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FACOR POWER LIMITED

FPL/BDK/HSE/103/2022-23 Dtd.28.05.2022

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: seiaaorissa@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. : 538/SEIAA dtd.21.10.2011, issued to M/s FACOR Power Ltd. for the period from October 2021 to March 2022

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 for the period from October 2021 to March 2022.

The Monthly Environmental Monitoring data and other required information with respect to compliance of the said Six-Monthly compliance for the period from October 2021 to March 2022 are also enclosed herewith for your kind perusal and records.

Received of the same may kindly be acknowledged herewith.

Thanking you

Yours faithfully

For Facor Power Limited

Factory Manager

Enclosed: As above.

Six Monthly Environmental Compliance Report for the period from October 2021 upto March 2022

Sl 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-1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prscribed 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 calender 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 emmission does not exceed 50 mg/Nm3.	ESP installed to maintain SPM emission below 50mg/ Nm3. We have also installed online monitoring facility with RT-DAS as well as manual monitoring and analysis by outsource agency, which shocs the particulate emission is within the standard. Report is enclosed.
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 for gardening 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.	FPL 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, SO2 and NOx 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.

FACOR POWER LIMITED Bhadrak

FACTORY MANAGER
FACOR POWER LIMITED
D.P. NAGAR, RANDIA,
BHADRAK, ODISHA-756135

12	xii	The proponent shall treat the flue gas through Flue Gas De-sulfurisation (FGD), if SO2 emission level exceeds the prescribed norm.	So2 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 started. Copy of monitering report from Oct-21 to March 2022 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 vlunerable 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 provded 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 FPL 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. However, testing of heavy metals in fly ash & bottom ash as well as ground water was done.
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.	STP has been completed. Now it is operational. All the treated water are being used for green belt development
18	xviii	The project proponent shall undertake proactive water havesting 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 m3 total capacity for storage water Rainwater harvesting and ground water recharge project in admin building and control room is in progress. We have already engaged third party for development of Rain Water harvesting system.
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%.	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**

FACOR POWER LIMITED Bhadrak

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BHADRAK

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.	The green belt development has been started in and around the plant with different local species by engaging experienced Professionals. We have planted approx. 5000 nos. of saplings in this monsoon period and also planned for plantation of different species (which can provide protection against particulate matter and noise) in coming monsoon. Our sincere endeavour is on to bring 33% of land under green belt which is a continuous effort.
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 treatement 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 SO2, NOx, RSPM (PM10 & PM2.5) 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 (SOx, NOx , PM10 & PM2.5) has been carried out and the 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 supress dust and all other solid waste are treated housekeeping. Hazardous waste are being disposed to authorised venders.
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 enviormental 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 export 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 bugget 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 appropiately 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.

FACOR POWER LIMITED BHADRAK

FACTORY MANAGER
FACOR POWER LIMITED
D.P. NAGAR, RANDIA,
BHADRAK, ODISHA-756137

32	xxxiii	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 Controul Board and SEIAA.	The project proponent was advertise in local newspaper dated 11.05.2009. Copy enclosed herewith as **Annexure-6.**
33	xxxiv	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	xxxv	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 Envrionment (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	xxxvi	The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with anyof 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.

FACOR POWER LIMITED Bhadrak

FACTORY MANAGER
FACOR POWER LIMITED
D.P. NAGAR, RANDIA
BHADRAK, ODISHA-7561

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017
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- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No: ENVLAB/21/TR-6046 **Date: 01.11.2021**

STACK MONITORING REPORT- OCTOBER 2021

1. Name of Client : **M/s FACOR POWER LIMITED, BHADRAK**
2. Sampling Location : **ST -1:** Stack attached to Boiler-1
3. Method of Sampling : **IS 11255**
4. **Date of Sampling** : **26.10.2021**
5. Date of Analysis : **27.10.2021 TO 30.10.2021**
6. Monitoring Instruments : Vayubodhan Stack Sampler VSS 1
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	°C	125
Velocity of Flue Gas	m/sec	13.39
Volume of Flue Gas	Nm^3/hr	381246.12
Concentration of Particulate Matter as PM	mg/Nm^3	46.4
Sulphur dioxide as SO_2	mg/Nm^3	80.8
Oxides of Nitrogen as NO_x	mg/Nm^3	94.8
Carbon dioxide as CO_2	%	7.8
Carbon monoxide as CO	%	<0.1
Mercury as Hg	%	0.013

Visiontek Consultancy Services Pvt. Ltd. Reviewed By

Visiontek Consultancy Services Pvt. Ltd. Approved By

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India ☎ Tel.: 0674-3541721
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FACOR POWER LIMITED Bhadrak

Test Report No: ENVLAB/21/TR-8121 Date: 04.12.2021

STACK MONITORING REPORT-NOVEMBER 2021

1. Name of Client : M/s FACOR POWER LIMITED , BHADRAK
2. Sampling Location : ST -1: Stack attached to Boiler-1
3. Method of Sampling : IS 11255
4. **Date of Sampling : 29.11.2021**
5. Date of Analysis : 30.11.2021 TO 01.12.2021
6. Monitoring Instruments : Vayubodhan Stack Sampler VSS 1
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	^{0}C	137
Velocity of Flue Gas	m/sec	13.47
Volume of Flue Gas	Nm^3/hr	360898.08
Concentration of Particulate Matter as PM	mg/Nm^3	42.9
Sulphur dioxide as SO_2	mg/Nm^3	82.6
Oxides of Nitrogen as NO_x	mg/Nm^3	92.6
Carbon dioxide as CO_2	%	8.1
Carbon monoxide as CO	%	< 0.1
Mercury as Hg	%	0.016

