

Ref: FACL/BDK/MOEF/900/2023-24
Dtd: 29.11.2023

To

Member Secretary

State Environment Impact Assessment Authority (SEIAA), ORISSA,
Ministry of Environment and Forest Government of India
Qr. No. - 5RF-2/1, Unit-IX
Bhubaneswar - 751022, (Odisha).
Email: seiaaodisha@gmail.com

Ref : 1. **Environment Clearance letter Ref No. 538 /SEIAA dtd. 21.10.2011**
2. **Name of the Project:** Environment Clearance for expansion of CPP from 45 MW to 100 MW of
M/s. FACOR Power Ltd. at Randia in the District of Bhadrak.

Sub : **Submission of Six Monthly Compliances Report against Environment Clearance letter No. :
Ref No. 538 /SEIAA dtd. 21.10.2011, issued to M/s. FACOR Power Ltd., presently named as
M/s Ferro Alloys Corporation Ltd. (Power Plant) for the period from April 2023 to
September-2023.**

Dear Sir,

In compliance to the Stipulated Condition No.29 of the Environment Clearance letter No.538/SEIAA dtd. 21.10.2011 issued by your good office, we are submitting herewith Six-Monthly Compliance Report with respect to M/s Facor Power Limited presently known as M/s Ferro Alloys Corporation Ltd. (Power Plant) for the period from April 2023 to September 2023.

The monthly Environmental Monitoring data and other required information with respect to compliance of the said Six-Monthly compliance for the period from April 2023 to September 2023 are also enclosed herewith for your kind perusal and records.

Thanking you

Yours faithfully

For Ferro Alloys Corporation Ltd.



G C Mohanty
Factory Manager- Power Plant

Enclosed: As above.

M/s. Ferro Alloys Corporation Ltd. (A subsidiary of Vedanta Ltd.)

Registered Office:

D.P.Nagar, PO : Randia, Dist.: Bhadrak, Odisha, India - 756 135
T +91-6784 240320/240347, Email: facor.mines@vedanta.co.in / facor.ccp@vedanta.co.in
Website: www.facorgroup.in, CIN: U45201OR1955PLC008400.

Six Monthly Environmental Compliance Report for the period from April 2023 upto Sept 2023

SI No.		Stipulated Conditions	Compliance to conditions
1	i	The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including Solid waste management as mentioned by him in Form-I, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and conditions.	All necessary measures for prevention and control of air pollution, water pollution, Noise pollution and land pollution have been taken as per prescribed norms and conditions. Online as well as third party (OSPCB authorized agency) monitoring and analysis of all above parameters are being carried out on regular basis.
2	ii	The applicant will take necessary steps for socio economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities etc. after a detailed primary socio-economic survey.	A professional CSR Team has been engaged for need based assessment and to take necessary steps for socio economic development of the area for providing employment, education, health care, drinking water and sanitation, road and communication facilities etc. after a detailed primary socio-economic survey. However in the mean time we have taken some steps for socio-economic development such as local employment, development of infrastructure for education, black topping of village road, supply road of drinking water for villagers, health care facility etc.
3	iii	The applicant will comply to the points, concerns and issues raised by the people during public hearing on 24.02.2011 in accordance with the commitments made by him thereon.	The points, concerns and issue raised by the people during public hearing on 24.02.2011 have already been complied.
4	iv	The applicant will take statutory clearance/ approval / permissions from the concerned authorities in respect of his project as and when required.	We have taken all statutory clearance / approval / permission from the concerned authorities in respect of project as and when required.
5	v	For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of Environmental Clearance to the State Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Odisha on 1st June and 1st December of each calendar year.	Half yearly compliance report in respect of the stipulated terms and conditions of Environmental clearance are being submitted to the SEIAA, Odisha.
6	vi	High efficiency electrostatic precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	ESP installed to maintain SPM emission below 50mg/ Nm ³ . We have also installed online monitoring facility with RT-DAS as well as manual monitoring and analysis by outsource agency, which shows the particulate emission is within the standard. Report is enclosed in Annexure-1 .
7	vii	Excess water along with storm water during monsoon should not be discharged into the surrounding low lying area. The storm water during monsoon will be collected in a pond and after appropriate treatment shall be stored in a reservoir for use in plantation, dust suppression etc.	Excess water along with storm water during monsoon are not being discharged into the surrounding low-lying area. Separate drains are provided to collect storm water during monsoon and Surface Runoff Treatment Facility project has been Implemented to treat the water and reuse in process and dust suppression.
8	viii	Under no circumstances the process water shall be discharged to nearby water body. It should be properly treated, stored and 100% recycled in the process.	100% recycling of process water is done through ETP (R.O. Plant). Zero discharge scheme is adopted to ensure no discharge to outside.
9	ix	The proponent shall obtain permission from Water Resources Department, Govt. of Odisha for drawal of water.	PP has already obtained permission for drawal of water from river Salandi by Water Resource Dept., Govt. of Odisha on dated 27.12.2013.
10	x	No ground water shall be extracted for the project work at any stage.	No ground water is being extracted for this project.
11	xi	The technical specification of CFBC system, lime requirement along with point of injection into the bed, peak temperature of combustion, SO ₂ and NO _x emission potential etc. from the manufacturer to ensure the pollution potential (both qualitative and quantitative) of the proposed project with respect to bed ash, fly ash, effluents, emissions etc. to be submitted to SEIAA before commissioning of the plant.	All technical specification of CFBC system along with pollution potential had been submitted to the authority to the authority before commissioning of the plant. Online monitoring for Sox, Nox & SPM has been carried out. Evacuation of Fly ash and Bed ash from Boiler to silo is being done through pneumatic conveying system. Zero discharge has been adopted.
12	xii	The proponent shall treat the flue gas through Flue Gas De-sulfurisation (FGD), if SO ₂ emission level exceeds the prescribed norm.	SO ₂ emission level is very less than the prescribed standard. Hence treatment of Flue gas is not required. Regular monitoring by third party on monthly basis has also been carried out. Copy of monitoring report from April 2023 to Sept 2023 are enclosed herewith as Annexure-1 .
13	xiii	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust suppression and Dust extraction system have been provided in Coal Handling Plant transfer areas, Wagon Tippler etc. Sprinkling and spray arrangements have been provided in coal stock pile area and Ash Handling Plant.
14	xiv	Fly ash shall be collected in dry form and storage facility (silos) shall be provided 100% fly ash utilization shall be ensured as per fly ash notification of MoEF, Govt. of India. Unutilised fly ash and bottom ash shall be stored in the ash pond separately through high concentration slurry disposal method. Mercury levels along with other heavy metals (Pb, Cr, As etc) should be monitored in the fly ash/ bottom ash, leachates and effluents emanating from the ash pond.	Pneumatic conveying system has been provided for dry ash disposal along with silos. As power plant is continuously achieving 100% ash utilization since August-2013, there is no dumping of ash in ash pond. Currently ash pond is acting as water harvesting pond. There are no effluents emanating from ash pond. However ground water monitoring near ash pond is being conducted regularly.
15	xv	Ash Pond shall be lined with HDPE/ LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Lining with HDPE sheet was done in Ash pond. Grass turfing and plantation has done in ash pond dyke to avoid erosion.
16	xvi	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. Arrangements shall be made so that effluents and storm water do not get mixed.	ETP has installed to treat the effluent and Surface Runoff Treatment System (SRTS) project has also been completed. There is no discharge of wastewater to outside the plant boundary. Arrangement has been made so that effluents and storm water do not get mixed.
17	xvii	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt/ plantation.	10 KLD STP is in operational condition. All the treated water are being used for green belt development.
18	xviii	The project proponent shall undertake proactive water harvesting measures and water storage for a larger period not less than 30 days storage shall be developed. The rain water harvesting system shall be put in place before commissioning of the plant. Central Ground water Authority, Board shall be consulted for finalisation of appropriate rainwater harvesting technology/ design within a period of three months from the date of this clearance and details shall be furnished. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the SEIAA within six months.	We have two nos of reservoir of 290000 m ³ total capacity for storage of water. Two nos of rooftop rainwater harvesting and ground water recharge pits in admin building and control room has been completed.
19	xix	Adequate safety measures shall be provided in the plant area to check/ minimize spontaneous fires in coal yard, especially during summer season. Details of these measures to be taken along with location plant layout shall be submitted to the SEIAA, Odisha.	Hydrant firefighting system & sprinkler system have been incorporated to meet such situation. Fire hydrant line super impose with plant layout is enclosed in Annexure-2 . Details of these measures and plant layout has been submitted to the SEIAA, Odisha.
20	xx	Storage facilities for auxiliary liquid fuel such as LDO and HFO/ LSHS shall be made in the plant area where risk is minimum. On site and off site Disaster Management Plans shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be incorporated in the Disaster Management Plan (DMP). Sulfur content in the liquid fuel will not exceed 0.5%.	Storage facility has been provided for HSD. Onsite and off-site disaster Management Plans are available. Mock drills are being conducted regularly. Report enclosed in Annexure-3 . Sulphur content in the liquid fuel are not exceeding 0.5%.

