclosed for kind reference.
(iii)	**All the waste waters generated from the various processes shall be recycled/ reused in the plant and zero discharge shall be maintained. The domestic wastewater shall be treated in septic tanks and treated waste shall be used for irrigation in the green belt.**	Waste waters generated from various processes are treated and recycled as below: a. Process condensate from ammonia plant is recycled back to the process. b. Process condensate from urea plant is recycled back to the process. c. We have received an amendment of Zero discharge condition and are allowed to discharge treated effluent to the tune of 201m3/hr to river Damodar. d. Domestic effluent is being treated in STP & in green belt for watering of plants. e. Effluents from Boiler Blow Down, DM plant, Cooling Tower Blow Down are treated in ETP and used for watering plants in Green Belt. The treated effluent which becomes extra after the above use, is discharged into Damodar River as per the conditions laid down by WBPCB.

(iv)	**No further expansion of modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alternations 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 intimated and taken necessary approvals from concerned authorities: 1) EC has been amended in 2013, vide letter No.- J-11011/440/2009-IA II (I) for amendment of power plant capacity from 33 MW to 54 MW and discharge of 201 M3 treated effluent to Damodar. 2) EC has been amended by MoEF & CC, vide letter no.**J-11011/440/2009- IAII (I), dated 15.05.2015** for use of Naphtha as fuel in addition to CBM. 3) MoEF&CC has exempted requirement of EC amendment for use of propane as fuel in Primary reformer vide letter dated 23rd February' 2018. 4) The plant Lay out has been revised and approved by Directorate of Factories via letter no WBF/OL/2018/238/P. The same was informed to your good office vide our letter dated 1st December 2017. 5) In case of any further requirements/changes, we will take prior approval from the concerned authority.
(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 shall not be restarted until the desired efficiency has been achieved.**	Noted. The monitoring and analysis of stack emission from HRSG, Aux Boiler, Reformer and Prilling Tower, are being carried out regularly and found to

		be well within stipulated standards. The Stack Emissions monitoring data is enclosed as **Annexure-IV.** In the event of failure of any of the control system, it is resolved immediately or the concerned unit is put out of operations.
(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 (AAQM) stations have been finalized and fixed in consultation with WBPCB. Presently 3 nos. of AAQM stations put in 120-degree angle in the site and regular monitoring is being carried out by internal laboratory and NABL accredited 3rd party laboratory. Additionally, one no. of Continuous Ambient Air Quality Monitoring (CAAQM) station has been installed and continuous monitoring of Ambient Air is being done, displayed and recorded.
(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.**	Stacks of appropriate heights are provided as per CPCB's guidelines. Hydrolyser and Stripper have been provided at Urea plant and scrubber has been provided at Urea Bagging Unit. The water from the scrubbers is recycled back to the process.
(viii)	**All the storage tanks will be under negative pressure to avoid any leakages. Breather valves. N_2 blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapour losses. All liquid raw material shall be stored in storage Tanks and Drums.**	All storage tanks are under atmospheric pressure. Liquefied ammonia is stored in atmospheric storage tanks. N_2 blanketing facilities are available in all storage tanks. Wherever liquid raw material/treatment chemicals are used, they are stored in tanks or drums with secondary containment.

(ix)	**The company shall undertake following Waste Minimization measures.** ➢ **Metering and control of quantities of active ingredients to minimize waste.** ➢ **Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.** ➢ **Use of automated filling to minimize spillage.** ➢ **Use of 'closed Feed' system into batch reactors.** ➢ **Venting equipment through vapour recovery system.** ➢ **Use of high pressure hoses for equipment cleaning to reduce waste water generation.**	The plant is based on latest technology with inbuilt features covering all the measures stipulated including energy conservation, pollution control and increased efficiency. ➢ Metering and control of quantities of active ingredients are provided. ➢ By-product generated in ammonia plant, is used as a raw material in urea plant. ➢ Automated filling system is in place in Urea Bagging plant and Ammonia Storage. ➢ The entire plant operates in the principle of closed circuit and there is no exposure. ➢ All steam vents are connected to HRSG for power generation. ➢ Cleaning with hose is avoided. In case of emergency requirement, the high pressure hose is used.
(x)	**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 state pollution control board/central pollution control board.**	For monitoring and detection of fugitive emissions in workszone, numbers of online detectors for ammonia, hydrocarbon, CO and Cl2 have been installed at strategic locations. It is also monitored through 3rd party. The emissions conform to the WBPCB/CPCB standards. Location wise detector list is as below:

SN	Locations	NH3	CO	HC	Cl2	H2
1	Ammonia Plant	4	3	6	0	5
2	Urea Plant	29	0	2	0	2
3	Ammonia Storage	6	0	0	0	0
4	OSBL	0	0	0	6	0

(xi)	**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**	All requirements of MSIHC Rules, as applicable for our operation, are complied.
(xii)	**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 Environment (Protection) Act, 1986 Rules, 1989 viz 75 dBA (day time) and 70 dBA (night time).**	The noise level in and around the plant area is being maintained well within the standards. Silencers are provided in process and steam vents in Ammonia/Urea plant and power plant. Emergency DG (EDGs) are equipped with acoustic enclosure and silencers. Ambient noise is being monitored and complying with Noise Level Standards. Noise monitoring data from Apr'23 to Sep'23 is enclosed as **Annexure-V.**
(xiii)	**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.**	Eco-development measures were adopted during project stage and are being done on ongoing basis under the CSR activities and as per the need. CSR activities carried out during last financial year is given in Annexure-VII.
(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.**	A separate Environment Management Department (EMD) has been established at site, headed by GM (EHS). A full-fledged environment laboratory having all requisite facilities for in-house environmental monitoring is existing. Head EHS is responsible for overall environmental management of the plant.