Visiontek Consultancy Services Pvt. Ltd. BBSR Reviewed By

Visiontek Consultancy Services Pvt. Ltd. BBSR Approved By

FACOR POWER LIMITED Bhadrak

Test Report No: ENVLAB/21/TR-9744 **Date: 04.01.2022**

STACK MONITORING REPORT-DECEMBER 2021

1. Name of Client : **M/s FACOR POWER LIMITED , BHADRAK**
2. Sampling Location : **ST -1:** Stack attached to ESP Boiler-2
3. Method of Sampling : **IS 11255**
4. **Date of Sampling** : **29.12.2021**
5. Date of Analysis : **30.12.2021 TO 03.01.2022**
6. Monitoring Instruments : Vayubodhan Stack Sampler VSS 1
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	°C	124
Velocity of Flue Gas	m/sec	12.26
Volume of Flue Gas	Nm^3/hr	368412.2
Concentration of Particulate Matter as PM	mg/Nm^3	28.6
Sulphur dioxide as SO_2	mg/Nm^3	72.1
Oxides of Nitrogen as NO_x	mg/Nm^3	84.6
Carbon dioxide as CO_2	%	5.2
Carbon monoxide as CO	%	< 0.1
Mercury as Hg	%	0.011

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- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Enviab/21/R- 0803 Date : -02.02.2022

STACK MONITORING REPORT-JANUARY 2022

1	Name of Client	:	M/s Ferro Alloys Corporation Limited, Bhadrak, Odisha
2	Sampling Location	:	ST1- Stack attached to ESP of Boiler 2
3	Sampling Method	:	IS 11255
4	Date of Sampling	:	28.01.2022
5	Date of Analysis	:	29.01.2022
6	Monitoring Instruments	:	Vayubodhan Stack Sampler VSS 1
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representative

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	°C	128
Velocity of Flue Gas	m/sec	12.60
Volume of Flue Gas	Nm^3/hr	366809.12
Concentration of Particulate Matter as PM	mg/Nm^3	29.4
Sulphur dioxide as SO_2	mg/Nm^3	72.6
Oxides of Nitrogen as NO_x	mg/Nm^3	83.8
Carbon dioxide as CO_2	%	5.4
Carbon monoxide as CO	%	< 0.1
Mercury as Hg	%	0.013

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FACOR POWER LIMITED Bhadrak

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- Waste Management Services

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Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21/R- 2199 Date : -07.03.2022

STACK MONITORING REPORT- FEBRUARY 2022

1	Name of Client	:	M/s Facor Power Limited, Bhadrak
2	Sampling Location	:	ST1- Stack attached to ESP of Boiler 2
3	Sampling Method	:	IS 11255
4	Date of Sampling	:	16.02.2022
5	Date of Analysis	:	17.02.2022 TO 23.02.2022
6	Monitoring Instruments	:	Vayubodhan Stack Sampler VSS 1
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representative

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	^{0}C	126
Velocity of Flue Gas	m/sec	13.08
Volume of Flue Gas	Nm^3/hr	367145.12
Concentration of Particulate Matter as PM	mg/Nm^3	28.8
Sulphur dioxide as SO_2	mg/Nm^3	72.8
Oxides of Nitrogen as NO_x	mg/Nm^3	83.2
Carbon dioxide as CO_2	%	5.1
Carbon monoxide as CO	%	< 0.1
Mercury as Hg	%	0.013

Reviewed By *Approved By*

FACOR POWER LIMITED Bhadrak

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
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Ref : Envlab/21/R- 4074

Date : -26.03.2022

STACK MONITORING REPORT- MARCH 2022

1	Name of Client	:	M/s Facor Power Limited, Bhadrak
2	Sampling Location	:	ST1- Stack attached to ESP of Boiler 2
3	Sampling Method	:	IS 11255
4	Date of Sampling	:	22.03.2022
5	Date of Analysis	:	23.03.2022 TO 24.03.2022
6	Monitoring Instruments	:	Vayubodhan Stack Sampler VSS 1
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representitive

Parameters	Unit of Measurement	Analysis Result
Stack Temperature	^0C	158
Velocity of Flue Gas	m/sec	13.51
Volume of Flue Gas	Nm^3/hr	367145.12
Concentration of Particulate Matter as PM	mg/Nm^3	42.8
Sulphur dioxide as SO_2	mg/Nm^3	89.6
Oxides of Nitrogen as NO_x	mg/Nm^3	96.8
Carbon dioxide as CO_2	%	5.4
Carbon monoxide as CO	%	< 0.1
Mercury as Hg	%	0.011