21	xxi	Regular monitoring of ground water in and around the ash pond area shall be carried out records maintained and half yearly reports shall be furnished to the SEIAA, Odisha.	Ash pond is not in use since 2013 as 100% ash is being utilized by bricks plant & land filling. However monitoring of ground water report is available and to be submitted to the Board. Copy enclosed herewith as Annexure-4
22	xxii	A green belt of adequate width and density preferably with local species along with periphery of the plant & alongside roads etc. shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green belt throughout the year & for this purpose they may engage professionals in this field for creation and accordingly and submitted to the SEIAA, Odisha.	Power Plant has achieved 36.43% greenbelt coverage. However we are continuing greenbelt development in and around the plant vacant areas of different species which can provide protection against particulate matter and noise.
23	xxiii	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First aid and sanitation arrangement was provided during construction phase.
24	xxiv	Noise levels emanating from turbines and air compressors shall be limited to 75 DBA. For people working in the high noise area, requisite personal protective equipments like earplugs/ ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy areas.	Acoustic enclosure around the TG set has been provided and the noise level is within the limit. Periodical health check-up is being carried out and no such abnormality of hearing loss is found yet.
25	xxv	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM (PM ₁₀ & PM _{2.5}) etc. shall be carried out in the impact zone and records to be maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB, Odisha.	Regular monitoring of ambient air (SO _x , NO _x , PM ₁₀ & PM _{2.5}) has been carried out and the results are within the prescribed limits. The report of above parameters are enclosed herewith in Annexure-5
26	xxvi	Management and disposal of other solid waste and hazardous waste generated shall be done by the project proponent as per the provisions of the relevant statutory rules.	Management and disposal of other solid waste and hazardous waste generated are being done by the project proponent as per the provisions of the relevant statutory rules. Water sprinkling is done to suppress dust and all other solid waste. Hazardous waste are being disposed to authorised vendors.
27	xxvii	Provision shall be made for housing of construction labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	It was provided during construction
28	xxviii	An Environmental cell comprising of atleast one expert in environmental science/ engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer or appropriate superiority and qualification. It shall be ensured that the Head of the cell shall directly report to the head of the organisation and he shall be held responsible for implementation of environmental regulations and social impact improvement/ mitigation measures.	An environment Cell comprising of environmental engineer and expert in environmental science has already been created.
29	xxix	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the appropriate authorities (SEIAA, Odisha)	Half yearly compliance report of the stipulated conditions is being submitted to the SEIAA, Odisha.
30	xxx	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported.	Separate budget has been allocated for implementation of environment protection measures and the same is being utilized for the said purposes.
31	xxxi	The need of the local people should be appropriately addressed in the CSR activities to be undertaken by the project proponent in the area. An action plan in this regard should be prepared and submitted to SEIAA, Odisha.	CSR activities are continuing by the help of local people. It includes health camp ie, health check-up, blood donation camp, distribution of medicines from village to village, facilitate drinking water to the villagers, construction of college science block, renovation of village roads and plantation of trees on and around the villages, school, college, banks etc.
32	xxxii	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter informing that the project has been accorded environmental clearance and copies of clearance letter area available with the State Pollution Control Board and SEIAA.	The project proponent was advertise in local newspaper dated 11.05.2009. Copy enclosed herewith as Annexure-6 .
33	xxxiii	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 received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	A copy of the Environment Clearance letter was sent by the Project Proponent to the concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local body and the Local NGO. Report is enclosed in Annexure -7 . Copy of EC has been displayed in company website.
34	xxxiv	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent 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 the Ministry by e-mail.	The Environment statement in Form-V is being submitted to the Board annually and the same will be put on the website of the company. Copy enclosed in Annexure -8 .
35	xxxv	The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract penal action under the provisions of Environment Protection (EP) Act, 1986.	Agree to abide.





KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000016643F
Test Report No : KLPL/4/23/ENVN/02233 **Issue Date** : 28-Apr-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : FACOR POWER LIMITED
Address : D.P. NAGAR, RANDIA-756135, BHADRAK, ODISHA.
Date of receipt : 17-Apr-2023 **Commenced On** : 17-Apr-2023 **Completion On** : 27-Apr-2023
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NOS
Ref.To Sampling Procedure : QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : STACK ATTACHED TO ESP OF BOILER 2				
Sulphur Dioxide	mg/Nm ³	-	85.5	IS 11255(part-2):1985(RA 2014)
Oxide of Nitrogen as NOx	mg/Nm ³	-	99.8	KLPL/SOP/AIR-20
Particulate Matter	mg/Nm ³	-	40.55	IS 11255(part-1):1985(RA 2014)
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	-	<0.1	KLPL/SOP/AIR-20
Velocity	m/sec	-	10.6	KLPL/SOP/AIR-16
Stack Temperature in Deg Centigrade	--	--	118	KLPL/SOP/AIR-16
carbon Dioxide	%	--	7.5	KLPL/SOP/AIR-20
Quantity of Gas Flow	Nm ³ / hr	-	199560	KLPL/SOP/AIR-16
Mercury	mg/Nm ³	--	0.018	KLPL/SOP/AIR-21

Remarks :

Any unusual feature observed during determination :

Analysed By

Mr. Digambar Arukha
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory

Dr. Debasis Biswal
 For Kalyani Laboratories Pvt. Ltd.



***** End of Test Report *****

KLPL- 361798A



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000016933P
Test Report No : KLPL/5/23/ENVN/02294 **Issue Date** : 03-Jun-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA
Date of receipt : 29-May-2023 **Commenced On** : 29-May-2023 **Completion On** : 03-Jun-2023
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NOS
Ref.To Sampling Procedure : QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : STACK ATTACHED TO ESP OF BOILER 2				
Sulphur Dioxide	mg/Nm ³	-	84.2	IS 11255(part-2):1985(RA 2014)
Oxide of Nitrogen as NOx	mg/Nm ³	-	97.6	KLPL/SOP/AIR-20
Particulate Matter	mg/Nm ³	-	45.15	IS 11255(part-1):1985(RA 2014)
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	-	<0.1	KLPL/SOP/AIR-20
Velocity	m/sec	-	10.8	KLPL/SOP/AIR-16
Stack Temperature in Deg Centigrade	--	--	122	KLPL/SOP/AIR-16
carbon Dioxide	%	--	7.3	KLPL/SOP/AIR-20
Quantity of Gas Flow	Nm ³ / hr	-	199870	KLPL/SOP/AIR-16
Mercury	mg/Nm ³	--	0.017	KLPL/SOP/AIR-21

Remarks :

Any unusual feature observed during determination :

Analysed By

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Authorised Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.

***** End of Test Report *****



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000017206F
Test Report No : KLPL/6/23/ENVN/02331
Amendment No : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA
Date of receipt : 29-Jun-2023
Commenced On : 29-Jun-2023
Completion On : 04-Jul-2023
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NOS
Ref. To Sampling Procedure : KLPL/SOP/AIR-20

Issue Date : 05-Jul-2023

Amendment Date : -

Parameters Unit Standard Value Results Test Method

Location & Date : STACK ATTACHED TO ESP OF BOILER 2

Sulphur Dioxide	mg/Nm ³	-	82.0	IS 11255(part-2):1985(PA 2014)
Oxide of Nitrogen as NOx	mg/Nm ³	-	93.5	KLPL/SOP/AIR-20 : 2019
Particulate Matter	mg/Nm ³	-	42.5	IS 11255(part-1):1985(PA 2014)
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	-	<0.1	KLPL/SOP/AIR-20 : 2019
Velocity	m/sec	-	10.8	IS 11255(part-1):1985(PA 2014)
Stack Temperature in Deg Centigrade	--	--	132	IS 11255(part-1):1985(PA 2014)
carbon Dioxide	%	--	7.2	KLPL/SOP/AIR-20 : 2019
Quantity of Gas Flow	Nm ³ / hr	-	199870	IS 11255(part-1):1985(PA 2014)

Remarks :

Any unusual feature observed during determination :

Analysed By

D. Digambar Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



End of Test Report

KLPL- 362050A



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENNIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA

TEST REPORT



Test Report No	: KLPL/7/23/ENVN/02388	Issue Date	: 04-Aug-2023
Amendment No	: -	Amendment Date	: -
Reference	: P.O NO-FPPL/3100006601,DATE-8.11.2022		
Customer Name	: POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.		
Address	: D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA		
Date of receipt	: 29-Jul-2023	Commenced On	: 29-Jul-2023
		Completion On	: 04-Aug-2023
Sample Name	: FLUE GAS STACK MONITORING		
Sample Condition	: GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED		
Sample Collected By	: By KLPL(MR. SUDHIR KUMAR BARIK)		
Ref.To Sampling Procedure:	KLPL/SOP/AIR-20		
Parameters	Unit	Standard Value	Results
Location & Date : STACK ATTACHED TO ESP OF BOILER 2, DATE-27.07.2023			
Sulphur Dioxide	mg/Nm ³	--	125.5
Oxide of Nitrogen as NOx	mg/Nm ³	--	98.4
Particulate Matter	mg/Nm ³	--	40.59
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	--	<0.1
Velocity	m/sec	--	8.4
Stack Temperature in	Deg Centigrade	--	135
carbon Dioxide	%	--	8.3
Quantity of Gas Flow	Nm ³ / hr	--	212485
Mercury	mg/Nm ³	--	0.013

Remarks :

Any unusual feature observed during determination :

Analysed By

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Authorised Signatory

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.