(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.**	Adequate funds have been earmarked for Environment protection and there are no constraints of funds for meeting any requirement arising for Environment management. All conditions stipulated by the Ministry and state Government are complied with.
(xvi)	**The implementation of the project vis-à-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.**	Six monthly compliance reports are being submitted to MoEF& CC regional Office, Zonal office of CPCB & SPCB and also being uploaded on company's website on regular basis. Last Six Monthly compliance report was sent vide our letter no.- MFCL/MoEF&CC/EC Compl/Phase-I/2023/01 dated 26th May 2023.
(xvii)	**A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.**	Complied.
(xviii)	**The project proponent shall also submit six monthly reports on the status of compliance of the stipulated E C conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional office of MoEF, the respective Zonal of CPCB and the State Pollution Control Board.**	Six monthly compliance reports with monitored data are being submitted to MoEF&CC regional Office, Zonal office of CPCB and WBPCB as per guidelines in hardcopies and by e-mail on regular basis. Last Six Monthly compliance report was sent vide our letter no.- MFCL/MoEF&CC/EC Compl/Phase-I/2023/01 dated 26th May 2023.
(xix)	**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**	Environment Statement in Form-V is submitted every year to WBPCB before 30th September as per mandate. For the Year 2022-2023 the document was submitted to WBPCB on 25th Sep'2023.

	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 by e-mail.	The same is annexed (Annexure-VI) to 6 monthly EC compliance report and submitted to the MoEFCC, both mail and hard copies and uploaded in company website. Copy of Environment Statement for the Year 22-23 is attached as **Annexure-VI.**
(XX)	**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 on 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.**	Complied. Published in 2 nos. of local newspapers immediately after receipt of the Environment Clearance.
(xxi)	**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.**	• The date of the financial closure has been communicated to RO; MoEF&CC. • Steam and Power Generation (SPG) unit has been commissioned in August 2015 along with utility services and is operative. • The date of commercial Production of Urea is 1st October 2017.

MATIX FERTILISERS AND CHEMICALS LTD

EC Ref : MoEFCC File No: J11011/440/2009/-IA II (I) dated 15h May 2015.

PERIOD: APR' 2023 – SEP' 2023		
Additional conditions		
NO.	**CONDITION**	**COMPLIANCE STATUS**
i)	**All the safety precaution mentioned in the risk assesment shall be implemented.**	All safety precautions suggested in the risk assessment study have been implemented. As of now, Naptha is not used as fuel. We are using NG/RLNG from GAIL.
ii)	**Automatic online monitoring system (24x7 monitoring device) for flow measurement and related pollutants in the treated effluent to be installed. The data to be made available to the SPCB and Company Website**	Online continuous effluent monitoring system for flow, pH, Ammonical Nitrogen and Nitrate Nitrogen has been installed in treated effluent discharge line. The data being monitored continuously at our DCS and communicated on Real Time basis to CPCB server and WBPCB.
iii)	**Similarly Automatic online monitoring system (24x7 monitoring device) for air emission to be installed.The data to be made available to the resprctive SPCB and the company website.**	Online emission monitoring analyzers are installed in stacks of HRSG, Aux Boiler, Primary Reformer. The parameters like PM, SO2 and NOx being measured and communicated to CPCB server and WBPCB in regular intervals.

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EC Ref : MoEFCC File No: J11011/440/2009/-IA II (I) dated 23rd February 2018

PERIOD: APR' 2023 – SEP' 2023		
Additional conditions		
NO.	**CONDITION**	**COMPLIANCE STATUS**
i)	**The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in its 30th meeting held during 2-3 November,2017. The Committee noted that the proposed additional fuel arrangement would save the equivalent quantity of CBM, resulting in its increased availability as feedstock for increase in plant throughput. The Committee also suggested that such proposals involving no change in production capacity and not contributing to any increase in pollution load, may not be insisted for any environmental clearance or amendment in the existing environmental clearance.**	Noted.
ii)	**Based on recommendations of the EAC and further deliberations in the Ministry vis-a-vis the Ministry's Notification dated 23rd November, 2016, you are required to obtain 'No increase in pollution load' certificate from the concerned State Pollution Control Board in accordance with the provisions of the said Notification. You are also requested to submit compliance status of the existing EC conditions after receipt of the desired certification from the SPCB.**	WBPCB issued the recommendation for use of commercial propane on 18.09.2018. We are not using propane for operation of the plant and discarded propane facilities. We have got continuous gas supply from GAIL and there are no activities related to propane running as of now.

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Annexure-I

EC Ref : MoEF letter No: J11011/440/2009/-IA II (I) dated 19th December 2013

PERIOD: OCTOBER 2022 – MARCH 2023		
Additional conditions		
NO.	**CONDITION**	**COMPLIANCE STATUS**
i)	**All the specific conditions and general conditions specified in the environmental clearance accorded vide Ministry's letter no. J-11011/440/2009-IA (I) dated 22nd March, 2010 shall be implemented.**	Being complied as above.
ii)	**Company Shall enhance the captive power plant capacity from 33 MW to 54 MW comprising of one GTG of 24 MW and one STG of 30 MW. The fuel shall be used as gas. Low NOx burner shall be installed.**	Captive Power Plant of capacity 54 MW (GTG of 24 MW and STG of 30 MW) has been installed. Low NOx burner has been provided. We are using NG/RLNG as fuel.