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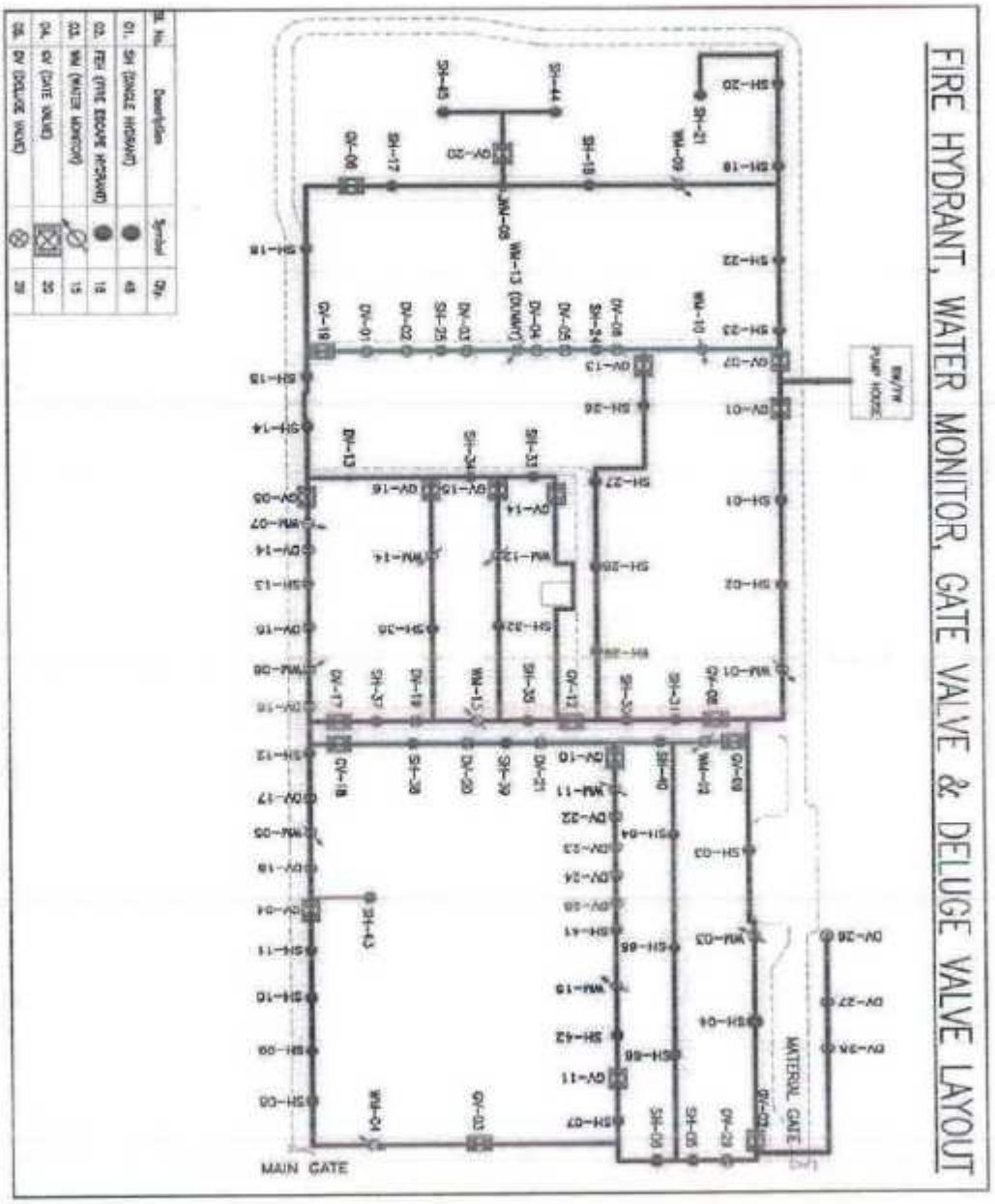
FACOR POWER LIMITED Bhadrak

Annexure.2



FACOR POWER LIMITED
Bhadrak

Facor Power Limited

Fire Hydrant

Sl. No.	Hydrant no.	Location	Remarks
1	S.H-01	In Between CW Riser 1 & 2	
2	S.H-02	In Between CW Riser 4 & 5	
3	S.H-03	Fly Ash Silo -1	
4	S.H-04	Weigh Bridge	
5	S.H-05	Near Material Gate	
6	S.H-06	Near BC - 13, Take-up pulley	
7	S.H-07	Near Ground Hopper, Boundry Side	
8	S.H-08	Security Building	
9	S.H-09	Near Time Office	
10	S.H-10	Near Bike Stand Road Side	
11	S.H-11	Near CHP Road Side	
12	S.H-12	Near SCH Road Side	
13	S.H-13	Near ESP Control Room Road Side	
14	S.H-14	STG Building Entrance	
15	S.H-15	ST-1 Wall Side	
16	S.H-16	132 KV Switch Yard Road Side	
17	S.H-17	132 KV Switch Yard Road Side	
18	S.H-18	132 KV Switch Yard Back Side	
19	S.H-19	ETP Road Side towards RLY line	
20	S.H-20	ETP Road Side near Sludge Tank	
21	S.H-21	ETP Near HR/SCC Tank	
22	S.H-22	ETP Road Side towards RLY line	
23	S.H-23	Near CW Pump House, Road Side	
24	S.H-24	Near GT-2, Road Side	
25	S.H-25	ST-1 Road Side near DV-102	
26	S.H-26	Near CW MCC Room	
27	S.H-27	Infront of 25MVA Conv.Transformer-3	
28	S.H-28	DM Plant, Road Side	
29	S.H-29	Near Compressore House	
30	S.H-30	Near AHS MCC Room, Road Side	
31	S.H-31	BC-13 End, Road Side	
32	S.H-32	In Between ESP 2&3	
33	S.H-33	Infront of 3 MVA Conv.Transformer-1	
34	S.H-34	Boiler-2, Road Side	
35	S.H-35	Chimney Road near DV-1/2	
36	S.H-36	In Between ESP 1 & 2	
37	S.H-37	Near 25KL HSD Tank	
38	S.H-38	Opposite of 25KL HSD Tank	
39	S.H-39	Chimney Road near PCH	
40	S.H-40	BC-13 Head End, Road Side	
41	S.H-41	Near Magnetic Separator of BC-1	
42	S.H-42	Ground Hopper	
43	S.H-43	Near CHP Control Room	
44	S.H-44	Inside Main Store	
45	S.H-45	Inside Lubricant Area of Main Store	
46	S.H-46, FEH-01	Boiler-1 (EL=22.200)	
47	S.H-47, FEH-02	Boiler-1 (EL=28.000)	
48	S.H-48, FEH-03	Boiler-1 (EL=35.100)	
49	S.H-49, FEH-04	Boiler-1 (EL=48.200)	
50	S.H-50, FEH-05	Boiler-2 (EL=28.700)	
51	S.H-51, FEH-06	Boiler-2 (EL=38.000)	
52	S.H-52, FEH-07	Boiler-2 (EL=36.050)	
53	S.H-53, FEH-08	Boiler-2 (EL=48.200)	
54	S.H-54, FEH-09	Boiler-3 (EL=22.700)	
55	S.H-55, FEH-10	Boiler-3 (EL=28.000)	
56	S.H-56, FEH-11	Boiler-3 (EL=36.050)	
57	S.H-57, FEH-12	Boiler-3 (EL=48.200)	
58	S.H-58, FEH-13	STG Building 1 Staircase (5 mtr)	
59	S.H-59, FEH-14	STG Building-1 Staircase (10.5 mtr)	
60	S.H-60, FEH-15	STG Building-1 Staircase (15 mtr)	
61	S.H-61, FEH-16	STG Building-2 Staircase (5 mtr)	
62	S.H-62, FEH-17	STG Building-2 Staircase (10.5 mtr)	
63	S.H-63, FEH-18	STG Building-2 Staircase (15 mtr)	
64	S.H-64	BC-13, Head End towards Cooling Tower, Coil No-7	
65	S.H-65	BC-13 Middle Point	
66	S.H-66	BC-13, Tail End towards ST-2	
Total	66 Nos. Single Hydrant Post with Landing valve		