TEST REPORT



NABL ULR NO : TC1206323000017704

Test Report No : 1855 | KLPL/8/23/ENVN/02465

Issue Date : 09-Sep-2023

Amendment No :

Amendment Date : -

Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Aug-2023 **Commenced On** : 30-Aug-2023 **Completion On** : 31-Aug-2023

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : STACK ATTACHED TO ESP BOILER 28-29/08/2023				
Particulate Matter	mg/Nm ³	-	32.32	IS 11255(Part-1):1985,RA:2019
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	<0.1	KLPL/SOP/AIR-20:2019
Carbon Dioxide (CO2)	%	--	7.9	KLPL/SOP/AIR-20:2019
Oxides of Nitrogen	mg/Nm ³	--	90.3	KLPL/SOP/AIR-20:2019
Stack Temperature	Deg kelvin	--	408	IS 11255(Part-1):1985,RA:2019
Velocity	m/sec	--	7.8	IS 11255(Part-1):1985,RA:2019
Quantity of Gas Flow	Nm3 / hr	--	21157	IS 11255(Part-1):1985,RA:2019
Mercury (as Hg)	mg/Nm ³	--	0.014	KLPL/SOP/STACK-HM-21: 2023
Sulphur Dioxide as SO2	mg/Nm ³	--	110.58	IS 11255(part-2):1985,RA:2019

Remarks :

Any unusual feature observed during determination
Requirement Is As Per Standard Specification CTO

:NIL

Analysed By

Authorised Signatory

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC1206323000018049

Issue Date : 10-Oct-2023

Test Report No : KLPL/9/23/ENVN/02521

Amendment Date : -

Amendment No : -

Reference : P.O NO-FPPL/3100006601,DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Sep-2023 Commenced On : 30-Sep-2023 Completion On: 07-Oct-2023

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : STACK ATTACHED TO ESP BOILER,DATE:29-30/09/2023

Particulate Matter	mg/Nm ³	--	35.95	IS 11255(Part-1):1985,RA:2019
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	--	<0.1	KLPL/SOP/AIR-20:2019
Carbon Dioxide (CO ₂)	%	--	8.3	KLPL/SOP/AIR-20:2019
Oxides of Nitrogen	mg/Nm ³	--	83.6	KLPL/SOP/AIR-20:2019
Stack Temperature	Deg kelvin	--	401	IS 11255(Part-1):1985,RA:2019
Velocity	m/sec	--	7.3	IS 11255(Part-1):1985,RA:2019
Quantity of Gas Flow	Nm ³ / hr	--	135401	IS 11255(Part-1):1985,RA:2019
Mercury (as Hg)	mg/Nm ³	--	0.012	KLPL/SOP/STACK-HM-21: 2023
Sulphur Dioxide as SO ₂	mg/Nm ³	--	115.62	IS 11255(part-2):1985,RA:2019

Remarks :

Any unusual feature observed during determination :NIL
The results relate only to samples tested and test parameters

Analysed By

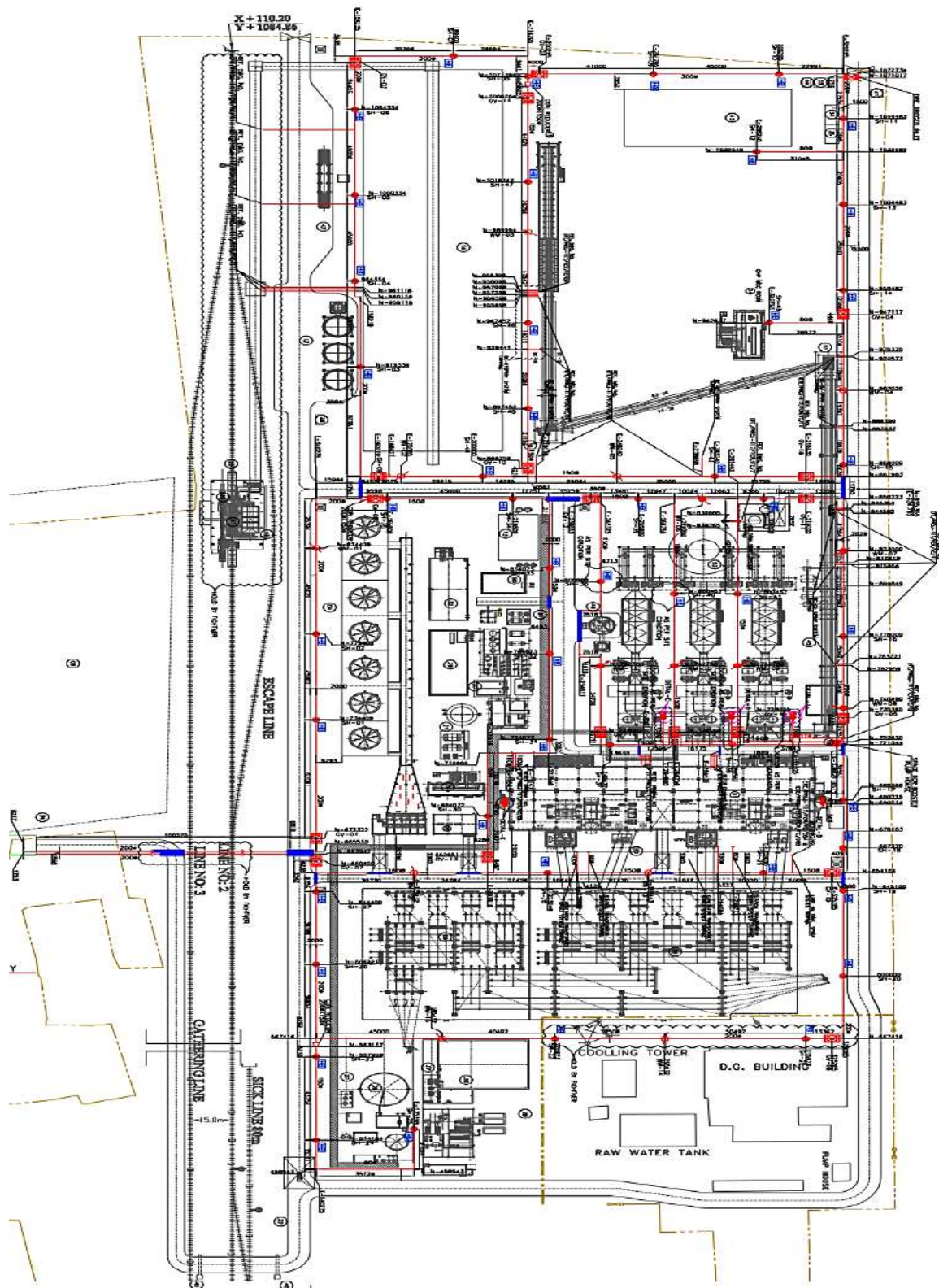
Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Authorised Signatory



Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.

Fire Hydrant Line Superimposed with Factory Layout



LIST OF EQUIPMENT		
ITEM No.	DESCRIPTION	Qty.
1	STG BUILDING – GROUND FLOOR–0.000M	1
	MEZZANINE FLOOR–5.000M	1
	OPERATING FLOOR–10.500M	1
2	BOILER	3
3	CHIMNEY	1
4	COOLING TOWER	1
5	CW PUMP HOUSE	1
6	RAW / FIRE WATER RESERVOIR	1
7	WATER TREATMENT PLANT	1
8	CPP SWITCH YARD	1
9	OPTCL SWITCHYARD	1
10	EXISTING 132 KV SWITCH YARD FOR FACOR	1
11	HSD TANK FARM	1
12	FLY ASH SILO	3
13	AIR COMPRESSOR & MCC ROOM	1
14	COAL STOCK PILE	1
15	GROUND HOPPER	1
16	PRIMARY CRUSHER HOUSE	1
17	SECONDARY CRUSHER HOUSE	1
18	–	–
19	TRANSFER TOWER	4
20	CW MCC ROOM	1
21	SIDE STEAM FILTER	1
22	TUNNEL	1
23	WAGON TIPPLER COMPLEX	1
24	CHP MCC ROOM	1
25	COAL UNLOADING MCC ROOM	1
26	RAW WATER CLARIFIER	1
27	PLACE FOR SLUDGE DRYING	1
28	–	–
29	GUARD POND	1
30	CULVERT	1
31	SOFTNER PLANT	1
32	SOFT WATER TANK	1
33	SECURITY OFFICE	2
34	TIME OFFICE	1
35	MEDICAL CENTER (FIRST AID)	1
36	CLARIFIED WATER STORAGE TANK	1
37	CLARIFIED WATER PUMP HOUSE	1
38	EFFLUENT TREATMENT PLANT	1
39	RW/FW PUMP HOUSE	1
40	RAILWAY CROSSING	1
41	CUBICAL ROOM	1
42	WEIGH BRIDGE	1
43	CENTRAL STORE	1
44	TOILET	3
45	ESP MCC ROOM	1
46	WAGON TIPPLER HOPPER	1
47	WAGON TIPPLER	1
48	DG HOUSE	1
49	BED ASH SILO	1
50	SERVICE WATER TANK	1