iii)	**The effluent generation from cooling tower, oily water and DM plant effluent shall not exceed 201m3/hr. All the effluents after treatment shall be routed through a properly lined guard pond/holding pond for equalization and final control. In the guard pond/holding pond automatic monitoring system for flow and relevant pollutants (i.e. pH, ammoniacal nitrogen, nitrate nitrogen, etc.) shall be provided with high level alarm system**	The effluent generation from cooling tower, oily water and DM plant is less than 201 m3/hr. Effluent generated from DM plant is being neutralized in Neutralization pit (N-pit). Effluent from cooling tower, boiler blow down, neutralized effluent from N-pit are neutralized and treated in ETP and collected in holding ponds (2 nos). After conforming the quality of holding pond water to the stipulated standards, it is being reused in green belt and horticulture purpose. Excess effluent from holding pond is discharged to Damodar River. Automatic monitoring system for flow, pH, Ammoniacal nitrogen and Nitrate nitrogen have been installed and are continuously monitored. The Real Time Monitoring data being transferred to CPCB server as per the guidelines.
iv)	**The treated effluent shall be discharged into the River Damodar after conforming to the standards prescribed for the effluent discharge and after obtaining permission from the WBSPCB. No process effluent will be discharged in and around the project site.**	The treated effluent conforms the specified standard before discharging to River Damodar. West Bengal Pollution Control Board (WBPCB) has accorded Consent to operate permitting the treated effluent discharge into Damodar River vide their letter no CO123385 dated-29.04.2022. No process effluent being discharged in and around the site.
v)	**Regular monitoring of ground water by installing piezometric wells around the guard pond and sludge disposal sites shall periodically be done and report submitted to the Bhubaneswar Regional Office of the Ministry, CPCB and SPCB**	Monitoring of ground water from piezometric wells are being carried out in internal laboratory and through 3rd party laboratory on regular basis. Copies of the previous analysis reports from 3rd party laboratory, are attached as **Annexure- IIIB.**

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: - Apr' 2023

Nature of Sampling: Ambient Air Quality Monitoring
Sample collected and tested by: In- house Laboratory
***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)							
			04.04.2023	07.04.2023	*11.04.2023	14.04.2023	18.04.2023	21.04.2023	*25.04.2023	28.04.2023
PM 10	µg/m3	100	100.87	101.98	109.88	104.20	120.67	123.45	67.52	108.06
PM 2.5	µg/m3	60	53.42	51.16	42.11	63.31	61.57	61.54	29.98	62.02
Sulphur Dioxide (SO2)	µg/m3	80	1.69	1.73	4.81	1.86	3.19	2.45	4.79	2.22
Nitrogen Oxides (NO2)	µg/m3	80	8.03	7.49	25.76	8.03	7.69	7.88	25.63	8.48
Ammonia (NH3)	µg/m3	400	32.30	32.54	22.61	30.32	30.18	31.28	22.95	30.20

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)							
			*04.04.2023	07.04.2023	11.04.2023	14.04.2023	*18.04.2023	21.04.2023	*25.04.2023	28.04.2023
PM 10	µg/m3	100	85.17	55.02	48.69	56.98	118.74	49.02	82.78	48.02
PM 2.5	µg/m3	60	33.78	32.08	26.89	35.61	56.76	24.04	38.94	24.22
Sulphur Dioxide (SO2)	µg/m3	80	4.73	1.10	<1.0	1.02	4.53	1.42	4.95	2.01
Nitrogen Oxides (NO2)	µg/m3	80	25.31	8.29	8.33	8.33	24.54	7.68	24.36	8.50
Ammonia (NH3)	µg/m3	400	23.68	45.72	44.20	45.76	24.28	52.73	22.61	44.61

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)							
			*04.04.2023	07.04.2023	*11.04.2023	14.04.2023	*18.04.2023	21.04.2023	25.04.2023	28.04.2023
PM 10 #	µg/m3	100	125.92	141.97	119.48	177.13	104.29	205.13	186.58	154.46
PM 2.5 #	µg/m3	60	45.56	71.02	53.44	86.95	54.50	76.80	69.20	72.45
Sulphur Dioxide (SO2)	µg/m3	80	4.53	1.60	4.84	1.97	4.90	<1.0	6.02	3.85
Nitrogen Oxides (NO2)	µg/m3	80	24.56	11.92	25.94	13.00	26.21	10.52	9.02	9.12
Ammonia (NH3)	µg/m3	400	24.32	59.18	23.48	63.70	23.50	29.40	26.45	30.18

Note: # PM10 & PM2.5 results are high at the boundary, in few days, due to external factors like vehicular movements and construction activities in the adjacent areas.

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: - May' 2023

Nature of Sampling: Ambient Air Quality Monitoring

Sample collected and tested by: In- house Laboratory

***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)							
			02.05.2023	05.05.2023	*09.05.2023	12.05.2023	*16.05.2023	19.05.2023	*23.05.2023	26.05.2023
PM 10	µg/m3	100	114.27	110.23	94.60	102.88	88.59	90.54	93.88	71.05
PM 2.5	µg/m3	60	45.38	49.59	46.39	48.34	44.88	42.13	46.29	42.16
Sulphur Dioxide (SO2)	µg/m3	80	1.34	1.07	4.77	1.04	4.57	1.22	5.03	1.25
Nitrogen Oxides (NO2)	µg/m3	80	8.53	8.95	25.55	8.52	23.84	8.67	25.63	7.70
Ammonia (NH3)	µg/m3	400	44.39	46.34	21.25	44.08	19.86	34.96	20.84	43.21

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)							
			*02.05.2023	05.05.2023	09.05.2023	12.05.2023	*16.05.2023	19.05.2023	23.05.2023	26.05.2023
PM 10	µg/m3	100	98.61	46.97	45.96	47.48	84.27	49.75	38.62	43.64
PM 2.5	µg/m3	60	41.12	21.46	25.02	24.41	40.69	24.75	21.04	25.45
Sulphur Dioxide (SO2)	µg/m3	80	4.27	<1.0	<1.0	<1.0	4.55	1.02	1.13	<1.0
Nitrogen Oxides (NO2)	µg/m3	80	23.94	8.20	8.48	7.67	24.23	8.40	8.00	7.94
Ammonia (NH3)	µg/m3	400	21.25	43.29	44.21	38.38	18.93	31.81	31.62	29.95

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)							
			*02.05.2023	05.05.2023	*09.05.2023	12.05.2023	16.05.2023	19.05.2023	*23.05.2023	26.05.2023
PM 10	µg/m3	100	108.75	109.97	107.79	117.92	108.00	110.01	103.98	92.02
PM 2.5	µg/m3	60	43.75	48.02	50.34	56.99	42.50	47.78	51.02	42.86
Sulphur Dioxide (SO2)	µg/m3	80	4.38	<1.0	4.96	1.24	1.44	1.49	4.91	<1.0
Nitrogen Oxides (NO2)	µg/m3	80	25.46	12.28	26.58	11.71	11.21	8.95	24.79	8.84
Ammonia (NH3)	µg/m3	400	20.57	28.85	20.57	34.23	32.69	32.67	21.61	34.12