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Annexure-3

MOCK DRILL FOR RESCUE FROM PRESSED UNDER RAILWAY SLIPPER

Date & Time: 26.04.2022 & 10.01 hours **Location:** Wagon Tippler (Railway Siding)

Drill Start Time: 10.01 hours **Drill End Time:** 10.40 hours **Total time of the Drill:** 39 Minutes

Emergency Scenario:

Mr. Jibendra Swain, worker, working under M/s Surendra Rout was engaged in rail track maintenance work at wagon tippler. He was lifting-up the slipper from rail siding. He got unbalanced and rail slipper fall on his left leg & felt pain. This was immediately informed to the Emergency Control Room by his co-worker Mr. Biswanath Rout. After receiving the message from ECR, security team along with the Pharmacist rushed to the spot and rescued the IP. After first aid treatment given by Pharmacist at site, he was shifted to first aid Centre through ambulance for observation.

Observation / Sequence of events with details:

- Spotting emergency: 10.01 hours
- Time of informing to ECR: 10.01 hours
- Reporting to WMC / SIC: Nil
- Declaration of Emergency / Blowing of Emergency Siren: Nil
- Mobilization of Security / rescue team at spot: 10.07 hours
- Work Main Controller (WMC) / Site Incident Controller (SIC) reached at spot:
- Pharmacist reached at spot: 10.07 hours
- Emergency Vehicle (Ambulance) reached at spot: 10.12 hours
- Assembly of workers at Assembly spot: 10.30 hours
- Completion of Emergency Roll Call at site: 10.39 hours
- Declaration of Normalcy / Blowing of all clear Siren: 10.40 hours

Weakness / Shortcomings Observed:

Sl.No	Observation	Responsibility	Timeline	Remarks
1	No information to WMC, SIC, CTL & Safety co-ordinator	Security Supervisor & Indiverker	Next mock drill	
2	Emergency siren not sounded.	-do-	-do-	
3	No proper communication as per command structure	-do-	-do-	
4	Security team was not carrying the megaphone for announcement for emergency	-do-	-do-	
5	More awareness sessions are required for skill development of security personnel	-do-	05.05.2022	

Good Observation:

1. Adjacent dept. workers reached at the accident place by hearing ambulance alarm.
2. Accident spot was combatted by IP co-workers & arranged stretcher for rescue purpose.

Total 28 Persons Present During Mock Drill

Name of the Observer:

1. Soubhagya Ranjan Panda, Head - O&M - WT
2. Sk Motiur Rahman, Sr. Safety Officer

****

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Laboratory Services: Environment Lab, Food Lab, Material Lab, Soil Lab, Mineral Lab & Mineralogy Lab

Test Report No: ENVLAB/21/TR-6051 **Date: 01.11.2021**

WATER QUALITY ANALYSIS REPORT FOR OCTOBER-2021

1. **Name of Industry** :**M/s FACOR Power Limited , Bhadrak**
2. Date of Sampling : 26.10.2021
3. Sampling Location :W-4:Rest Room Site Tap Drinking Water
4. Date of analysis : 27.10.2021 TO 01.11.2021
5. Sample Collected ByRepresentative :VCSPL Representative

Sl. No.	Parameter	Unit	Standard as per IS-10500:2012 Amended on 2015 & 2018 Permissible Limit	Drinking Water-1
Essential Characteristics				
1	Colour	Hazen	5	<5
2	Odour	--	Agreeable	Agreeable
3	Taste	--	Agreeable	Agreeable
4	Turbidity	NTU	1	3.8
5	pH at 25°C	--	6.5-8.5	7.5
6	Total Hardness (as $CaCO_3$)	mg/l	200	84
7	Iron (as Fe)	mg/l	1.0	0.33
8	Chloride (as Cl)	mg/l	250	12.5
9	Residual, free Chlorine	mg/l	0.2	ND
Desirable Characteristics				
10	Dissolved Solids	mg/l	500	135
11	Calcium (as Ca)	mg/l	75	18
12	Magnesium (as Mg)	mg/l	30	9
13	Copper (as Cu)	mg/l	0.05	BDL
14	Manganese (as Mn)	mg/l	0.1	BDL
15	Sulphate (as SO_4)	mg/l	200	35.3
16	Nitrate (as NO_3)	mg/l	45	0.23
17	Fluoride (as F)	mg/l	1.0	0.021
18	Phenolic Compounds(as C_6H_5OH)	mg/l	0.001	BDL
19	Mercury (as Hg)	mg/l	0.001	BDL
20	Cadmium (as Cd)	mg/l	0.003	BDL
21	Selenium (as Se)	mg/l	0.01	BDL
22	Arsenic (as As)	mg/l	0.01	BDL
23	Cyanide (as CN)	mg/l	0.05	ND
24	Lead (as Pb)	mg/l	0.01	BDL
25	Zinc (as Zn)	mg/l	5	BDL
26	Anionic Detergents (as MBAS)	mg/l	0.2	ND
27	Chromium (as Cr^{+6})	mg/l	--	BDL
28	Mineral Oil	mg/l	0.5	ND
29	Alkalinity	mg/l	200	58
30	Aluminium as(Al)	mg/l	0.03	BDL
31	Boron (as B)	mg/l	0.5	BDL
32	E. coli	MPN/ 100ml	Shall not be detectable in any 100ml sample	Absent
33	Ammonia (as total ammonia-N)	mg/l	0.5	<0.5