SR. NO.	DESCRIPTION	SH	WM	F E H	TOTAL EQUIVALENT
1	NO. OF SINGLE HYDRANT (SH)	48	15	18	111
2	NO. OF HOSE BOXES (HB) 1.5 Mtr	48	–	18	66

	MOCK DRILL ASSESSMENT REPORT	
DOC. NO. FACOR-IMS-FSF-08		
Issue No.: 01	Issuedate:01.11.2021	Revision date : --
		Revision No. : 00

MOCK DRILL FOR RESCUE AT CONFINED SPACE

Date & Time: 30.09.2023 & 12.10 hours

Location: Boiler-1 (Power Plant)

Drill Start Time: 12.27 hours
Minutes

Drill End Time: 12.52 hours

Total time of the Drill: 25

Emergency Scenario:

Mr. Bhagirathi Sethi semiconscious and trapped in confined space (Boiler-1) due to oxygen deficiency while cleaning work inside boiler-1. After noticing the incident Mr. Haragobinda immediately conveyed message to Control Room. Site Incident Controller immediately rushed to the incident spot for assessing the situation & informed to WMC. Immediately Emergency was declared to evacuate and rescue the affected person & also to bring the emergency in to normalcy. All teams, i.e. Rescue (first aid & security) Team, Combat Team, Auxiliary Team were summoned to the site and all teams acted to control the emergency.

After first aid treatment given by first aider with co-worker at site, he was shifted to first aid Centre through ambulance for observation.

Observation / Sequence of events with details:

Sl. No	Event / Drill sequence	Information Time	Reporting Time
1	Spotting Emergency: Person trapped in confined space (Boiler-1)	12.27 hours	--
2	Informing to ECR: Coworker conveying the message to control room.	12.28 hours	--
3	Site Incident Controller Informing to WMC about incident after assessing the area.	12.28 hours	--
4	WMC rushed to the spot and found a casualty inside the boiler and simultaneously declared an emergency.	12.28 hours	12.35 hours
5	Mobilization of Security / rescue team at spot: Search & rushed to Incident location to rescue the affected person.	12.28 hours	12.33 hours
6	Security team has barricaded the roads to avoid vehicle & men movement	12.28 hours	12.33 hours
7	All teams are rushed to the spot & reported WMC.	12.28 hours	12.35 hours
8	Victim being rescued by rescue team	12.28 hours	12.35 hours
9	Pharmacist reached at spot:	12.28 hours	12.33 hours
10	Emergency Vehicle / Ambulance arrived to the location	12.28 hours	12.33 hours
11	After Emergency siren, workers are moving to assembly point & assembled at assembly point	12.28 hours	12.30 hours
12	All teams reporting to WMC after performing their task.	--	12.42 hours
13	All workers moving back to their workplace to resume the duties after all clear signal.	--	12.45 hours
14	First Aid was given on site by First Aid team before the arrival of Ambulance.	12.28 hours	12.30 hours
15	Shifting victim into the Ambulance	--	12.35 hours

Sensitivity: Internal (C3)

DOC. NO. FACOR-IMS-FSF-08
Issue No.: 01
Issuedate:01.11.2021
Revision date : --
Revision No. : 00

16	After ensuring 21% oxygen, search team entered the boiler to rescue the victim.	--	12.36 hours
17	Rescue and Fire Fighting teams reporting to Emergency Controller after performing their task.	12.28 hours	12.40 hours
18	All workers gathered at Assemble point.	--	12.45 hours
19	Observer, Briefing the MOCK DRILL scenario.	--	12.48 hours
20	WMC, briefing the importance of MOCK DRILL	--	12.50 hours

Weakness / Deficiencies Observed during the exercise:

Sl.No	Observation	Responsibility	Timeline	Remarks
1	Less awareness for RTM (Rescue Team Member).	Indiverker	16.10.23	
2	Belt was not tightened during shifting by stretcher to Ambulance.	Indiverker	15.10.23	
3	Shoes & Helmet of victim has not been removed during transportation to First Aid Center.	Indiverker	15.10.23	
4	While any emergency all workers and staffs must assemble at nearby assemble point.	Indiverker	16.10.23	

Good / Positive Observation:

1. Emergency contact numbers are displayed, and all workers are aware of emergency contact number.
2. All the workmen and staff reported to the Assembly point without any panic.
3. The evacuation was performed successfully well in time.
4. The evacuation team response was quick.
5. Site first aider immediately attended victim and given first aid until arrival of ambulance.
6. Co-worker taken a prompt response after the incident and called emergency vehicle immediately.

Total 16 Persons Present During Mock Drill

Name of the Observer:

1. Sk Motiur Rahman, Sr. Safety Officer
2. Saubhagya Ranjan Sahoo, Lead Safety
3. Aditya Kumar Sahu, Manager (Mech.)

DOC. NO. FACOR-IMS-FSF-08

Issue No.: 01

Issuedate:01.11.2021

Revision date : --

Revision No. : 00



TEST REPORT



Test Report No : KLPL/4/23/WATER/08513A
Amendment No : -
Reference : P.O NO-FPPL/3100006601,DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.
Address : CHARGE CHROME PLANT ,D.P. NAGAR, RANDIA-756135,BHADRAK,ODISHA.
Date of receipt : 26-Apr-2023 **Test Commenced On** : 26-Apr-2023 **Test Completion On**: 05-May-2023
Sample Description : **DRINKING WATER (IS 10500:2012)**

Issue Date: 05-May-2023

Amendment Date : -

Sample Condition : SEALED
Sample Identification * : **GROUND WATER**
Batch No , Lot No : NA **MFG Date** : NA **Sampling Date** : 24-Apr-2023
Received Quantity : 1LTR X 2 NOS **EXP Date** : NA
Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK) **Location**- Near Ash Pond
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i E.coli	MPN/100ml.	Shall not be detected in any100ml. Sample	<2	IS 1622:1981 RA 2009
ii Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	<2	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride (as Cl)	mg/l, Max	250	30	IS 3025 (Part 32):1988 RA 2009
ii Free residual chlorine	mg/l, Min	0.2	<0.04	IS 3025 (Part 26):1986 RA 2009
iii Iron (as Fe)	mg/l, Max	1	<0.05	IS 3025 (Part 53):2003 RA 2014
iv Total hardness (as CaCO ₃),	mg/l, Max	200	152	IS 3025 (Part 21):2009
v Nitrate as NO ₃	mg/l, Max	45	0.36	IS 3025 (PART 34): 1988 RA 2003
vi Calcium (as Ca)	mg/l, Max	75	52.8	IS 3025 (Part 40):1991 RA 2009
vii Copper (as Cu)	mg/l, Max	0.05	<0.02	IS 3025 (Part 42):1992 RA 2009
viii Fluoride (as F)	mg/l, Max	1	0.5	IS 3025 (Part 60):2008
ix Magnesium (as Mg)	mg/l, Max	30	4.86	IS 3025 (Part 46):1994 RA 2003
x Manganese (as Mn)	mg/l, Max	0.1	<0.05	IS 3025 (Part 59):2006 RA 2012
xi Phenolic compounds (as C ₆ H ₅ OH)	mg/l, Max	0.001	<0.001	IS 3025 (Part 43):1992 RA 2009
xii Sulphate (as SO ₄)	mg/l, Max	200	20	IS 3025 (Part 24):1986 RA 2009
xiii Ammonia	mg/l, Max	0.5	<0.3	IS 3025 (Part 34): 1988 RA 2003
xiv Mineral oil	mg/l, Max	0.5	<0.5	Clause 6 of IS 3025 (Part- 39):1991 RA 2003
xv Selenium (as Se)	mg/l, Max	0.01	<0.005	IS 3025 (Part 56):2003 RA 2009
xvi Total alkalinity (as CaCO ₃),	mg/l, Max	200	160	IS 3025 (Part 23):1986 RA 2009
xvii Zinc (as Zn)	mg/l, Max	5	<0.05	IS 3025 (Part 49):1994 RA 2009
xviii Sulphide	mg/l, Max	0.05	<0.05	APHA 22nd Edition (4500-S ₂ --F)
xix Aluminum (as Al)	mg/l,Max	0.03	<0.02	IS 3025 (part-55)
xx Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	<0.1	Annex - K OF IS 13428:2005 RA 2009