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: - Jun' 2023

Nature of Sampling: Ambient Air Quality Monitoring
Sample collected and tested by: In- house Laboratory
***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)							
			*06.06.2023	09.06.2023	13.06.2023	16.06.2023	*20.06.2023	23.06.2023	*27.06.2023	30.06.2023
PM 10	µg/m3	100	94.56	106.01	105.00	99.26	90.54	72.06	57.21	58.12
PM 2.5	µg/m3	60	38.80	42.76	49.96	46.62	42.22	35.08	28.76	34.66
Sulphur Dioxide (SO2)	µg/m3	80	4.82	1.45	1.09	1.06	4.63	1.57	4.08	2.00
Nitrogen Oxides (NO2)	µg/m3	80	24.88	8.12	8.01	8.58	25.11	8.93	22.30	9.06
Ammonia (NH3)	µg/m3	400	22.17	35.69	31.59	35.18	23.41	46.94	19.82	48.22

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)							
			*06.06.2023	09.06.2023	*13.06.2023	16.06.2023	*20.06.2023	23.06.2023	27.06.2023	30.06.2023
PM 10	µg/m3	100	100.61	38.88	83.59	44.44	104.65	40.00	36.96	30.16
PM 2.5	µg/m3	60	45.17	21.21	38.75	23.36	48.37	19.89	20.01	18.86
Sulphur Dioxide (SO2)	µg/m3	80	4.72	<1.0	4.71	<1.0	4.45	1.00	1.00	<1.0
Nitrogen Oxides (NO2)	µg/m3	80	23.47	7.90	25.23	8.14	24.70	8.02	8.36	8.51
Ammonia (NH3)	µg/m3	400	21.61	34.98	21.61	34.22	24.46	46.57	43.86	46.76

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)							
			06.06.2023	09.06.2023	*13.06.2023	16.06.2023	20.06.2023	23.06.2023	*27.06.2023	30.06.2023
PM 10 #	µg/m3	100	108.22	102.00	104.90	105.40	100.00	96.66	51.29	78.99
PM 2.5	µg/m3	60	42.42	44.22	45.83	40.71	51.10	38.80	24.94	41.00
Sulphur Dioxide (SO2)	µg/m3	80	1.71	2.17	4.84	1.34	2.30	3.02	4.33	3.08
Nitrogen Oxides (NO2)	µg/m3	80	9.31	8.67	25.92	8.81	8.49	9.35	23.48	10.01
Ammonia (NH3)	µg/m3	400	36.59	38.30	22.17	44.63	40.93	39.18	20.75	42.29

Note: # PM10 results are high at the boundary, due to external factors of vehicular movements and construction activities in the adjacent areas.

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: - Jul' 2023

Nature of Sampling: Ambient Air Quality Monitoring
Sample collected and tested by: In- house Laboratory
***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)							
			*03.07.2023	07.07.2023	11.07.2023	14.07.2023	*17.07.2023	21.07.2023	*24.07.2023	28.07.2023
PM 10	µg/m3	100	76.46	70.16	78.86	80.22	71.35	75.45	80.04	45.05
PM 2.5	µg/m3	60	32.50	40.01	40.02	41.16	30.88	32.11	42.86	22.88
Sulphur Dioxide (SO2)	µg/m3	80	4.34	1.62	2.56	2.53	4.09	3.96	4.06	1.00
Nitrogen Oxides (NO2)	µg/m3	80	23.39	8.92	9.28	11.86	21.44	20.56	22.22	8.26
Ammonia (NH3)	µg/m3	400	21.28	48.66	49.10	52.66	20.75	21.21	22.23	36.33

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)							
			*03.07.2023	07.07.2023	*10.07.2023	14.07.2023	*17.07.2023	21.07.2023	25.07.2023	28.07.2023
PM 10	µg/m3	100	70.96	35.00	94.18	33.39	66.12	66.53	65.42	76.85
PM 2.5	µg/m3	60	30.06	21.00	42.79	17.00	27.58	28.46	24.55	24.14
Sulphur Dioxide (SO2)	µg/m3	80	4.12	<1.0	4.26	<1.0	4.19	4.10	4.00	4.10
Nitrogen Oxides (NO2)	µg/m3	80	22.38	9.00	22.52	9.00	21.83	21.35	20.63	20.69
Ammonia (NH3)	µg/m3	400	19.28	46.60	20.19	44.99	21.87	21.19	20.23	20.20

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)							
			04.07.2023	07.07.2023	*10.07.2023	14.07.2023	18.07.2023	21.07.2023	*24.07.2023	28.07.2023
PM 10	µg/m3	100	70.88	88.82	96.82	95.21	91.53	89.55	77.14	79.20
PM 2.5	µg/m3	60	39.26	45.56	50.96	39.59	45.76	42.51	33.35	32.45
Sulphur Dioxide (SO2)	µg/m3	80	2.22	3.00	4.45	4.23	4.06	4.21	4.27	4.23
Nitrogen Oxides (NO2)	µg/m3	80	9.59	9.99	24.47	19.65	19.20	20.01	21.79	22.30
Ammonia (NH3)	µg/m3	400	46.16	48.28	23.15	22.85	22.54	23.10	23.41	22.15

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: Aug' 2023

Nature of Sampling: Ambient Air Quality Monitoring
Sample collected and tested by: In- house Laboratory
***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)						
			04.08.2023	*08.08.2023	15.08.2023	18.08.2023	*23.08.2023	25.08.2023	*29.08.2023
PM 10	µg/m3	100	79.88	79.58	71.24	78.64	88.39	74.55	93.20
PM 2.5	µg/m3	60	39.80	37.88	24.08	28.51	49.67	28.20	41.25
Sulphur Dioxide (SO2)	µg/m3	80	1.19	4.09	<1.0	1.14	4.60	<1.0	4.19
Nitrogen Oxides (NO2)	µg/m3	80	9.83	22.79	8.54	9.10	24.94	8.95	23.19
Ammonia (NH3)	µg/m3	400	39.80	19.28	38.45	43.65	19.91	35.66	21.81