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34	Molybdenum (as Mo)	mg/l	0.07	<0.05
35	Barium (as Ba)	mg/l	0.7	<0.1
36	Chloramines (as Cl_2)	mg/l	4.0	<2.0
37	Silver (as Ag)	mg/l	0.1	<0.0
38	Sulphide (as H_2S)	mg/l	0.05	<0.05
39	Nickel (as Ni)	mg/l	0.2	<0.1
40	Polychlorinated biphenyls (PCB)	mg/l	0.0005	Absent
41	Polyaromatic hydrocarbons (PAH)	mg/l	0.0001	<0.0001
42	Total Chromium (as Cr)	mg/l	0.05	<0.05
43	Bromoform	mg/l	0.1	<0.005
44	Dibromochloromethane	mg/l	0.1	<0.005
45	Bromodichloromethane	mg/l	0.06	<0.005
46	Chloroform	µg/l	0.2	<0.005
47	Alachlor	µg/l	20	<0.01
48	Atrazine	µg/l	2	<0.01
49	Aldrin/Dieldrin	µg/l	0.03	<0.01
50	Alpha HCH	µg/l	0.01	<0.01
51	Beta HCH	µg/l	0.04	<0.01
52	Butachlor	µg/l	125.0	<0.01
53	Chloropyriphos	µg/l	30.0	<0.01
54	Delta HCH	µg/l	0.04	<0.01
55	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01
56	DDT (o,p and p,p –Isomers of DDT,DDE and DDD)	µg/l	1	<0.01
57	Endosulfan (alpha, beta and sulphate)	µg/l	0.4	<0.01
58	Ethion	µg/l	3	<0.01
59	Gamma HCH (Lindane)	µg/l	2	<0.01
60	Isoproturon	µg/l	9	<0.01
61	Malathion	µg/l	190	<0.01
62	Methyl parathion	µg/l	0.3	<0.01
63	Monocrotophos	µg/l	1.0	<0.01
64	Phorate	µg/l	2.0	<0.01
65	Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml sample	Absent

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Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Enviab/21/R- 4079 Date : -26.03.2022

DRINKING WATER QUALITY ANALYSIS REPORT FOR MARCH-2022

1. Name of Industry : M/s FACOR Power Limited , Bhadrak
2. Date of Sampling : 22.03.2022
3. Sampling Location : W-4: Admin Building Aquaguard Outlet
4. Date of analysis : 23.03.2022 TO 26.03.2022
5. Sample Collected ByRepresentative : VCSPL Representative

Sl. No.	Parameter	Unit	Standard as per IS-10500:2012 Amended on 2015 & 2018 Permissible Limit	DW-1
Essential Characteristics				
1	Colour	Hazen	5	<5
2	Odour	--	Agreeable	Agreeable
3	Taste	--	Agreeable	Agreeable
4	Turbidity	NTU	1	4.2
5	pH at 25°C	--	6.5-8.5	7.68
6	Total Hardness (as $CaCO_3$)	mg/l	200	92
7	Iron (as Fe)	mg/l	1.0	0.34
8	Chloride (as Cl)	mg/l	< 250	12.2
9	Residual, free Chlorine	mg/l	0.2	0.24
Desirable Characteristics				
10	Dissolved Solids	mg/l	500	142
11	Calcium (as Ca)	mg/l	75	24.0
12	Magnesium (as Mg)	mg/l	30	8.3
13	Copper (as Cu)	mg/l	0.05	<0.01
14	Manganese (as Mn)	mg/l	0.1	<0.025
15	Sulphate (as SO_4)	mg/l	200	34.8
16	Nitrate (as NO_3)	mg/l	45	0.31
17	Fluoride (as F)	mg/l	1.0	0.026
18	Phenolic Compounds(as C_6H_5OH)	mg/l	0.001	<0.05
19	Mercury (as Hg)	mg/l	0.001	<0.004
20	Cadmium (as Cd)	mg/l	0.003	<0.01
21	Selenium (as Se)	mg/l	0.01	<0.001
22	Arsenic (as As)	mg/l	0.01	<0.004
23	Cyanide (as CN)	mg/l	0.05	<0.01
24	Lead (as Pb)	mg/l	0.01	<0.02
25	Zinc (as Zn)	mg/l	5	<0.03
26	Anionic Detergents (as MBAS)	mg/l	0.2	<0.2
27	Chromium (as Cr^{+6})	mg/l	--	<0.01
28	Mineral Oil	mg/l	0.5	<0.001
29	Alkalinity	mg/l	200	82
30	Aluminium ast Al)	mg/l	0.03	<0.1
31	Boron (as B)	mg/l	0.5	<0.1
32	E. coli	MPN/ 100ml	Shall not be detectable in any 100ml sample	Absent
33	Ammonia (as total ammonia-N)	mg/l	0.5	<0.1
34	Molybdenum (as Mo)	mg/l	0.07	<0.05

