



# FEDERAL MINISTRY OF ENVIRONMENT

## Environment House

Independence Way South, Central Business District, Abuja - FCT.

Tel: 09-2911 337 [www.environment.gov.ng](http://www.environment.gov.ng), [ea-environment.org](mailto:ea-environment.org)

## ENVIRONMENTAL ASSESSMENT DEPARTMENT

FMEEnv/EA/EIA/4424/Vol.1/68

18<sup>th</sup> September, 2017

The Chief Technical Officer,  
Indorama Eleme Fertilizer & Chemical Limited,  
Eleme Petrochemical Complex,  
East-West Expressway,  
Eleme.  
Port Harcourt.  
Rivers State.

**RE: ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PERMIT FOR THE PROPOSED NITROGENOUS FERTILIZER TRAIN TWO (2) PROJECT (AMMONIA AND UREA) PLANTS**

Please refer to your letter Ref: IEFCL-TR2/ENV/FMENV/2012/01 dated 21<sup>st</sup> August, 2017 and our letter Ref: FMEEnv/EA/EIA/4424/Vol.1/54 dated 5<sup>th</sup> September, 2017 on the above stated project.

2. Following the conclusion of the site verification exercise, the Ministry has placed the project in Category One (1) requiring mandatory EIA studies and Panel review meeting. Please be informed that the issues considered significant by stakeholder during the scoping workshop must be addressed. Please note that this is a condition for the approval of the Terms of Reference (TOR) submitted to the Ministry.

3. The field data gathering and laboratory analyses of the environmental component of the study which will be One (1) season ground truthing shall include the understated parameters as minimum content of the EIA study; also the sampling points shall be geo-referenced with coordinates in UTM format and tables in spread sheet (excel).

S/N	ENVIRONMENTAL PARAMETERS.	PARAMETER DETAILS	NUMBER OF SAMPLES/ DISTRIBUTION	PARAMETERS TO BE MONITORED.
1	Climate/ Meteorology	Microclimate/Regional Climatic features	In-situ measurement, secondary data	Temperature (pattern), Rainfall (pattern, amount, trend), Relative humidity, Wind direction and speed, visibility, cloud cover and their local effects, climatic variability and extreme events, climatic change projections etc.

2	<b>Ground water</b>	Physico-chemical & Microbial.	2nos + control sample	<p>Depth to water table and thickness, hydraulics, recharge and uses, local aquifer storage capacity, specific yield and fluctuation, Colour, pH, Temperature turbidity, Salinity, hardness, Electrical conductivity, heavy metals (Cu, Pb, Fe, K, Ba etc) DO, BOD, COD, THC, , Phosphate, SO<sub>4</sub>, NO<sub>3</sub>, TSS, Free NH<sub>3</sub>, Nitrate, Nitrogen, Cyanide, Vanadium, Arsenic, Suspended Solids, Chromium, Oil and Grease.</p> <p>Microbiology- faecal coliform, total coliform, total plate, Benthos, Microbiology (THB,HUB,HUF).</p>
3	<b>Soil</b>	Physical	7Nos. + 2controls stations Total 9 Stations	Profile (depth, type) colour, permeability, porosity, bulk density, texture (grain size) & Structure.
		Chemical	7Nos. + 2controls stations Total 9 Stations	Heavy metals (V, Ni, Fe, Pb, Cu, Zn etc),pH, moisture content, sulphate, nitrate, Oil & Grease, NH <sub>3</sub>
		Soil Microbiology	7Nos. + 2controls stations Total 9 Stations	Total heterogenic bacteria (total hydrocarbon, T. fungi, total hydrocarbon bacteria (THB), faecal coliform.
4	<b>Surface Water/Sediments</b>	Physico-chemical & Microbial.	3 Nos. + 2 control Stations Total 5 stations	<p>Colour. PH, temperature, turbidity, Salinity. Hardness. Electrical conductivity etc.</p> <p>heavy metals (Cu, Pb, Fe, K, Ba etc) DO, BOD, COD, THC, , Phosphate, SO<sub>4</sub>, NO<sub>3</sub>, TSS, Free NH<sub>3</sub>, Nitrate, Nitrogen, Cyanide, Vanadium, Arsenic, Suspended Solids, Chromium, Oil and Grease.</p> <p>Microbiology- faecal coliform, total coliform,</p>

				total plate, Benthos, Microbiology (THB,HUB,HUF).
5	<b>Climate change consideration</b>			Methods of reducing greenhouse gases, drainages, design, types of pavements, treatment of surface runoff, landscape mitigation, green zones etc.
6	<b>Land Use</b>	Land cover	-	Land Use types: Recreational, agricultural, forestry, industrial, residential, institutional, commercial. Trends etc
7	<b>Ambient Air Quality</b>		7Nos. + 2controls stations Total 9 Stations	Suspended particulate matter, NO <sub>x</sub> ,SO <sub>x</sub> , CO <sub>2</sub> , CO, VOCs, H <sub>2</sub> S.
8	<b>Noise</b>	Noise level	7Nos. + 2controls stations Total 9 Stations	Noise (Db)
9	<b>Ecology</b>	Vegetation/ animals	4 transects	Flora and fauna, Habitat status, floral composition, density and distribution, vegetation structure, plant pathology
10	<b>Aquatic Biology</b>			Fisheries, histology, invasive plants, benthic organisms
11	<b>Geology/Hydro geology</b>	Local and regional		Stratigraphy, structure, fractures patterns, flow direction, aquifer level, Regional geology, Stratigraphic/Lithologic properties, surface water courses/drainage pattern, water table level & type, ground water potential and quality, ground water vulnerability etc
12	<b>Socio-Economic</b>			Education, historical/archaeological monuments, indigenous groups, vulnerable communities, culture, distribution of livelihood, land use, etc. with structured questionnaire administration.
13	<b>Health Impact Assessment</b>			Health status and prevalent diseases within and around the project area and host community.

14	<b>consultation</b>			Relevant regulators, stakeholders & others
15	<b>Waste Management</b>			
16	<b>Effluent stream</b>			
17	<b>Stack Emission measurement</b>		7 Nos (in-situ) in different positions	
18	<b>Pollutant dispersal modeling</b>	Proposed urea plant area		Using screen and AERMOD model

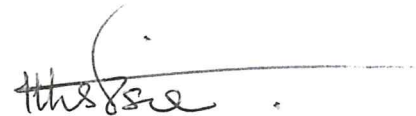
4. You are to facilitate the participation of Ministry officials and also ensure full quality assurance/quality control (QA/QC) measures for the laboratory analysis in line with standard practices. You should notify the Ministry in good time to enable proper plan for participation in the exercise.

5. I am further directed to request you upon completion of the EIA studies, to submit ten (10) hard copies and one (1) electronic copy of the draft EIA report to the Ministry and mail a copy to [eia@ead.gov.ng](mailto:eia@ead.gov.ng).

6. The following should be forwarded to the Federal Ministry of Environment before submission of the **draft** EIA report.

- Evidence of accreditation of the Federal Ministry of Environment for the Laboratory where the sample analysis would be carried out.
- Chain of Custody.
- Certificate of Analysis duly stamped and signed by the Laboratory Manager.
- Evidence of Laboratory witnessing by the Federal Ministry of Environment.

7. Thank you for your co-operation.



**K.A. Ihebinike**  
For: Honourable Minister.