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)						
			04.08.2023	*08.08.2023	15.08.2023	*17.08.2023	18.08.2023	*23.08.2023	25.08.2023
PM 10	µg/m3	100	37.91	74.83	41.26	77.74	38.20	80.13	39.20
PM 2.5	µg/m3	60	16.14	34.76	18.35	34.58	18.00	40.03	17.96
Sulphur Dioxide (SO2)	µg/m3	80	<1.0	4.05	<1.0	4.46	<1.0	4.36	1.00
Nitrogen Oxides (NO2)	µg/m3	80	8.74	21.22	8.38	22.50	9.00	23.78	8.16
Ammonia (NH3)	µg/m3	400	44.86	18.45	46.86	20.53	49.60	20.22	45.22

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)						
			04.08.2023	*17.08.2023	15.08.2023	18.08.2023	22.08.2023	25.08.2023	*29.08.2023
PM 10	µg/m3	100	94.85	73.48	84.66	94.65	90.25	83.40	72.13
PM 2.5	µg/m3	60	44.27	39.67	38.90	41.38	43.38	40.88	38.75
Sulphur Dioxide (SO2)	µg/m3	80	2.30	4.40	2.13	2.10	1.90	2.25	4.30
Nitrogen Oxides (NO2)	µg/m3	80	11.12	22.30	9.43	9.96	10.56	10.21	22.14
Ammonia (NH3)	µg/m3	400	48.64	21.37	46.86	44.88	51.25	48.56	21.96

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Air Quality Monitoring Data (April' 2023 to Sep'2023)

Annexure-II

Month: Sep' 2023

Nature of Sampling: Ambient Air Quality Monitoring
Sample collected and tested by: In- house Laboratory
***Sample Collected and tested by: External 3rd party Laboratory (NABL Accredited)**

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 1 (Near Fire & Safety Building)						
			*05.09.2023	08.09.2023	12.09.2023	15.09.2023	19.09.2023	*20.09.2023	29.09.2023
PM 10	µg/m3	100	72.15	68.12	72.56	78.86	98.00	90.14	65.28
PM 2.5	µg/m3	60	36.25	54.25	48.26	40.02	42.00	47.30	38.56
Sulphur Dioxide (SO2)	µg/m3	80	4.28	2.12	2.30	2.56	<1.0	4.08	1.42
Nitrogen Oxides (NO2)	µg/m3	80	22.24	10.15	9.85	9.28	7.50	22.71	8.95
Ammonia (NH3)	µg/m3	400	17.76	48.70	46.95	49.10	55.00	21.80	48.60

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 2 (Near Cooling Tower)						
			*05.09.2023	08.09.2023	*12.09.2023	15.09.2023	19.09.2023	*26.09.2023	29.09.2023
PM 10	µg/m3	100	60.53	58.48	78.55	36.62	77.00	68.21	38.96
PM 2.5	µg/m3	60	31.30	25.65	38.46	18.26	34.00	33.81	28.42
Sulphur Dioxide (SO2)	µg/m3	80	4.08	1.54	4.46	1.10	<1.0	4.17	1.25
Nitrogen Oxides (NO2)	µg/m3	80	22.69	9.52	22.07	8.48	7.20	23.98	9.56
Ammonia (NH3)	µg/m3	400	18.42	48.82	21.57	48.82	52.00	20.57	48.92

Parameters	Unit	Permissible limits (NAAQS)	AAQM Station - 3 (Near Batching Plant)						
			05.09.2023	08.09.2023	*12.09.2023	15.09.2023	*20.09.2023	*26.09.2023	29.09.2023
PM 10	µg/m3	100	86.58	92.30	89.55	92.30	83.33	71.90	65.25
PM 2.5	µg/m3	60	69.20	52.64	46.74	46.69	44.10	36.70	38.54
Sulphur Dioxide (SO2)	µg/m3	80	<1.0	1.82	4.14	3.50	4.30	4.24	1.72
Nitrogen Oxides (NO2)	µg/m3	80	9.02	10.46	22.91	11.02	23.40	24.72	12.56
Ammonia (NH3)	µg/m3	400	26.44	47.00	22.24	47.61	22.18	21.61	52.48

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Effluent Water Quality Monitoring Results (Apr'2023 - Sep'2023)

Annex-III A

Sample collected and analyzed by: In-house Env laboratory

*Sample analysed by External 3rd Party Laboratory (NABL Accredited)

Parameters	Month + Date	CPCB Limits	Apr	May	Jun	Jul	Aug	Sep
	UOM		*04.04.2023	08.05.2023	*20.06.2023	24.07.2023	21.08.2023	25.09.2023
pH	--	6.5-8.5	7.32	8.0	6.86	7.9	7.8	7.2
Ammoniacal Nitrogen as N	mg/l	50	7.7	6.7	7.80	35.0	28	7.0
Oil & Grease	mg/l	10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TSS	mg/l	100	26.0	40.0	17.0	45.0	40	20.0
Nitrate Nitrogen as N	mg/l	10	4.0	4.9	4.75	5.6	6.4	8.4
TKN as N	mg/l	75	9.9	9.5	9.0	45.0	33.0	13.0
Free Ammonia	mg/l	2.0	--	<2.0	--	<2.0	<2.0	<2.0

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ground Water Quality Monitoring Results (Apr'2023 – Sep'2023)

Annex-III B

Sample collected from: Piezometric Wells
Sample analyzed by: External 3rd party Laboratory (NABL Accredited)

Parameters	Unit	Jun,2023		
		Well No.-1	Well No.-2	Well No.-3
pH	--	7.80	7.62	7.78
Conductivity	uS/cm	400.0	393.0	611.0
Total Hardness as CaCO3	mg/l	NA	NA	NA
TDS	mg/l	224.0	220.0	354.0
Chloride Cl^-	mg/l	27.0	27.0	29.0
Fluoride as F^-	mg/l	0.90	0.87	0.80
Ortho- Phosphate as $PO4^{3-}$	mg/l	0.03	0.15	0.06
Nitrate as NO^{3-}	mg/l	7.18	4.16	6.56
Nitrite as NO^{2-}	mg/l	<0.03	<0.03	<0.03
Boron (as B)	mg/l	<1.0	<1.0	<1.0
Iron (as Fe)	mg/l	0.52	0.35	1.61
Zinc (as Zn)	mg/l	<0.01	0.057	0.022
Lead (as Pb)	mg/l	<0.1	<0.1	<0.1
Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001
Nickel (as Ni)	mg/l	<0.05	<0.05	<0.05
Total Arsenic (as As)	mg/l	<0.01	<0.01	<0.01
Total Coliform	MPN/100 ML	130	350	500
Fecal Coliform	MPN/100 ML	90	170	280

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ground Water Quality Monitoring Results (Apr'2023 – Sep'2023)

Annex-III B

Sample collected from: Piezometric Wells
Samples analyzed by: In-house Env laboratory in QC

Parameters	Unit	June, 2023 (Post-Monsoon) Piezometric Well No.-1	June, 2023 (Post-Monsoon) Piezometric Well No.-2	June, 2023 (Post-Monsoon) Piezometric Well No.-3
	Date	20.06.2023	20.06.2023	20.06.2023
pH	--	7.7	7.5	NA
Conductivity	uS/cm	--	--	--
Total Hardness as CaCO3	mg/l	--	--	--
Ca Hardness as CaCO3	mg/l	--	--	--
Mg Hardness as CaCO3	mg/l	--	--	--
Total alkalinity as CaCO3	mg/l	--	--	--
Chloride Cl^-	mg/l	--	--	--
Sulphate as $SO4^{2-}$	mg/l	--	--	--
Phosphate as $PO4^{3-}$	mg/l	--	--	--
Sodium as Na^+	mg/l	--	--	--
Potassium as K^+	mg/l	--	--	--
Ammonia as NH3	mg/l	<1.0	<1.0	NA
Nitrate as NO^{3-}	mg/l	5.2	1.5	NA
Nitrite as NO^{2-}	mg/l	--	--	--
Fluoride as F^-	mg/l	--	--	--
TDS	mg/l	--	--	--

Stack Emission Monitoring Results (Apr' 2023 - Sep' 2023)

Annex-IV

Month: - Apr'2023 & Sep'2023

Sample Collected and Tested by: - External 3rd Party Laboratory (NABL Accredited)

SN.	Stacks attached to	Parameters		Results
				Sep-Oct' 2023
1	Auxiliary Boiler (S-1) *	**NOx as NO2**	**mg/Nm3**	**NA**
		SO2		NA
2	HRSG (Heat Recovery Steam (Generator)-(S-2)	**NOx as NO2**	**mg/Nm3**	**56.19**
		SO2	mg/Nm3	<20.0
3	Reformer (S-3)	**NOx as NO2**	**mg/Nm3**	**69.42**
4	Prilling Tower (S-4)	**PM**	**mg/Nm3**	**17.46**
5	EDG-1	CO	% v/v	<0.2
		PM	**mg/Nm3**	**53.31**
6	EDG-2	CO	% v/v	<0.2
		PM	**mg/Nm3**	**59.37**

*Aux Boiler not functioning at the time of sampling and analysis. It is being operated as per steam requirement during process.

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Ambient Noise Monitoring Result (Apr'2023 - Sep'2023)

Annex-V

Month: Apr' 2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date : 07-04-2023)
1.	Factory gate	56.2
2.	RWTP	58.1
3.	DMP CR	64.4
4.	IA/PA	68.8
5.	Urea PT	64.9
6.	CCR	64.0
7.	Store	68.0
8.	Ammonia Storage	58.4
9.	SPG Porta Cabin	57.9
10.	Work Shop	66.8
11.	UPH	70.1
12.	Lab	56.2

Month: May' 2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date :09-05-2023)
1.	Factory gate	62.4
2.	RWTP	58.2
3.	DMP CR	60.0
4.	IA/PA	62.2
5.	Urea PT	70.0
6.	CCR	56.1
7.	Store	64.5
8.	Ammonia Storage	52.2
9.	SPG Porta Cabin	58.8
10.	Work Shop	68.0
11.	UPH	73.8
12.	Lab	55.0

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Ambient Noise Monitoring Result (Apr'2023 - Sep'2023)

Month: Jun' 2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date :10-06-2023)
1.	Factory gate	58.0
2.	RWTP	58.0
3.	DMP CR	59.0
4.	IA/PA	64.0
5.	Urea PT	70.0
6.	CCR	61.0
7.	Store	60.0
8.	Ammonia Storage	55.0
9.	SPG Porta Cabin	64.0
10.	Work Shop area	66.0
11.	UPH	74.0
12.	Lab	59.0

Month: Jul' 2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date : 16-07-2023)
1.	Factory gate	61.0
2.	RWTP	56.0
3.	DMP CR	59.0
4.	IA/PA	62.0
5.	Urea PT	70.0
6.	CCR	60.0
7.	Store	62.0
8.	Ammonia Storage	65.0
9.	SPG Porta Cabin	69.0
10.	Work Shop	66.0
11.	UPH	73.0
12.	Lab	58.0

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Ambient Noise Monitoring Result (Apr'2023 - Sep'2023)

Month: Aug' 2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date :03-08-2023)
1.	Factory gate	57.0
2.	RWTP	58.0
3.	DMP CR	61.0
4.	IA/PA	55.0
5.	Urea PT	71.0
6.	CCR	64.0
7.	Store	67.0
8.	Ammonia Storage	62.0
9.	SPG Porta Cabin	59.0
10.	Work Shop	68.0
11.	UPH	74.0
12.	Lab	57.0