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35	Barium (as Ba)	mg/l	0.7	<0.05
36	Chloramines (as Cl_2)	mg/l	4.0	<2.0
37	Silver (as Ag)	mg/l	0.1	<1.0
38	Sulphide (as H_2S)	mg/l	0.05	<0.05
39	Nickel (as Ni)	mg/l	0.2	<0.1
40	Polychlorinated biphenyls (PCB)	mg/l	0.0005	Absent
41	Polyaromatic hydrocarbons (PAH)	mg/l	0.0001	<0.0001
42	Total Chromium (as Cr)	mg/l	0.05	<0.1
43	Bromoform	mg/l	0.1	<0.005
44	Dibromochloromethane	mg/l	0.1	<0.005
45	Bromodichloromethane	mg/l	0.06	<0.005
46	Chloroform	µg/l	0.2	<0.005
47	Alachlor	µg/l	20	<0.01
48	Atrazine	µg/l	2	<0.01
49	Aldrin/Dieldrin	µg/l	0.03	<0.01
50	Alpha HCH	µg/l	0.01	<0.01
51	Beta HCH	µg/l	0.04	<0.01
52	Butachlor	µg/l	125.0	<0.01
53	Chlorpyriphos	µg/l	30.0	<0.01
54	Delta HCH	µg/l	0.04	<0.01
55	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01
56	DDT (o,p and p,p –Isomers of DDT, DDE and DDD)	µg/l	1	<0.01
57	Endosulfan (alpha, beta and sulphate)	µg/l	0.4	<0.01
58	Ethion	µg/l	3	<0.01
59	Gamma HCH (Lindane)	µg/l	2	<0.01
60	Isoproturon	µg/l	9	<0.01
61	Malathion	µg/l	190	<0.01
62	Methyl parathion	µg/l	0.3	<0.01
63	Monocrotophos	µg/l	1.0	<0.01
64	Phorate	µg/l	2.0	<0.01
65	Total Coliform	MPN/100 ml	Shall not be detectable in any 100 ml sample	Absent

Reviewed

Approved

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- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Test Report No: ENVLAB/21/TR-6045 **Date: 01.11.2021**

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT- OCTOBER 2021

1. Name of Client : M/s FACOR POWER LIMITED , BHADRAK
2. Sampling Location : AAQ -1: Near Admin Building Office
   AAQ -2: Near Main Gate
   AAQ -3: Near Wagon Tippler
3. Method of Sampling : IS 5182(P-5) 1975 RA 2014
4. Date of Sampling : 26.10.2021
5. Date of Analysis : 27.10.2021 TO 02.11.2021
6. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
				AAQ-1	AAQ-2	AAQ-3
Particulate matter (size less than10μm) or PM_{10}	$\mu g/m^3$	IS 5182 (P-23) 2006 RA 2017 Gravimetric Method	100	70.2	68.9	56.8
Particulate matter (size less than10μm) or $PM_{2.5}$	$\mu g/m^3$	IS 5182 (P-24) 2019 Gravimetric Method	60	36.8	34.2	28.6
Sulphur dioxide as SO_2	$\mu g/m^3$	IS 5182 (P-2) 2001 RA 2017 Improved West and Geake Method	80	10.6	11.8	12.4
Oxides of Nitrogen as NO_x	$\mu g/m^3$	IS 5182 (P-6) 2006 RA-2017 Modified Jacob & Hochheiser Method (Na-Arsenate)	80	14.8	15.9	14.6
Carbon Monoxide as CO	mg/m^3	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.28	0.36	0.32
Ozone as O_3	$\mu g/m^3$	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.6	4.8	4.4
Ammonia as NH_3	$\mu g/m^3$	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
Lead as Pb	$\mu g/m^3$	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
Nickel as Ni	ng/m^3	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
Arsenic as As	ng/m^3	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
Benzene as C_6H_6	$\mu g/m^3$	IS 5182 (P-11) 2006 Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
Benzo –a-Pyrene	ng/m^3	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values: SO_2< 4 μg/m³, NO_x< 5 μg/m³, O_3< 2 μg/m³, Ni<0.01 ng/m³, As< 0.001 ng/m³, C_6H_6<0.001 μg/m³, BaP<0.002 ng/m³, Pb<0.001 μg/m³, CO<0.1 mg/m³

Prepared By

Approved By

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- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

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Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Test Report No: ENVLAB/21/TR-8120 Date: 04.12.2021

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT-NOVEMBER 2021

1. Name of Client : M/s FACOR POWER LIMITED , BHADRAK
2. Sampling Location : AAQ -1: Near Admin Building Office
   AAQ -2: Near Main Gate
   AAQ -3: Near Wagon Tippler
3. Method of Sampling : IS 5182(P-5) 1975 RA 2014
4. Date of Sampling : 29.11.2021
5. Date of Analysis : 30.11.2021 TO 03.12.2021
6. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
				AAQ-1	AAQ-2	AAQ-3
Particulate matter (size less than10µm) or PM_{10}	µg / m³	IS 5182 (P-22) 2006 RA 2017 Gravimetric Method	100	71.8	70.6	64.8
Particulate matter (size less than10µm) or $PM_{2.5}$	µg / m³	IS 5182 (P-24) 2019 Gravimetric Method	60	43.1	42.4	38.9
Sulphur dioxide as SO_2	µg / m³	IS 5182 (P-2) 2001 RA 2017 Improved West and Geake Method	80	11.4	12.6	12.8
Oxides of Nitrogen as NO_x	µg / m³	IS 5182 (P-6) 2006 RA 2017 Modified Jacob &Hochheiser Method (Na-Arsenite)	80	15.4	16.4	15.8
Carbon Monoxide as CO	mg / m³	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.32	0.38	0.36
Ozone as O_3	µg / m³	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.8	5.4	5.2
Ammonia as NH_3	µg / m³	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
Lead as Pb	µg / m³	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
Nickel as Ni	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
Arsenic as As	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
Benzene as C_6H_6	µg / m³	IS 5182 (P-11) 2006 Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
Benzo –a-Pyrene	ng / m³	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values: SO_2< 4 µg/m³, NO_x< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As < 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.001 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³

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- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

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Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Report No: ENVLAB/21/TR-9743 Date: 04.01.2022