Test Report No : **KLPL/4/23/WATER/08513A**



Parameters	Unit	Requirement	Result	Test Method
xxi Boron (as B)	mg/l, Max	0.5	<0.1	Annex H OF IS 13428 : 2005 RA 2009
xxii Chromium (as Cr)	mg/l, Max	0.05	<0.02	Annex J OF IS 13428 : 2005 RA 2009
xxiii Barium (as Ba)	mg/l, Max	0.7	<0.2	Annex F of IS 13428 RA 2012
xxiv Silver (as Ag)	mg/l, Max	0.1	<0.005	Annex J of IS 13428 : 2005 RA 2009
xxv Molybdenum (as Mo)	mg/l, Max	0.07	<0.02	IS 3025 (Part 2): 2002
xxvi Chloramines (Cl ₂)	mg/l, Max	0.2	<1.0	IS 3025 (Part 26):2009
xxvii Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
xxviii Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	<0.0001	APHA 22nd Edition (6440)
xxix Polychlorinatedbiphenyls	mg/l, Max	0.0005	<0.00005	APHA 22nd Edition 6630
xxx Bromoform	mg/l, Max	0.1	<0.1	APHA 22nd Edition 6232
xxxi Dibromochloromethane	mg/l, Max	0.1	<0.1	APHA 22nd Edition 6232
xxxii Chloroform	mg/l, Max	0.1	<0.2	APHA 22nd Edition 6232
xxxiii Bromodichloromethane	mg/l, Max	0.1	<0.06	APHA 22nd Edition 6232
PESTISIDE				
i p p DDE	µg/l, Max	1.0	<0.05	USEPA 508
ii p p DDD	µg/l, Max	1.0	<0.05	USEPA 508
iii p p DDT	µg/l, Max	1.0	<0.05	USEPA 508
iv o p DDT	µg/l, Max	1.0	<0.05	USEPA 508
v o p DDD	µg/l, Max	1.0	<0.05	USEPA 508
vi o p DDE	µg/l, Max	1.0	<0.05	USEPA 508
vii a-HCH	µg/l, Max	0.01	<0.01	USEPA 508
viii β -HCH	µg/l, Max	0.04	<0.01	USEPA 508
ix γ-HCH	µg/l, Max	0.04	<0.01	USEPA 508
x Lindane	µg/l, Max	2.0	<0.01	USEPA 508
xi Endosulfan a	µg/l, Max	0.4	<0.01	USEPA 508
xii Endosulfan sulphate	µg/l, Max	0.4	<0.01	USEPA 508
xiii Monocrotophos	µg/l, Max	1.0	<0.01	USEPA 8141 A
xiv Chlorpyrifos	µg/l, Max	30	<0.01	USEPA 8141 A
xv Phorate	µg/l, Max	2.0	<0.01	USEPA 8141 A
xvi Isoproturon	µg/l, Max	9.0	<0.01	USEPA 532
xvii Methyl Parathion	µg/l, Max	0.3	<0.01	USEPA 8141 A
xviii Malathion	µg/l, Max	190	<0.01	USEPA 8141 A
xix Aldrin	µg/l, Max	0.03	<0.01	USEPA 508
xx Endosulfan β	µg/l, Max	0.4	<0.01	USEPA 508
xxi 2,4-D	µg/l, Max	30	<0.05	USEPA 515.1



Test Report No : KLPL/4/23/WATER/08513A



Parameters	Unit	Requirement	Result	Test Method
xxii Butachlor	µg/l, Max	125	<0.01	USEPA 8141 A
xxiii Alachlor	µg/l, Max	20	<0.01	USEPA 507
xxiv Atrazine	µg/l, Max	2.0	<0.01	USEPA 8141 A
xxv Dieldrin	µg/l, Max	0.03	<0.01	USEPA 508
xxvi Ethion(Residue to be Determined as ethion and its oxygen analogue and expressed as ethion)	µg/l, Max	3.0	<0.01	USEPA 1657 A

PHYSICAL PARAMETER

i Colour,	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
v Turbidity	NTU, Max	1	0.5	IS 3025 (Part 10):1984 RA 2006
vi Total dissolved solids	mg/l, Max	500	280	IS 3025 (Part 16):1984 RA 2006

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.02	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

Remarks :

Any unusual feature observed during determination :

Analysed By

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd



***** End of Test Report *****



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/94, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000016641F

Test Report No : KLPL/4/23/ENVN/02230

Issue Date : 28-Apr-2023

Amendment No : -

Amendment Date : -

Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022

Customer Name : FACOR POWER LIMITED

Address : D.P. NAGAR, RANDIA-756135, BHADRAK, ODISHA.

Date of receipt : 17-Apr-2023 Commenced On : 17-Apr-2023

Completion On: 27-Apr-2023

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 3 NOS

Ref. To Sampling Procedure: QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : NEAR ADMIN BUILDING-05.04.2023				
Sulphur Dioxide	µg/m ³	80	8.78	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.09	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	69.15	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	38.03	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	KLPL/SOP/AIR-19
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	<1	KLPL/SOP/AIR-07
Benza (a) Pyrene (BaP)	ng/m ³	01	<1	KLPL/SOP/AIR-07
Arsenic (As)	ng/m ³	06	<1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	<4	KLPL/SOP/AIR-10
Location & Date : NEAR MAIN GATE-05.04.2023				
Sulphur Dioxide	µg/m ³	80	9.24	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.36	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	71.74	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	39.46	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.42	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	KLPL/SOP/AIR-19
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	<1	KLPL/SOP/AIR-07
Benza (a) Pyrene (BaP)	ng/m ³	01	<1	KLPL/SOP/AIR-07
Arsenic (As)	ng/m ³	06	<1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	<4	KLPL/SOP/AIR-10



KLPL- 361779A



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENNIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000016641F
Test Report No : KLPL/4/23/ENVN/02230 Issue Date : 28-Apr-2023
Amendment No : - Amendment Date : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : FACOR POWER LIMITED
Address : D.P. NAGAR, RANDIA-756135, BHADRAK, ODISHA.
Date of receipt : 17-Apr-2023 Commenced On : 17-Apr-2023 Completion On : 27-Apr-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 3 NOS
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : NEAR WAGAN TIPLER-05.04.2023				
Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	80	9.85	IS 5102(PART-2) : 2001
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	80	18.14	IS 5102 (PART 6) : 2006
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	100	68.98	IS 5102(PART-23) : 2006
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	60	37.94	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m^3	04	0.52	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	$\mu\text{g}/\text{m}^3$	180	6.6	KLPL/SOP/AIR-19
Lead (Pb)	$\mu\text{g}/\text{m}^3$	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	$\mu\text{g}/\text{m}^3$	400	<10	KLPL/SOP/AIR-05
Benzene (C6 H6)	$\mu\text{g}/\text{m}^3$	05	<1	KLPL/SOP/AIR-07
Benza (a) Pyrene (BaP)	ng/m^3	01	<1	KLPL/SOP/AIR-07
Arsenic (As)	ng/m^3	06	<1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m^3	20	<4	KLPL/SOP/AIR-10

Remarks :

Any unusual feature observed during determination :

Analysed By

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



***** End of Test Report *****

KLPL- 381778A

TEST REPORT



NABL ULR NO : TC704323000016931F
Test Report No : KLPL/5/23/ENVN/02292 **Issue Date** : 09-Jun-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601,DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P. NAGAR, RANDIA-756135,BHADRAK,ODISHA.
Date of receipt : 29-May-2023 **Commenced On** : 29-May-2023 **Completion On** : 03-Jun-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : -
Quantity : 3 NOS
Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : ADMIN BUILDING, DATE-29-30/05/2023				
Sulphur Dioxide	µg/m ³	80	8.54	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	14.79	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	72.66	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	39.96	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.373	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	KLPL/SOP/AIR-19
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	KLPL/SOP/AIR-07
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10
Location & Date : NEAR MAIN GATE, DATE-29-30/05/2023				
Sulphur Dioxide	µg/m ³	80	9.76	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.98	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	76.93	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	41.95	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.377	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	KLPL/SOP/AIR-19
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	KLPL/SOP/AIR-07
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10
Location & Date : NEAR WAGAN DATE-29-30/05/2023				
Sulphur Dioxide	µg/m ³	80	8.47	IS 5182(PART-2) : 2001



42231693141043

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KLPL- 382560A

TEST REPORT



NABL ULR NO : TC704323000016931F
Test Report No : KLPL/5/23/ENVN/02292 **Issue Date** : 09-Jun-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA
Date of receipt : 29-May-2023 **Commenced On** : 29-May-2023 **Completion On** : 03-Jun-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : -
Quantity : 3 NOS
Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Nitrogen Dioxide	µg/m ³	80	15.85	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	67.80	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	36.98	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.368	KLPL/SOP/AIR-19
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.6	KLPL/SOP/AIR-19
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	KLPL/SOP/AIR-07
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks :

Any unusual feature observed during determination :

Analysed By

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Authorised Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.

***** End of Test Report *****

42231693141043

Page 2 of 2
KLPL- 362559A

TEST REPORT



NABL ULR NO : TC704323000017207F
Test Report No : KLPL/6/23/ENVN/02329
Amendment No : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P. NAGAR, RANDIA-756135, BHADRAK, ODISHA.
Date of receipt : 29-Jun-2023 **Commenced On** : 29-Jun-2023 **Completion On** : 04-Jul-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 3 NOS
Ref. To Sampling Procedure : KLPL/QSP-07

Issue Date : 05-Jul-2023

Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : ADMIN BUILDING, DATE-27-28/06/2023

Sulphur Dioxide	µg/m ³	80	7.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	13.75	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	53.83	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	32.36	KLPL/SOP/AIR-02, ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.353	KLPL/SOP/AIR-19 : 2019
Ozone (O3) (01 Hrs.)	µg/m ³	130	4.4	KLPL/SOP/AIR-13, ISSUE NO.1:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05, ISSUE NO.1:2017
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	KLPL/SOP/AIR-07, ISSUE NO.1:2019
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10, ISSUE NO.1:2017

Location & Date : NEAR MAIN GATE, DATE-27-28/06/2023

Sulphur Dioxide	µg/m ³	80	9.11	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.26	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	69.58	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	37.94	KLPL/SOP/AIR-02, ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.369	KLPL/SOP/AIR-19 : 2019
Ozone (O3) (01 Hrs.)	µg/m ³	130	5.3	KLPL/SOP/AIR-13, ISSUE NO.1:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05, ISSUE NO.1:2017
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	KLPL/SOP/AIR-07, ISSUE NO.1:2019
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10, ISSUE NO.1:2017

Location & Date : NEAR WAGAN DATE-27-28/06/2023

Sulphur Dioxide	µg/m ³	80	8.14	IS 5182(PART-2) : 2001
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KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



NABL ULR NO : TC704323000017207F
Test Report No : KLPL/6/23/ENVN/02329 Issue Date : 05-Jul-2023
Amendment No : - Amendment Date : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA
Date of receipt : 29-Jun-2023 Commenced On : 29-Jun-2023 Completion On: 04-Jul-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 3 NOS
Ref. To Sampling Procedure: KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	80	13.19	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	100	64.11	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	60	38.21	KLPL/SOP/AIR-02, ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m^3	04	0.364	KLPL/SOP/AIR-19 :2019
Ozone (O3) (01 Hrs.)	$\mu\text{g}/\text{m}^3$	130	6.6	KLPL/SOP/AIR-13, ISSUE NO.1:2019
Lead (Pb)	$\mu\text{g}/\text{m}^3$	1.0	<0.02	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Ammonia (NH3)	$\mu\text{g}/\text{m}^3$	400	< 4	KLPL/SOP/AIR-05, ISSUE NO.1:2017
Benzo (a) Pyrene (BaP)	$\mu\text{g}/\text{m}^3$	01	< 1	KLPL/SOP/AIR-07, ISSUE NO.1:2019
Arsenic (As)	$\mu\text{g}/\text{m}^3$	06	< 1	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Nickel (Ni)	$\mu\text{g}/\text{m}^3$	20	< 4	KLPL/SOP/AIR-10, ISSUE NO.1:2017

Remarks :

Any unusual feature observed during determination :

Analysed By

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory

Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



End of Test Report

KLPL- 362064A



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENNIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA

TEST REPORT



Test Report No : KLPL/7/23/ENVN/02386 **Issue Date** : 04-Aug-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P. NAGAR, RANDIA-756135, BHADRAK, ODISHA.
Date of receipt : 29-Jul-2023 **Commenced On** : 29-Jul-2023 **Completion On** : 04-Aug-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG
Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)
Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : ADMIN BUILDING, DATE-26-27/07/2023				
Sulphur Dioxide	µg/m ³	80	7.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	12.47	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	53.35	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	29.34	KLPL/SOP/AIR-02, ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.358	KLPL/SOP/AIR-19 : 2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.5	KLPL/SOP/AIR-13, ISSUE NO.1:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05, ISSUE NO.1:2017
Benza (a) Pyrene (BaP)	ng/m ³	01	< 0.1	KLPL/SOP/AIR-07, ISSUE NO.1:2019
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Location & Date : NEAR MAIN GATE, DATE-26-27/07/2023				
Sulphur Dioxide	µg/m ³	80	8.76	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	13.30	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	66.95	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	36.82	KLPL/SOP/AIR-02, ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.366	KLPL/SOP/AIR-19 : 2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	KLPL/SOP/AIR-13, ISSUE NO.1:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05, ISSUE NO.1:2017
Benza (a) Pyrene (BaP)	ng/m ³	01	< 0.1	KLPL/SOP/AIR-07, ISSUE NO.1:2019
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10, ISSUE NO.1:2017
Location & Date : NEAR WAGAN DATE-26-27/07/2023				
Sulphur Dioxide	µg/m ³	80	8.4	IS 5182(PART-2) : 2001



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KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA

TEST REPORT



Test Report No : KLPL/7/23/ENVN/02386 **Issue Date** : 04-Aug-2023
Amendment No : - **Amendment Date** : -
Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022
Customer Name : POWER PLANT OF M/S FARRO ALLOYS CORPORATION LIMITED.
Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA
Date of receipt : 29-Jul-2023 **Commenced On** : 29-Jul-2023 **Completion On** : 04-Aug-2023
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG
Sample Condition : By KLPL(MR. SUDHIR KUMAR BARIK)
Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Nitrogen Dioxide	µg/m ³	80	13.30	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	62.24	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	34.23	KLPL/SOP/AIR-02 , ISSUE NO.1:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.362	KLPL/SOP/AIR-19 :2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	KLPL/SOP/AIR-13 , ISSUE NO.1:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10 , ISSUE NO.1:2017
Ammonia (NH3)	µg/m ³	400	< 4	KLPL/SOP/AIR-05 , ISSUE NO.1:2017
Benza (a) Pyrene (BaP)	ng/m ³	01	< 0.1	KLPL/SOP/AIR-07 , ISSUE NO.1:2019
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10 , ISSUE NO.1:2017
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10 , ISSUE NO.1:2017

Remarks :

Any unusual feature observed during determination :

Analysed By

Authorised Signatory

D Arukha

Dr. Debasis Biswal

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



***** End of Test Report *****

TEST REPORT



NABL ULR NO : TC1206323000017703

Test Report No : 1854 | KLPL/8/23/ENVN/02463

Issue Date : 31-Aug-2023

Amendment No : -

Amendment Date : -

Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Aug-2023 **Commenced On** : 30-Aug-2023 **Completion On** : 31-Aug-2023

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : ADMIN BUILDING 28-29/08/2023

Sulphur Dioxide	µg/m ³	80	9.25	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.18	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	57.23	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	27.16	KLPL/SOP/AIR-02, Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.057	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	KLPL/SOP/AIR-19:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, Issue No.01:2017
Ammonia (NH3)	µg/m ³	400	<4	KLPL/SOP/AIR-05, Issue No.01: 2017
Benza (a) Pyrene (BaP)	µg/m ³	01	<0.1	KLPL/SOP/AIR-07, Issue No.01: 2019
Arsenic (As)	µg/m ³	06	<1	KLPL/SOP/AIR-10, Issue No.01: 2017
Nickel (Ni)	µg/m ³	20	<4	KLPL/SOP/AIR-10, Issue No.01:2017

Location & Date : NEAR MAN GATE 28-29/08/2023

Sulphur Dioxide	µg/m ³	80	8.26	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	14.36	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	69.58	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	33.03	KLPL/SOP/AIR-02, Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.069	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	KLPL/SOP/AIR-19:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, Issue No.01:2017
Ammonia (NH3)	µg/m ³	400	<4	KLPL/SOP/AIR-05, Issue No.01: 2017
Benza (a) Pyrene (BaP)	µg/m ³	01	<0.1	KLPL/SOP/AIR-07, Issue No.01: 2019
Arsenic (As)	µg/m ³	06	<1	KLPL/SOP/AIR-10, Issue No.01: 2017
Nickel (Ni)	µg/m ³	20	<4	KLPL/SOP/AIR-10, Issue No.01:2017

Location & Date : NEAR WAGAN 28-29/08/2023

Sulphur Dioxide	µg/m ³	80	9.07	IS 5182(PART-2) : 2001
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TEST REPORT



NABL ULR NO : TC1206323000017703

Test Report No : 1854 | KLPL/8/23/ENVN/02463

Issue Date : 31-Aug-2023

Amendment No : -

Amendment Date : -

Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Aug-2023 **Commenced On** : 30-Aug-2023 **Completion On** : 31-Aug-2023

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Nitrogen Dioxide	µg/m ³	80	17.18	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	76.88	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	34.49	KLPL/SOP/AIR-02, Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.077	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.6	KLPL/SOP/AIR-19:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10, Issue No.01:2017
Ammonia (NH3)	µg/m ³	400	<4	KLPL/SOP/AIR-05, Issue No.01: 2017
Benza (a) Pyrene (BaP)	µg/m ³	01	<0.1	KLPL/SOP/AIR-07, Issue No.01: 2019
Arsenic (As)	µg/m ³	06	<1	KLPL/SOP/AIR-10, Issue No.01: 2017
Nickel (Ni)	µg/m ³	20	<4	KLPL/SOP/AIR-10, Issue No.01:2017

Remarks :

Any unusual feature observed during determination : NIL
REQUIREMENT IS AS PER STANDARD SPECIFICATION NAAQS:2009

Analysed By

Authorised Signatory



Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.



***** End of Test Report *****

TEST REPORT



TC-12063

NABL ULR NO : TC1206323000018032

Test Report No : KLPL/9/23/ENVN/02520

Issue Date : 10-Oct-2023

Amendment No : -

Amendment Date : -

Reference : P.O NO-FPPL/3100006601,DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Sep-2023 **Commenced On** : 30-Sep-2023 **Completion On** : 07-Oct-2023

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : ADMIN BUILDING,DATE: 29-30/09/2023				
Sulphur Dioxide	µg/m ³	80	9.27	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	14.48	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	62.30	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	33.62	KLPL/SOP/AIR-02,Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.063	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	KLPL/SOP/AIR-19:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10,Issue No.01:2017
Ammonia (NH3)	µg/m ³	400	<4.0	KLPL/SOP/AIR-05,Issue No.01: 2017
Benza (a) Pyrene (BaP)	µg/m ³	01	<0.1	KLPL/SOP/AIR-07,Issue No.01: 2019
Arsenic (As)	µg/m ³	06	<1.0	KLPL/SOP/AIR-10,Issue No.01: 2017
Nickel (Ni)	µg/m ³	20	<4.0	KLPL/SOP/AIR-10,Issue No.01:2017
Location & Date : NEAR MAN GATE,DATE: 29-30/09/2023				
Sulphur Dioxide	µg/m ³	80	10.04	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.36	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	62.30	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	36.05	KLPL/SOP/AIR-02,Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.062	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.6	KLPL/SOP/AIR-19:2019
Lead (Pb)	µg/m ³	1.0	<0.02	KLPL/SOP/AIR-10,Issue No.01:2017
Ammonia (NH3)	µg/m ³	400	<4.0	KLPL/SOP/AIR-05,Issue No.01: 2017
Benza (a) Pyrene (BaP)	µg/m ³	01	<0.1	KLPL/SOP/AIR-07,Issue No.01: 2019
Arsenic (As)	µg/m ³	06	<1.0	KLPL/SOP/AIR-10,Issue No.01: 2017
Nickel (Ni)	µg/m ³	20	<4.0	KLPL/SOP/AIR-10,Issue No.01:2017
Location & Date : NEAR WAGAN GATE,DATE: 29-30/09/2023				
Sulphur Dioxide	µg/m ³	80	8.21	IS 5182(PART-2) : 2001



KLPL- 364265A



KALYANI LABORATORIES PVT. LTD.

PLOT NO-78/944, MILLENNIUM CITY PAHAL, BHUBANESWAR-751032, ODISHA



TEST REPORT



TC-12063

NABL ULR NO : TC1206323000018032

Test Report No : KLPL/9/23/ENVN/02520

Issue Date : 10-Oct-2023

Amendment No : -

Amendment Date : -

Reference : P.O NO-FPPL/3100006601, DATE-8.11.2022

Customer Name : POWER PLANT OF M/S FEERO ALLOYS CORPORATION LIMITED.

Address : D.P NAGAR, RANDIA, BHADRAK-756135, ODISHA

Date of receipt : 30-Sep-2023 Commenced On : 30-Sep-2023 Completion On: 07-Oct-2023

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED/FILTER PAPER SEALED IN ZIP LOCK POLYTHENE BAG

Sample Collected By : By KLPL(MR. SUDHIR KUMAR BARIK)

Ref.To Sampling Procedure : KLPL/QSP-07

Parameters	Unit	Standard Value	Results	Test Method
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	80	19.35	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	100	73.16	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	60	33.62	KLPL/SOP/AIR-02, Issue No.01:2017
Carbon Monoxide (CO) (01 Hrs.)	mg/m^3	04	0.074	KLPL/SOP/AIR-19:2019
Ozone (O3) (01 Hrs.)	$\mu\text{g}/\text{m}^3$	180	7.3	KLPL/SOP/AIR-19:2019
Lead (Pb)	$\mu\text{g}/\text{m}^3$	1.0	<0.02	KLPL/SOP/AIR-10, Issue No.01:2017
Ammonia (NH3)	$\mu\text{g}/\text{m}^3$	400	<4.0	KLPL/SOP/AIR-05, Issue No.01: 2017
Benza (a) Pyrene (BaP)	$\mu\text{g}/\text{m}^3$	01	<0.1	KLPL/SOP/AIR-07, Issue No.01: 2019
Arsenic (As)	$\mu\text{g}/\text{m}^3$	06	<1.0	KLPL/SOP/AIR-10, Issue No.01: 2017
Nickel (Ni)	$\mu\text{g}/\text{m}^3$	20	<4.0	KLPL/SOP/AIR-10, Issue No.01:2017

Remarks :

Any unusual feature observed during determination : NIL

Requirement is as per standard specification NAAQS:2009

The results relate only to samples tested and test parameters

Analysed By

Authorised Signatory

D Arukha

Mr. Digambar Arukha
For Kalyani Laboratories Pvt. Ltd.



Dr. Debasis Biswal

Dr. Debasis Biswal
For Kalyani Laboratories Pvt. Ltd.

ସର୍ବସାଧାରଣ ବିଜ୍ଞପ୍ତି

ଏଡ଼୍‌ଭାଇ ସର୍ବସାଧାରଣଙ୍କ ଅବଗତ କରିବା ଲିଖିତ କଥାକୁ ବିଶ୍ୱାସୀୟତାରେ ଯେ, ମେସର୍ସ ଫେକର ପାଣ୍ଡାଲ ଲିମିଟେଡ୍, ଡି.ପି.ନଗର, ରାଜିଆ, ଭଦ୍ରକରେ କୋରୋନାଭିରୁସ୍ ଅର୍ମାଲ ପାଣ୍ଡାଲ ପ୍ରାପ୍ତ ହେବାକୁ ନିମ୍ନ ଲିଖିତ ଓ ପରିବେଶ ସୁରକ୍ଷା ମନ୍ତ୍ରାଳୟରୁ ପରିବେଶ ସ୍ୱାକ୍ଷର ପ୍ରାପ୍ତ ହୋଇଅଛି । ଏହି ସ୍ୱାକ୍ଷର ପ୍ରାପ୍ତ କରି ରାଜ୍ୟ ପରିବେଶ ମନ୍ତ୍ରାଳୟରେ ପ୍ରାପ୍ତ ହେବ ଏବଂ ଏହା ପରିବେଶ ମନ୍ତ୍ରାଳୟର ଡେପୁଟି ସାକ୍ଷର <http://envfor.nic.in> ରେ ମଧ୍ୟ ପ୍ରାପ୍ତ ହେବ ।

ସ୍ୱା./- ନିର୍ଦ୍ଦେଶକ
ଫେକର ପାଣ୍ଡାଲ ଲିମିଟେଡ୍

PUBLIC NOTICE

It is hereby informed to General Public that, **M/s. FACOR POWER LTD.**, accorded Environmental Clearance from Ministry of Environment and Forest for setting up a coal based thermal power plant at D.P. Nagar, Randia, Bhadrak and the copies of clearance letter are available with the state Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.

Date - 11 - 05 - 2009.

THE SAMAJ.

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Ref. No : FPL/BDK/ 903/10-11
Date : 27.12.10



To

The Collector & District Magistrate,
Bhadrak.

Sub: Public hearing in respect of the environmental assessment for M/s.
Facor Power Ltd. for Enhancement of capacity of Power plant from
45MW to 100MW at Randia, Bhadrak.

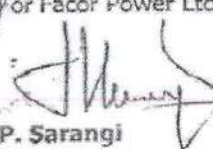
Ref: Letter of State Pollution Control Board, Odisha No-22018IND/II/PH
/486, Dt: 24.12.10

Dear Sir,

M/s. Facor Power Ltd. has submitted an application for public hearing to State Pollution Control Board, Odisha for enhancement of its ongoing project of 45MW to 100MW at Randia, Bhadrak. As advised by SPCB, Odisha vide their letter as mentioned above, we are submitting herewith one hard copy and one soft copy of the above EIA/EMP report along with executive summary of EIA/EMP report for reference and needful action at your end, as advised by SPCB, Odisha.

You are requested to kindly acknowledge the receipt of the same and give it to us for our further submission to State Pollution Control Board.

Thanking You,
For Facor Power Ltd.


P. Sarangi
Sr. DGM (Power Plant)

End: (i) Soft & Hard copy of EIA/EMP report.
(ii) Xerox copy of the letter of SPCB for public hearing.

 **FACOR POWER LIMITED**

Corp. & Regd. Office : Corporate One-Suite 401, Plot No. 5, Jazola, New Delhi-110 044, India • T +91-11-4070 1000 • F +91-11-4162 4880 • fpldelhi@facorpower.in
Works : D.P. Nagar, Randia-756 135, Dist. Bhadrak, Orissa, India • +91-6784-240 344 & 240 808 • F +91-6784-240 803 • fplbdk@facorgroup.in
www.facorgroup.in



Ref. No: FACL/BDK/ SPCB/851/2023-24

Date: 29.09.2023

To,

**The Member Secretary,
State Pollution Control Board,
Paribesh Bhawan, A/118,
Nilakantha Nagar, Unit-VIII,
Bhubaneswar.**

**Sub: Submission of Environmental Statement for the year 2022-23 by M/s Ferro
Alloys Corporation Limited (Power Plant), Randia, Bhadrak.**

Sir,

With reference to the above cited subject, please find enclosed copy of Environmental Statement for the financial year ending 31st March, 2023 in **Form-V** by M/s Ferro Alloys Corporation Limited (Power Plant) for your kind perusal.

Thanking you,

Yours faithfully,
For **Ferro Alloys Corporation Limited**



**Girish Chandra Mohanty
Factory Manager-PP**

Encl: As above

Copy to: The Regional Officer, SPCB, Balasore.

M/s. Ferro Alloys Corporation Ltd. (A subsidiary of Vedanta Ltd.)

Registered Office:

D.P.Nagar, PO : Randia, Dist.: Bhadrak, Odisha, India - 756 135

T +91-6784 240320/240347, Email: facor.mines@vedanta.co.in / facor.ccp@vedanta.co.in

Website: www.facorgroup.in, CIN: U45201OR1955PLC008400.

ENVIRONMENTAL STATEMENT REPORT

**FOR THE FINANCIAL YEAR
2022-23**

IN RESPECT OF

FERRO ALLOYS CORPORATION LIMITED (POWER PLANT)

Randia, Bhadrak, Odisha.

FORM – V
(See Rule – 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2022-23

PART - A

01. Name and address of the : **M/s. Ferro Alloys Corporation Limited**
owner/occupier of the industry : **(Power Plant)**
operation At:D.P.Nagar, Po:Randia,
District – Bhadrak-756135, Odisha.
02. Industry Category : Red category
:
Primary (STC Code)
Secondary (SIC code)
03. Production Capacity : Captive Power Plant - 100 MW
04. Year of Establishment : July'2011
05. Date of last Environmental : 30.09.2022
Statement submitted

PART - B

WATER CONSUMPTION & RAW MATERIAL CONSUMPTION

1. <u>Water Consumption</u>	<u>M³/day (Max.)</u>
Process	63
Industrial Cooling	2263
Domestic (Potable)	114

2. Process Water Consumption

Name of the Products	Generation		Process water consumption / unit of Output	
	21-22	22-23	21-22	22-23
Power	290377 MWH	290365 MWH	2.71 m ³ /MW	3.31 m ³ /MW

3. Raw Material Consumption

Name of raw materials	Name of the product	Consumption of raw materials / unit of product output	
		21-22	22-23
Coal	Power	1.00T/MW	0.99 T/MW
LDO	Power	4 to 5 KL in every startup	4 to 5 KL in every startup

PART - C

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

A : WATER

Month of April 2022 to March 2023(average)

Sl. No.	Parameters	Quantity of Pollutants Discharged (load)
		Service Water Sample Water
01.	Color (Hazen)	<1.0
02.	Odour	Agreeable
03.	pH	7.78
04.	Temperature (°C)	29.9

05.	Total Suspended Solids (TSS)	36.1
06.	Oil & Grease	2.23
07.	Total Residual Chlorine	0.24
08.	Free Ammonia (NH ₃)	<0.5
09.	Chemical Oxygen Demand (COD)	13.26
10.	Arsenic (As)	<0.004
11.	BOD of 27 °C	3.74
12.	Hexavalent Chromium (Cr+6)	<0.05
13.	Total Chromium (Cr)	<0.1
14.	Copper (Cu)	<0.02
15.	Zinc (Zn)	0.41
16.	Selenium (Se)	<0.001
17.	Nickel (Ni)	<0.1
18.	Cyanide (CN)	<0.02
19.	Fluoride as F	0.66
20.	Dissolved Phosphates (P)	4.25
21.	Sulphide (S)	ND
22.	Iron (Fe)	1.47
23.	Nitrate Nitrogen	6.85
24.	Phenolic compounds (C ₆ H ₅ OH)	<0.001
25.	Sulphate as (SO ₄)	8.02
26.	Manganese (Mn)	0.026
27.	Total Coliform (MPN/100ml)	278.3
28.	Vanadium as V	<0.02
29.	Cadmium (Cd)	<0.03
30.	Lead (Pb)	<0.2
31.	Mercury (Hg)	<0.004

B. AIR

April 2022 to March 2023(average)

Sl.No.	Location	Pollutant concentration			
		PM (mg/Nm ³)		SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)
01.	ESP outlet of CFBC Boiler	31.1		78.13	91.15
		CO ₂ (%)		CO (%)	Hg (%)
		6.6		<0.1	0.014
02.	Ambient Air	PM 2.5 (µg/m ³)	PM 10 (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)
		39.3	68.3	10.8	18.5

PART – D

HAZARDOUS WASTE

(As specified under hazardous waste management and handling rules, 1989)

Hazardous Waste	Total Quantity	
	21-22	22-23
Used Oil	0.40 KL	1.36 KL
Waste containing Oil	0.16 T	0T
Spent Resin	1.60 KL	0 KL

PART- E

SOLID WASTE

Source	Total Quantity (MT)	
	21-22	22-23
Fly ash from Silos	114165	47306
Bottom ash from Boiler	18599	6493

PART - F

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

Solid Waste	Total Quantity (22-23)	Characteristics of fly ash	Remarks
Fly ash & Bottom Ash	53800 MT	SiO ₂ – 65% Al ₂ O ₃ – 22% Fe ₂ O ₃ – 6% CaO – 2.66% MgO – 2.03% TiO ₂ – 0.81% P – 0.023% S – 0.48%	We have provided 800M ³ volume of 3 nos of ash silo for CFBC Boiler and we have pneumatic ash handling system to control fugitive emission. Then ash is unloaded from silo into trucks and utilized for Fly ash brick manufacturing plants and low lying area land filling etc. We are constantly achieving 100% utilization of fly ash & bottom ash.

PART-G

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

1. Power plant has taken adequate pollution control measures at source level, so that the operation of the plant does not have any adverse impact on natural resources and environment.
2. High efficiency electro-static precipitators have been installed in CFBC boiler to reduce particulate emission from these units.
3. We have installed 10KLD STP for sewage water treatment and recycling the water for gardening purpose.
4. Similarly, 1000KLD Surface Runoff Treatment Plant has been installed to treat all runoff water inside the plant to achieve Zero Liquid Discharge.
5. Power plant has installed Wheel washing system to clean the wheel of vehicles to maintain the road clean.
6. Green belt has been developed inside the plant premises to reduce spread of noise and dust pollution.
7. All internal roads have been concreted to reduce the fugitive dust emission inside the plant premises.
8. Power plant has provided fixed and flexible water sprinkling system at various dusts generating area such as raw material carrying conveyer, coal circuit, rotary breaker etc. and also 1 no of mobile water tanker (capacity of 5KL) has been engaged for sprinkling of water at raw material yard, ash disposal site and inside & outside road of the factory.
9. Housekeeping has been taken on top priority and engaged 12 nos. of manpower on daily basis for maintaining neat & clean environment in the plant premises.

PART- H

Additional measures / investment proposal for environmental protection Including abatement of pollution

Expenditure for Environmental Protection FY 2022-23

i)	Installation of Online Continuous Effluent Monitoring Station with RTDAS system	:	10,07,720/-
ii)	Installation of Digital Flow meter in intake well	:	12,00,000/-
iii)	Installation of Temperature, Velocity, Flow measurement in CEMS		8,50,000/-
iv)	Installation of SOx & NOx Analyzers for CEMS	:	20,10,000/-
v)	ETP revamp	:	9676000/-
vi)	Energy consumption for Pollution control devices	:	12,22,523/-
viii)	Expenditure for Dust suppression system	:	6,58,350/-
ix)	Engagement of Labor for housekeeping & Plantation maintenance work	:	23,06,880/-
x)	Engagement of Water Tanker for dust suppression	:	216000/-

Investment Proposal for Environmental Protection FY 2023-24

- Installation of SOx & NOx analyzers in CAAQMS– Rs.15,000,000/-
- Supply and installation of IOT flowmeter in intake well- Rs. 28305/-

PART – I

Any other particulars for improving the quality of the environment

Power plant has taken various initiatives for abatement of pollution control and environment protection measures. We have installed 10KLD STP for sewage water treatment and recycling the water for gardening purpose. Similarly, 1000KLD Surface Runoff Treatment Plant has installed to treat all runoff water inside the plant to achieve Zero Liquid Discharge. Unit has constantly achieving 100% ash utilization since April-2013 as a result we are utilizing the waste material as a resource for flyash bricks plant. We are continuously developing greenbelt wherever the open space is available to improve the plant beautification as well as prevention and control of pollution.