Month: Sep'2023

Monitoring by: In-House Laboratory

Sn.	Locations	Noise Level, dB(A) (Date :06-09-2023)
1.	Factory gate	64.0
2.	RWTP	64.0
3.	DMP CR	60.0
4.	IA/PA	52.0
5.	Urea PT	70.0
6.	CCR	71.0
7.	Store	60.0
8.	Ammonia Storage	62.0
9.	SPG Porta Cabin	58.0
10.	Work Shop	72.0
11.	UPH	62.0
12.	Lab	60.0

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

ANNEXURE-VI

MATIX
FERTILISERS AND CHEMICALS

Matix Fertilisers And Chemicals Ltd.
CIN : U24120WB2009PLC153272
Registered Office & Plant :
Panagarh Industrial Park,
P.O. Panagarh Bazar,
Dist. Purba Bardhaman - 713 148
West Bengal, India
T : +91 343 350 2000
info@matixgroup.com

MFCL/Env. Statement /FY22-23

To,
The Member Secretary
West Bengal Pollution Control Board
"Paribesh Bhawan "
Bldg.No. 10-A, Block - LA , Sector - III
Salt Lake City, Kolkata - 700 106

September 23rd 2023

Sub: Submission of Environmental Statement in Form -V for 2022-2023

Dear Sir,

Please find enclosed the annual Environmental Statement (Form-V) for the year 2022-2023. This report is submitted in compliance to the requirements of the "Environment Protection Act", for your kind reference and record please.

Hope, you will find the same in order.

Thanking You,

Yours faithfully,

23/09/2023

Dr. Rabindra Nath Sahu
(GM – EHS)

Encl. As above

Cc :
The Regional Officer
West Bengal Pollution Control Board
Durgapur Regional Office, City Centre
Durgapur, WB-713 216

[FORM-V]

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2023

PART-A

I	**Name and address of the owner/occupier of the industry operation or process:**	Sri Rajan Thapar, Whole Time Director & Occupier Matix Fertilisers And Chemicals Limited, Panagarh Industrial Park, PO- Panagarh Bazar, Dist - Purba Bardhaman, West Bengal -713148
II	**Industry category Primary**	31021000 (STC code) Secondary. 2873 (SIC Code)
III	**Production capacity:**	2200 MTPD Ammonia (avg), 3850 MTPD urea (avg), 54 MW Captive Power (avg)
IV	**Year of establishment:**	2015
V	**Date of the last environmental statement submitted:**	24th September 2021

PART-B

1) Water and Raw Material Consumption

Water Consumption m3/Day

Source	During the financial year: FY 2021 – 2022		Current financial year FY 2022 – 2023	
UOM	M3	M3/Day	M3	M3/Day
A. Process	1400797	3837.80	2064320	5655.67
B. Cooling*	2789888	7643.53	3046092	8345.46
C. Domestic	63785	300.87	77114	211.27
Total	**3637478**	**11782.20**	5187526	14212.40

**** Including evaporation & drift loss in Cooling Tower, Water reservoir evaporation loss, Fire water loss, utility water etc.*

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

23/09/2023

Name of Products Process water consumption per unit of product output:

Name of the products	Water consumption per unit of products in M^3/MT			
	During the financial year: FY 21-22		During the current financial year FY 22-23	
	Production	Consumption	Production	Consumption
Urea	628877 MT	3.0 m3/MT Urea	1052291 MT	2.64 m3/MT Urea
Ammonia	381629 MT		617596 MT	
Captive Power	126676 MWH *	1.91 m3/MW	113565 MWH	1.77 m3/MW

*In the Year 21-22, production of Urea is effective from Sept 2021 to Mar 2022 only.

i) Raw Material Consumption

Name of the raw materials	Name of the products	Consumption of raw materials	
		During the financial year FY 2021-2022	During the current financial year FY 2022-2023
RLNG/Coal Bed Methane (CBM) Hydrochloric Acid (32%) Sodium Hydroxide (48%) Sulphuric Acid (98%) Chlorine	Urea, Ammonia and Captive Power	Following chemicals and fuels were consumed during FY 2021-2022 for Steam and Power Generation.	Following chemicals and fuels were consumed during FY 2022-2023 for Urea, ammonia and Power Generation.

Sl. No	Chemical	Unit	(FY 21-22)
1.	HCl	MT	622.00
2.	NaOH	MT	344.00
3.	H2SO4	MT	164.22
4.	Chlorine	MT	85.52
5.	Coal Bed Methane Fuel	SM3	511266203

Sl. No	Chemical	Unit	(FY 22-23) (Total)
1.	HCl	MT	619.00
2.	NaOH	MT	396.00
3.	H2SO4	MT	144.55
4.	Chlorine	MT	128.12
5.	Coal Bed Methane Fuel/RLNG	SM3	649465630

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

PART-C

Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (Mass/day)		Quantity of pollutants in discharges (Mass/Volume)		Percentage of variation from prescribed standards with reasons
A. Water	*FY: 21-22 (Kg/Day)*	*FY: 22 -23 (Kg/Day)*	*FY: 21-22 (mg/L)*	*FY: 22 -23 (mg/L)*	*FY: 22 - 23*
pH	NA	NA	7.7	7.7	--
TSS	85.38	135.07	35.4	28.0	-72.0%
Ammoniacal N	26.29	118.47	10.9	24.6	-50.8%
Nitrate N	3.14	24.30	1.3	5.0	-50.0%
O&G	12.06	24.12	<5.0	<5.0	-50.0%
Total Kjeldahl Nitrogen	33.29	144.56	13.8	30.0	-60.0%
B. Air					
	FY: 21-22 (Kg/Day)	*FY: 22 -23 (Kg/Day)*	*FY: 21-22 (mg/Nm3)*	*FY: 22 -23 (mg/Nm3)*	*FY: 22 - 23*
Auxiliary Boiler - NOx	21.33	25.48	7.82	9.35	-96.9%
Primary Reformer – NO2 in mg/Nm3 at 3% O2	71.18	181.68	11.18	25.7	-93.6%
Prilling Tower- PM in mg/Nm3	11528.47	16949.24	36.66	46.32	-7.4 %
HRSG – NO2 in mg/Nm3	29.07	155.98	7.62	36.73	-87.8%
DG Set-1 PM in mg/Nm3	7.31	4.61	61.45	42.41	-71.7%

All units are in mg/lit except pH

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

PART – D

Hazardous Wastes
(As specified under Hazardous Waste Management and Handling Rules, 2016 and its amendments)

Hazardous Waste	Total quantity generated in Kg.	
	During the last financial Year: 2021- 2022	During the current financial Year: 2022- 2023
Used Oil	0.0	24890
Waste oil	230.0	0.0
Contaminated Plastic Wastes	1970.0	45130
PVC Fills & Old Fan Blades	0.0	2330
Used/Spent Resin	0.0	42050
ETP Sludge	0.0	2650
Spent Catalyst	0.0	2960
Used Insulation (Rock Wool)	0.0	9410

PART - E

Solid Wastes

Solid Waste	Total quantity generated in Kg.	
	During the last financial Year: 2021- 2022	During the current financial Year: 2022- 2023
a) From process	Nil	Nil
Raw water sludge	Nil	Approx 10 MT raw water filtration sludge generated and disposed to our Green Belt Area
Spent activated carbon	Nil	Nil
Spent Anthracite	Nil	Nil
b) From Pollution control facilities	NA	NA
c) 1. Quantity recycled or reutilized within the unit. 2. Sold 3. Disposed	Nil	Approx 1.0-1.5 MT loose/spilled urea collected in bags and recycled back to packing system
	Nil	Nil
	Nil	Nil

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

23/05/2023

PART – F

Please specify the characterization (in terms of the composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Plant has generated above mentioned quantities of hazardous wastes in FY22-23. The quantity of wastes generations was due to plant's scheduled and emergency shut down maintenance, repairing, overhauling and replacement of older materials from process equipment and systems like DMF, ACF, MGF, Catalytic Columns, GT, etc. These wastes were disposed off to WBPCB approved agency (West Bengal Wastes Management Ltd.).
- Hazardous wastes Storage facility was developed to keep the materials under shed with proper storage system. The category-wise segregated and collected hazardous wastes were handed over to our Main Store through a return note for its further disposal/sell out to the WBPCB authorized agency, by following the standard guidelines and process. All hazardous wastes disposal being done through manifest system and records are maintained as per requirement of the hazardous Wastes Management Rules, 2016 and its amendments.
- Sludge obtained from Raw Water Storage facilities are rich in natural nutrients. It is disposed off in Greenbelt for levelling the low-lying area.
- During loading/unloading/bagging of urea, some minor quantities get spilled on the platform. They are collected and recycled back to the system.

PART – G

Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production.

Natural resource conservation and recycling of waste are our prime focus and responsibility. The following pollution control measures have been taken to reduce environmental pollution load which alternately supports in conservation of natural resources and improvement of productivity.

1. We are using natural Gas and CBM as raw materials due to which GHG emission (SO2, NOx, CO2 etc.), through stacks are minimum. Particulate Matter emission is also minimum. No ash generated and hence land for disposal is not required.
2. We have installed low NOx boiler limiting NOx emission to atmosphere.
3. Our Prilling Tower for urea melt prilling is of Natural draft, hence urea particle emissions are minimum.
4. In Urea production, we have installed hydrolyzer and stripper for treatment of urea process condensate and recovery of ammonia from that.
5. We have WHRB unit, to utilize hot flue gases for boiler operation and power generation.
6. Green belt has been developed with an area with more than 165.21 acre complying of local species of plants.

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

7. Steam and steam condensate from AMMONIA AND urea process are recycled to power plant, which ultimately saves water and fuel in boilers.
8. Water from Rainwater Harvesting is used as raw water substitute.

PART – H

Additional measures/investment proposals for environmental protection including abatement of pollution, prevention of pollution.

1. ETP treated water is used for watering in Green Belt. Recycling of condensate water, from steam condensate, process condensate and turbine condensate, is done and reused in urea ammonia manufacturing process.
2. STP Treated water is used in Greenbelt for watering.
3. Online Measurement facilities for monitoring of Environmental parameters of emission and liquid effluent are in place and connected to CPCB server.
4. We are registered with CPCB as a Brand Owner for recycling of plastic wastes and comply with plastic wastes handling Rules 2016 and its amendments, will achieve target recycling in 2023-2024.
5. One more new CAAQMS station is being planned to install for Continuous monitoring of Ambient Air.

PART – I

Any other particulars for improving the quality of environment.

1. EPR registration renewal process done in CPCB portal and EPR compliance done for the FY22-23 and certificated received from CPCB.
2. House- keeping measures adopted and facilitating for wastes segregation at source and disposed as per the laid down practices, which are not reusable.
3. Bio-medical wastes disposal practices followed and sent to WBPCB recognized Common wastes treatment and disposal facility (Medicare Environmental Management Private Limited).
4. Training and awareness on environmental requirements and natural resource conservation measures provided to all stake holders on regular basis.
5. Implementation, follow up and continual improvement for IMS with respect to ISO 14001:2015 and ISO 48001:2018, to further improve Environmental performance for sustainability.
6. Mutual Agreement with M/s Paharpur Cooling Tower for reuse of PVC fills and blades, generating from our Cooling Towers, to promote the recycling of plastic waste and hazardous wastes management.

Date:

Place:

Authorized Signatory

MATIX FERTILISERS AND CHEMICALS LTD. MATIX Panagarh

Expenditure on CSR Activities (Apr'2023 - Sep'2023)

Annexure-VII

CSR Activities and Expenses for last six months (Apr23 to Sep23), are being tabulated below:

Sl. No.	CSR activity	Expenses incurred in Crore
i)	Education (Mini Science Centre Project)	0.1155
ii)	Digital Education project	0.0500
iii)	Health (Project Dhadkan)	0.1065
iv)	Women Empowerment (Project Shakti)	0.0379
v)	Women Empowerment (Project Saksham)	0.0203
Total Expenditure in Lakhs		**0.3302**