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT-DECEMBER 2021

1. Name of Client : M/s FACOR POWER LIMITED , BHADRAK
2. Sampling Location : AAQ -1: Near Admin Building Office
   AAQ -2: Near Main Gate
   AAQ -3: Near Wagon Tippler
3. Method of Sampling : IS 5182(P-5) 1975 RA 2014
4. Date of Sampling : 29.12.2021
5. Date of Analysis : 30.12.2021 TO 03.01.2022
6. Monitoring Instruments: RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
				AAQ-1	AAQ-2	AAQ-3
Particulate matter (size less than10µm) or PM10	µg / m³	IS 5182 (P-22) 2006 RA 2017 Gravimetric Method	100	68.8	73.2	66.2
Particulate matter (size less than10µm) or PM2.5	µg / m³	IS 5182 (P-24) 2019 Gravimetric Method	60	41.0	45.4	39.4
Sulphur dioxide as SO_2	µg / m³	IS 5182 (P-2) 2001 RA 2017 Improved West and Geake Method	80	10.8	11.8	14.6
Oxides of Nitrogen as NO_x	µg / m³	IS 5182 (P-6) 2006 RA 2017 Modified Jacob & Hochheiser Method (Na Arsenite)	80	16.6	17.8	16.4
Carbon Monoxide as CO	mg / m³	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.31	0.34	0.34
Ozone as O_3	µg / m³	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.2	5.8	5.4
Ammonia as NH_3	µg / m³	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
Lead as Pb	µg / m³	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
Nickel as Ni	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
Arsenic as As	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
Benzene as C_6H_6	µg / m³	IS 5182 (P-11) 2006 Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
Benzo –a-Pyrene	ng / m³	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values: SO_2< 4 µg/m³, NO_2< 5 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As < 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, CO-<0.1 mg/m³

Reviewed By

Approved By

FACOR POWER LIMITED Bhadrak

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21/R- 0802 Date : -02.02.2022

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT-JANUARY 2022

1	Name of Client	:	M/s Ferro Alloys Corporation Limited, Bhadrak, Odisha
2	Sampling Location	:	AAQ1- Near Admin Building Office AAQ2- Near Main Gate AAQ3- Near Wagon Tippler
3	Sampling Method	:	IS 5182(P-5) 1975 RA 2014
4	Date of Sampling	:	28.01.2022
5	Date of Analysis	:	29.01.2022 to 31.01.2022
6	Monitoring Instruments	:	RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representative

SL.No	Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
					AAQ-1	AAQ-2	AAQ-3
1	Particulate matter (size less than 10µm) or PM_{10}	µg / m³	IS 5182 (P-23) 2006 RA 2017 Gravimetric Method	100	69.2	71.6	67.8
2	Particulate matter (size less than 10µm) or $PM_{2.5}$	µg / m³	IS 5182 (P-24) 2019 Gravimetric Method	60	41.5	43.0	40.7
3	Sulphur dioxide as SO_2	µg / m³	IS 5182 (P-2) 2001 RA 2017 Improved West and Gaeke Method	80	11.8	12.2	13.8
4	Oxides of Nitrogen as NO_x	µg / m³	IS 5182 (P-6) 2006 RA 2017 Modified Jacob & Hochheiser Method (Na-Arsenite)	80	17.4	18.2	15.8
5	Carbon Monoxide as CO	mg / m³	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.38	0.44	0.41
6	Ozone as O_3	µg / m³	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.8	5.2	5.0
7	Ammonia as NH_3	µg / m³	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
8	Lead as Pb	µg / m³	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
9	Nickel as Ni	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
10	Arsenic as As	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
11	Benzene as C_6H_6	µg / m³	IS 5182 (P-11) 2006 ,Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
12	Benzo –a-Pyrene	ng / m³	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values : SO_2< 4 µg/m³, NO_X< 9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As < 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.1 ng/m³, Pb<0.001 µg/m³, CO<0.1 mg/m³

Reviewed By *Approved By*

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
E-mail: visiontek@vcspl.org, visiontekin@gmail.com
Visit us at: www.vcspl.org

Ref : Envlab/21/R- 2198 Date : -07.03.2022

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT-FEBRUARY 2022

1	Name of Client	:	M/s Facor Power Limited, Bhadrak
2	Sampling Location	:	AAQ1- Near Admin Building Office AAQ2- Near Main Gate AAQ3- Near Wagon Tippler
3	Sampling Method	:	IS 5182(P-5) 1975 RA 2014
4	Date of Sampling	:	16.02.2022
5	Date of Analysis	:	17.02.2022 TO 23.02.2022
6	Monitoring Instruments	:	RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representative

SL.No	Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
					AAQ-1	AAQ-2	AAQ-3
1	Particulate matter (size less than10µm) or PM_{10}	µg / m³	IS 5182 (P-23) 2006 RA 2017 Gravimetric Method	100	70.8	71.9	68.8
2	Particulate matter (size less than10µm) or $PM_{2.5}$	µg / m³	IS 5182 (P-24) 2019 Gravimetric Method	60	42.6	43.5	41.9
3	Sulphur dioxide as SO_2	µg / m³	IS 5182 (P-2) 2001 RA 2017 Improved West and Geake Method	80	12.2	12.8	14.2
4	Oxides of Nitrogen as NO_x	µg / m³	IS 5182 (P-6) 2006 RA 2017 Modified Jacob & Hochheiser Method (Na-Arsenite)	80	17.8	18.9	16.2
5	Carbon Monoxide as CO	mg / m³	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.36	0.46	0.48
6	Ozone as O_3	µg / m³	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.2	5.6	5.9
7	Ammonia as NH_3	µg / m³	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
8	Lead as Pb	µg / m³	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
9	Nickel as Ni	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
10	Arsenic as As	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
11	Benzene as C_6H_6	µg / m³	IS 5182 (P-11) 2006 Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
12	Benzo -a-Pyrene	ng / m³	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values : SO_2<4 µg/m³, NO_x<9 µg/m³, O_3<4 µg/m³, Ni<0.01 ng/m³, As < 0.001 ng/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Pb<0.001 µg/m³, CO-<0.1 mg/m³

Reviewed By

Approved By

FACOR POWER LIMITED Bhadrak

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

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- Infrastructure Engineering
- Water Resource Management
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- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/21/R- 4073

Date : -26.03.2022

AMBIENT AIR QUALITY (CORE ZONE) MONITORING REPORT-MARCH 2022

1	Name of Client	:	M/s Facor Power Limited, Bhadrak
2	Sampling Location	:	AAQ1- Near Admin Building Office AAQ2- Near Main Gate AAQ3- Near Wagon Tippler
3	Sampling Method	:	IS 5182(P-5) 1975 RA 2014
4	Date of Sampling	:	22.03.2022
5	Date of Analysis	:	23.08.2022 TO 26.03.2022
6	Monitoring Instruments	:	RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Monitor
7	Sample Collected By	:	VCSPL Representative in presence of Client's Representative

Sl. No	Parameters Analyzed	Unit	Testing Methods	NAAQ Standard	Analysis Result		
					AAQ-1	AAQ-2	AAQ-3
1	Particulate matter (size less than10μm) or PM_{10}	μg / m³	IS 5182 (P-22) 2006 RA 2017 Gravimetric Method	100	71.9	72.8	70.6
2	Particulate matter (size less than10μm) or $PM_{2.5}$	μg / m³	IS 5182 (P-24) 2019 Gravimetric Method	60	43.8	46.6	42.6
3	Sulphur dioxide as SO_2	μg / m³	IS 5182 (P-2) 2001 RA 2017 Improved West and Gaeke Method	80	12.8	13.4	14.9
4	Oxides of Nitrogen as NO_x	μg / m³	IS 5182 (P-6) 2006 RA 2017 Modified Jacob & Hochheiser Method (Na-Arsenite)	80	18.4	19.6	17.5
5	Carbon Monoxide as CO	mg / m³	IS 5182 (P-10) 2006 RA 2017 NDIR Spectroscopy	4	0.38	0.42	0.54
6	Ozone as O_3	μg / m³	IS 5182 (P-9) 1974 RA 1986 Chemical Method	100	4.6	5.9	6.2
7	Ammonia as NH_3	μg / m³	IS 5182 (P-25) 2018 NDIR Spectroscopy	400	BDL	BDL	BDL
8	Lead as Pb	μg / m³	IS 5182 (P-22) 2004 AAS method after sampling	1	BDL	BDL	BDL
9	Nickel as Ni	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	20	BDL	BDL	BDL
10	Arsenic as As	ng / m³	IS 5182 (P-22) 2004 AAS method after sampling	6	BDL	BDL	BDL
11	Benzene as C_6H_6	μg / m³	IS 5182 (P-11) 2006 Absorption & Desorption followed by GC analysis	5	BDL	BDL	BDL
12	Benzo-a-Pyrene	ng / m³	IS 5182 (P-12) 2004 Solvent extraction followed by Gas Chromatography analysis	1	BDL	BDL	BDL

BDL Values : SO_2<4 μg/m³, NO_x< 9 μg/m³, O_3<4 μg/m³, Ni<0.01 ng/m³, As < 0.001 ng/m³, C_6H_6<0.001 μg/m³, BaP<0.002 ng/m³, Pb<0.001 μg/m³, CO-<0.1 mg/m³

Reviewed By

Approved By

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
E-mail: visiontek@vcspl.org, visiontekin@gmail.com
Visit us at: www.vcspl.org

Annexure-6

ସର୍ବସାଧାରଣ ବିଜ୍ଞପ୍ତି

ଏତଦ୍ଦ୍ୱାରା ସର୍ବସାଧାରଣଙ୍କ ଅବଗତି ନିମନ୍ତେ ଜଣାଇ ଦିଆଯାଉଅଛି ଯେ, ମେସର୍ସ ଫେକର ପାୱାର ଲିମିଟେଡ, ଡି.ପି.ନଗର, ରାନ୍ଦିଆ, ଭଦ୍ରକରେ ପୋରଲାଡିରିକ ଥର୍ମାଲ ପାୱାର ପ୍ଲାଣ୍ଟ ବସାଇବା ନିମିତ୍ତ ଜଳ ଓ ପରିବେଶ ସୁରକ୍ଷା ମଞ୍ଜୁରାତ ପାଇଁ ପରିବେଶ ସ୍ୱୀକୃତିପ୍ରାପ୍ତ ହୋଇଅଛି । ଏହି ସ୍ୱୀକୃତିପ୍ରାପ୍ତ ଚିଠି ରାଜ୍ୟ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟରେ ପ୍ରାପ୍ତ ହେବ ଏବଂ ଏହା ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର ୱେବ୍‌ସାଇଟ http://envfor.nic.in ରେ ମଧ୍ୟ ପ୍ରାପ୍ତ ହେବ ।

ସ୍ୱା./- ନିର୍ଦ୍ଦେଶକ

ଫେକର ପାୱାର ଲିମିଟେଡ

FACOR POWER LIMITED
Bhadrak

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 Milstry of Environment and Forests at **http://envfor.nic.in.**

Date - 11-05-2009.

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FACOR POWER LIMITED Bhadrak

Annexure-7

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)

Encl: (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, Jasola, 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 • fpbdk@facorgroup.in
www.facorgroup.in

FACOR POWER LIMITED Bhadrak

Annexure-8

vedanta
transforming elements

FACOR POWER LIMITED

Ref. No: FPL/BDK/ SPCB/318/2021-22
Date: 28.09.2021

To,

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

Sub: **Submission of Environment Statement for the year 2020-21 by M/s Facor Power Ltd., Randia, Bhadrak.**

Sir,

Please find enclosed copy of Environmental Statement for the financial year ending 31st March, 2021 in Form-V for your kind perusal.

Thanking you.

Yours faithfully,
For Facor Power Ltd.

P. Sarangi
Head (O&M)-PP

Copy to: The Regional Officer, SPCB, Balasore.

Works : P.P. Nagar, Randia, District : Bhadrak, