

SIX-MONTHS COMPLIANCE STATUS REPORT

November 2021 – April 2022

TALCHER FERTILIZERS LIMITED
VILLAGE VIKRAMPUR THESIL
TALCHER
DISTRICT ANGUL, ODISHA
TALCHER
DISTRICT ANGUL, ODISHA

ABC Techno Labs India Private Limited

An ISO : 9001:2008, ISO:14001:2004 & OHSAS:18001:2007 Certified Company

(Accredited by NABL, NABET, MoEF)



Corporate Office & MultiLab:

ABC TOWER, No:400, 13th Street,
SIDCO Industrial Estate - North Phase,
Ambattur, Chennai - 600 098.
P.No: +91- 44 - 2625 7788 / 7799.



Helpline: +91 - 94442 60000 / **Website:** www.abctechnolab.com

Branches: Delhi, Mumbai, Kolkata, Jaipur, Hyderabad, Bangalore, Cochin, Coimbatore

1.0 About the Industry

In 1971, The Fertilizer Corporation of India Ltd. (FCIL), set up Talcher Unit over an area of 902 acre in the district of Angul, Odisha which is located about 126 km away from Bhubaneswar to produce urea using coal as feed stock. Licensor for the Coal gasification was M/s Krupp Koppers, Germany and for Ammonia and Urea units Ammonia synthesis, M/s Tecnimont, Italy.

Commercial Production of Ammonia and Urea commenced on 01.11.1980 with Ammonia and Urea production capacity of 900 and 1500 Tons per day respectively. However due to frequent power restriction, obsolete and mismatch of technology and precarious steam balance the plant could not be sustained. The Board for Industrial and Financial Reconstruction (BIFR) declared the FCIL sick in 1992 and in 2002 Government of India initiated actions to close the company.

Due to shortage of domestic Urea and availability of large land banks, infrastructure and tied-up rail, water & electricity in the units of FCIL, GoI in the year 2007 decided to revive all units of FCIL. Government of India approved Policy for new Investments in the Urea Sector in September 2008 and constituted Empowered Committee of Secretaries (ECOS) in October 2008 with the mandate to evaluate all options of revival of closed units of FCIL/HFCL and to make suitable recommendations for consideration of the Government. In August, 2011, the Cabinet Committee on Economic Affairs (CCEA) had approved the Draft Rehabilitation Scheme (DRS) for revival of all the Units of FCIL and HFCL. DRS envisaged revival of Talcher Unit by the consortium of M/s. Rashtriya Chemical & Fertilizers Limited (RCF), M/s Coal India Limited (CIL) and M/s GAIL (India) Ltd. (GAIL).

Project - Talcher Fertilizers Limited, Talcher, Odisha.**EC Letter No. - F. No. J-11011/231/2013-IA-II(I) dated 9th February, 2018****A. STATUTORY COMPLIANCE:**

S.No.	Conditions	Compliance
1	In view of the base line air quality data for PM ₁₀ already exceeding the prescribed standards, one more season data to be collected to confirm the consistency of readings/values, and for suggesting mitigating measures accordingly.	<ul style="list-style-type: none"> Monitoring of PM₁₀ has been completed for the period November 2021 to April 2022 Copy of the same is enclosed in this report.
2	The project proponent shall, take stringent mitigating measures to minimize the incremental concentration of air pollutants (mainly PM ₁₀ & PM _{2.5}) to the extent possible due to the proposed industrial operations.	As the monitored results are well within the specified limits no additional measures are proposed to be installed.
3	The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.	Compliance Assured
4	The incremental ground level concentrations (GLCs) for PM ₁₀ , PM _{2.5} , SO ₂ & NO ₂ due to the increased vehicular and other allied / developmental activities, shall be analyzed and reported for actual impact of the project, besides remedial measures.	Compliance Assured <ul style="list-style-type: none"> To check the incremental increase in air pollutants during construction phase, two monitoring stations were selected in the project site. The data is included in this report. As indicated in EIA the major transport of raw material will be by conveyor and hence no impact on GLC due to transport is expected.
5	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.	Consent to Establish (CTE) is obtained from the Office of the State Pollution Control Board, Odisha, vide No. 12951/IND-II-NOC-6253 dated: 30.11.2019. The same enclosed as Annexure - II.
6	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	Feasibility study for ZLD will be undertaken and appropriate treatment/recycling method will be selected to achieve ZLD.
7	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	Compliance Assured. It will be obtained in consent to operate.
8	National Emission Standards for Organic Chemicals Manufacturing industry issued by the Ministry vide G,S,R, 608(E) dated 21st July, 2010 and amended from time to time shall be followed.	Compliance Assured.
9	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the	Plants will be designed with state of Art technologies with inbuilt pollution control

	NMQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	systems so that the prescribe norms and fugitive emissions will be under control.
10	Total freshwater requirement shall not exceed 49200 cum/day to be met from surface water from Brahmini River. Prior permission in this regard shall be obtained from the concerned regulatory authority.	<ul style="list-style-type: none"> • Fresh Water source will be received from the stipulated source. • And all necessary permissions will be ensured prior to installation of the project.
11	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Compliance Assured.
12	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.	Compliance Assured.
13	ETP sludge, process inorganic & evaporation salt, if any, shall be disposed of to the TSDF.	Compliance Assured.
14	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and imports 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.	Compliance Assured.
15	The company shall undertake waste minimization measures as below: <ul style="list-style-type: none"> a) Metering and control of quantities of active ingredients to minimize waste. b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c) Use of automated filling to minimize spillage d) Use of Close Feed system into batch reactors. e) Venting equipment through vapour recovery system. f) Use of high-pressure hoses for equipment. 	<p>Compliance Assured.</p> <p>Compliance Assured.</p> <p>Compliance Assured.</p> <p>Compliance Assured.</p> <p>Compliance Assured.</p> <p>Compliance Assured.</p>
16	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	The project activities will be implemented in existing site of TFL with lot of greenery and the guideline of 33% area under greenbelt out of total project area will be achieved.
17	All the commitment made regarding issues raised during the Public Hearing/consultation meeting held on 30h August ,2017 shall be satisfactorily implemented.	CSR dept. will keep aside a sum for CSR activities for project to meet public hearing requirement to the practical extent possible for an industrial unit.
18	At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on Public Hearing issues and item-wise	Compliance Assured.

	details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	
19	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,	Compliance Assured.
20	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	Compliance Assured.
21	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	HR and OHC Dept. will conduct regular health checkups and records for the same will be maintained as per the Factories Act.
22	Continuous online (24x7) 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.	Compliance Assured.

COMPLIANCE OF OTHER GENERIC CONDITIONS

1	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.	Compliance Assured.
2	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.	Compliance Assured.
3	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall 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.	Compliance Assured.
4	The National Ambient Air Quality Emission Standards issued by the Ministry vide G,S.R.	Compliance Assured.

	No. 826(E) dated 16th November, 2009 shall be followed,	
5	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 (daytime) and 70 dBA (night time).	Compliance Assured.
6	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.	Compliance Assured.
7	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.	
8	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.	Compliance Assured.
9	The company shall undertake all relevant measures for improving the socioeconomic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.	CSR activities shall be undertaken by involving local and other stake holders.
10	The company shall undertake eco developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Greenery development in the area will be undertaken. Activities shall be undertaken for Developmental measures for welfare of overall environment.
11	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,	Compliance Assured.
12	A copy of the clearance letter shall be sent by the project proponent to concerned	Complied.

	Panchayat, Zilla Parishad /Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.	
13	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.	Compliance assured.
14	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,	This will be complied after commencement of commercial production.
15	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://moef.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.	Compliance done. Communicated on In local Oriya newspaper and English newspaper. i) Oriya on date 16.02.2018 in Samaj (Angul Edition) ii) English on date 15.02.2018 in New Indian Express (Bhubaneswar Edition) Copy of the same has been submitted already.
16	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.	This will be complied with. Presently, the site preparation work is under progress.

Annexure 1

Environmental Clearance Letter

Annexure - I

F. No. J-11011/231/2013-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA- II Section)

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi -3

Dated: 9th February, 2018

To

M/s Talcher Fertilizers Ltd
Village Vikrampur, Tehsil Talcher
District Angul (Odisha)

Sub: Setting up Ammonia & Urea Fertilizer Unit at Village Vikrampur, Tehsil Talcher, District Angul (Odisha) by M/s Talcher Fertilizers Ltd - Environmental Clearance -reg.

Sir,

This has reference to your proposal No. IA/OR/IND2/58560/2013 dated 11th October, 2017, submitting the EIA/EMP report with public consultation details on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for setting up ammonia & urea fertilizer unit based on coal gasification for production of 1.27 MMTPA of neem coated urea (end product) by M/s Talcher Fertilizers Ltd at Village Vikrampur, Tehsil Talcher, District Angul (Odisha).

3. The total land area of the project is 570 acre, out of which green belt will be developed in 180 acre. The cost of the project is Rs.10741.05 Crores. The project will provide employment to 1500 people during construction phase.

4. The proposed product/unit and capacity are as under:

S.No	Product/Unit	Capacity
1	Ammonia	2200 MTPD
2	Urea (Neem coated)	3850 MTPD
3	Coal Gasification Plant	Synthesis Gas: 242978 Nm ³ /hr

5. Total water requirement for the project is 49,200 m³/day. The permission for drawal of surface water from Brahmini River has been obtained from the State Government of Odisha vide letter No. 1513/SF/59 dated 3rd November, 2009.

The power requirement of 72 MW will be met from the Captive Power Plant. The raw Material required for the project are Coal, Pet Coke and lime stone. During initial stages of operation of the plant, coal shall be supplied through Bhubaneswari Coal Mine of M/s Mahanadi Coalfields Ltd. Later, the project proponent shall develop the dedicated coal mine for the procurement of coal in the desired quantity.

6. The project/activity is covered under category A of item 5(a) 'Chemical fertilizers' of the Schedule to the Environment Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral Expert Appraisal Committee in the Ministry.

7. The terms of reference (ToR) for the project was initially granted on 26th November, 2013, and then extended up to 25th November, 2017. The ToR was transferred in the name of M/s Talcher Fertilizers Ltd from M/s Rashtriya Chemicals & Fertilizers Ltd, vide Ministry's letter dated 27th September, 2017. Public hearing was conducted by the State Pollution Control Board on 30th August, 2017.



8. The proposal for environmental clearance was considered by the EAC (Industry-2) in its meeting held on 12-13 October, 2017. The project proponent and the accredited consultant M/s Projects & Development India Ltd presented the EIA/EMP report. The committee found the EIA/EMP report satisfactory and recommended the proposal for environmental clearance with certain conditions.

9. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project 'Setting up Ammonia & Urea Fertilizer Unit for production of 1.27 MMTPA of Neem Coated Urea (end product)' by M/s Talcher Fertilizers Ltd at Village Vikrampur, Tehsil Talcher, District Angul (Odisha), under the provisions of EIA Notification, 2006 and the amendments made therein, subject to the compliance of terms and conditions, as under:-

- (i) In view of the base line air quality data for PM₁₀ already exceeding the prescribed standards, one more season data to be collected to confirm the consistency of readings/values, and for suggesting mitigating measures accordingly.
- (ii) The project proponent shall take stringent mitigating measures to minimize the incremental concentration of air pollutants (mainly PM₁₀ & PM_{2.5}) to the extent possible due to the proposed industrial operations.
- (iii) The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.
- (iv) The incremental ground level concentrations (GLCs) for PM₁₀, PM_{2.5}, SO₂ & NO₂ due to the increased vehicular and other allied/developmental activities, shall be analysed and reported for actual impact of the project, besides remedial measures.
- (v) 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.
- (vi) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
- (vii) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (viii) National Emission Standards for Organic Chemicals Manufacturing Industry Issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.
- (ix) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (x) Total fresh water requirement shall not exceed 49200 cum/day to be met from surface water from Brahmini River. Prior permission in this regard shall be obtained from the concerned regulatory authority.
- (xi) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (xii) 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.
- (xiii) ETP sludge, process inorganic & evaporation salt, if any, shall be disposed off to the TSDF.



- (xiv) The Company 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.
- (xv) The company shall undertake waste minimization measures as below:-
 - (a) Metering and control of quantities of active ingredients to minimize waste.
 - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (c) Use of automated filling to minimize spillage.
 - (d) Use of Close Feed system into batch reactors.
 - (e) Venting equipment through vapour recovery system.
 - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xvi) The green belt of 5-10 m width 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. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xvii) All the commitment made regarding issues raised during the Public Hearing/consultation meeting held on 30th August, 2017 shall be satisfactorily implemented
- (xviii) At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (xix) 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.
- (xx) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (xxi) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xxii) Continuous online (24x7) 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.

9.1. The grant of environmental clearance is subject to compliance of other general conditions, as under:-

- (i) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.
- (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.
- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall 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.
- (v) 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).
- (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.
- (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.
- (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.
- (ix) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.
- (x) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (xi) 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.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) 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.
- (xiv) 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.
- (xv) 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://moef.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.

(xvi) 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.

10. The Ministry may revoke or suspend the clearance, at subsequent stages, if implementation of any of the above conditions is not satisfactory.

11. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

12. The above conditions will be enforced, inter alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


9/12/2018
(S. K. Srivastava)
Scientist E

Copy to:-

1. The Additional PCCF (C), MoEF&CC Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar - 23 (Odisha)
2. The Secretary, Department of Forest and Environment, Government of Odisha, Bhubaneswar (Odisha)
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Odisha State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit - VIII, Bhubaneswar -12 (Odisha)
5. Guard File/Monitoring File/Website/Record File


9/12/2018
(S. K. Srivastava)
Scientist E

Baseline Monitoring Report Results (November 2021 – April 2022)

1.0 Air Quality Monitoring Report (November 2021 – April 2022)

The prime objective of ambient air quality monitoring is to evaluate the existing air quality of the proposed project area. This will also be useful for assessing the conformity to standards of the ambient air quality during the operations of proposed project. This section describes the selection of sampling locations, methodology adopted for sampling, analytical techniques and frequency of sampling Meteorological conditions prevailing within study area.

1. 1 Sampling and Analytical Techniques

The sampling and analytical techniques used for the monitoring of Ambient Air quality is given in **Table -1**.

TABLE - 1: TECHNIQUES USED FOR AMBIENT AIR QUALITY MONITORING

S.No.	Parameter	Technique	Technical Protocol	Detectable Limit
1	Particulate Matter size less than 10 µm (PM10), µg/m ³	Gravimetric method	IS 5182 Part-23 : 2006 (Reaff. 2017)	5 µg/m ³
2	Particulate Matter size less than 2.5 µm (PM2.5), µg/m ³	Gravimetric method	EPA- 40 Appendix L To Part 50	5 µg/m ³
3	Sulphur Dioxide (SO ₂), µg/m ³	Improved West and Gaeke	IS 5182: Part 2:2001 (Reaff. 2017)	5 µg/m ³
4	Nitrogen Dioxide (NO ₂), µg/m ³	Modified Jacob & Hochheiser	IS 5182: Part 6:2006 (Reaff. 2017)	5 µg/m ³
5	Ammonia (NH ₃), µg/m ³	GC FID	ABCTL/SOP/A05 Is. No.1 02-01-2015	0.1 µg/m ³
6	VOCs	GC FID	U.S. EPA Method TO17: 1999	0.1 µg/m ³
7	Methane Hydrocarbons (MHC)	HC Analyzer for Spot Concentration	ABCTL/SOP/A15 Is. No.1 02-01-2015	0.1 µg/m ³
8	Non-Methane Hydrocarbons (NMHC)	HC Analyzer for Spot Concentration	ABCTL/SOP/A15 Is. No.1 02-01-2015	0.1 µg/m ³

1.2 Selection of Sampling Locations:

The baseline status of the ambient air quality has been assessed through a scientifically designed ambient air quality monitoring network. The design of monitoring network in the air quality surveillance program has been based on the following considerations:

- Topography / Terrain of the study area
 - History of wind pattern
 - Human Settlements
 - Health status
 - Accessibility of monitoring site
 - Resource Availability
 - Representativeness of the region for establishing baseline status
 - Representativeness with respect to likely impact areas
- **Air Quality monitoring has been conducted at six sampling locations during season (November 2021 to April 2022). The location of ambient air sampling stations has been presented below in Table 2 & Table 3.**

Table 2: Details of sampling locations

S.No.	Location Name	With respect to project site	
		Direction	Distancw
1	TFL Admin Building	-	-
2	H.B.Colony	ENE	1.2 km
3	Karnapur Village	W	4.5 km
4	TFL Guest House	-	-
5	Balanda Village	NW	2.5km
6	Kukudanga Village	SW	2.5km

Table 3: Details of Air Quality Monitoring Locations (November 2021 to April 2022)

S.No.	Sample Code	Sampling Locations	Geographical Locations
1	TFL/A1	TFL Admin Building	20°54'42.8"N 85°09'38.4"E
2	TFL/A2	H.B.Colony	20°54'19.3"N 85°10'20.4"E
3	TFL/A3	Karnapur Village	20°54'26.4"N 85°07'06.1"E
4	TFL/A4	TFL Guest House	20°54'14.8"N 85°09'56.9"E
5	TFL/A5	Balanda Village	20°55'31.0"N 85°09'26.8"E
6	TFL/A6	Kukudanga Village	20°53'23.3"N 85°08'50.8"E

Ambient Air Quality Monitoring Results:**Ambient Air Quality Monitoring Results:****AAQ 1 – TFL Admin Building**

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	58	66	27	32	13	19	19	27	11	19	0
NAAQ Standards	100		40		80		80		400		

AAQ 2 – H.B. Colony

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	48	59	22	27	8	14	16	21	10	16	0
NAAQ Standards	100		40		80		80		400		

AAQ 3– Village Karnapur

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	41	51	19	25	8	12	15	21	7	13	0
NAAQ Standards	100		40		80		80		400		

AAQ 4 - TFL Guest House

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	50	61	24	30	9	18	16	26	14	23	0
NAAQ Standards	100		40		80		80		400		

AAQ 5 - Balanda village

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	43	54	21	26	6	11	14	20	8	17	0
NAAQ Standards	100		40		80		80		400		

**AAQ 6 - Kukudanga
village**

Months	PM10		PM2.5		SO2		NO2		NH3		VOC
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
March	50	58	24	30	10	26	17	24	8	18	0
NAAQ Standards	100		40		80		80		400		

AAQ Observations:

PM₁₀: The maximum and minimum concentrations for PM₁₀ were recorded as 66 µg/m³ at TFL Admin Building and 41 µg/m³ at Karnapur village.

PM_{2.5} : The maximum and minimum concentrations for PM_{2.5} were recorded as 32µg/m³ at TFL Admin Village and 19 µg/m³ at Karnapur village.

SO₂: The maximum and minimum concentrations for SO₂ were recorded as 26.0µg/m³ at Kukudanga village and 6.0µg/m³ at Karnapur village & Balanda village.

NO₂: The maximum and minimum concentrations for NO₂ were recorded as 27.0µg/m³ at TFL Admin Building and 14.0µg/m³ at Balanda village.

NH₃: The maximum and minimum concentrations for NH₃ were recorded as 23.0µg/m³ at TFL Guest House and 7.0µg/m³ at Karnapur village. .

The overall concentrations of PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ were observed to be well within the standards prescribed by Central Pollution Control Board (CPCB) for industrial, Rural, Residential and other area.

Noise Level Monitoring Results:**N1 – TFL Admin Building**

Date of Sampling	Lmax dB(A)	Lmin dB(A)	L day dB(A)	L Night dB(A)	Leq dB(A)
March	77.3	49.2	60.2-64.8	50.4-57.4	60.1-64.4

N2 – H.B.Colony

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
March	69.8	36.6	52.9-58.2	43.6-49.7	51.7-56.6

N3 – Karnapur Village

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
March	68.9	39.0	51.9-53.8	42.6-45.1	50.4-52.2

N4 – TFL Guest House

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
March	70.4	38.3	51.7-60.0	40.6-47.9	50.1-58.3

N5 – Balanda Village

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
March	67.7	32.7	49.7-58.2	42.8-48.7	48.7-56.6

N6 – Kukudanga Village

Date of Sampling	Lmax	Lmin	L day	L Night	Leq
March	68.7	31.6	51.3-58.8	43.2-48.9	50.0-57.3

Observation:

The Noise level monitoring samplings in the are taken for 8 days for March'22. The above table shows the minimum to maximum range of sample results. Comparing to all the locations, March month shows the highest level of 77.3 dB(A) for Lmax in TFL Admin Building, minimum level of 31.6 dB(A) for L min in Kukudanga Village, and the minimum to maximum range of L day, L night and Leq are shown in the above table.

The detailed sampling monitoring reports for Noise level for March'22 are all within the standard limits and it is enclosed as **Annexure - III**

Ground Water monitoring results:

The Ground Water (GW) level and condition is monitored in 3 different locations (Tentulei Village (GW1), Balanda Village (GW2) and Kukudanga Village (GW3)) on 24.03.2022 for various parameters. From the report, it shows that the sample results for GW1, GW2 & GW3 are within the Acceptable Limits as per IS 10500:2012 and are in **Good** condition. The detailed report is enclosed as **Annexure - III**

Surface Water monitoring results:

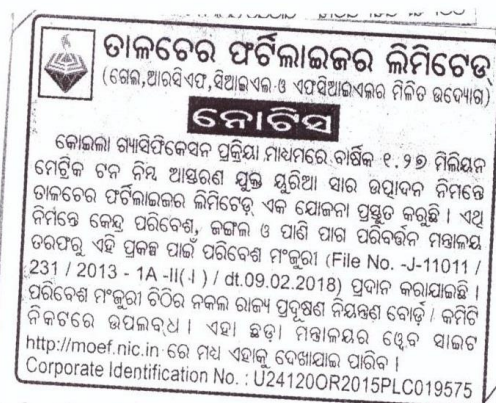
The Surface Water (SW) level and condition is monitored in 3 different locations (Pump House (SW1), River near Jatia Bridge (SW2) and River PTBS Thermal Area (SW3)) on 24.03.2022 for various parameters. From the report, it shows that the sample results for SW1, SW2 & SW3 are within the Acceptable Limits as per IS 10500:2012 and are in **Good** condition. The detailed report is enclosed as **Annexure - III**

ANNEXURE – IV

The project proponent shall inform the public that the project has been accorded Advertisement of environmental clearance by the Ministry has been advertised in two local newspapers in which one is the vernacular language of the locality concerned.



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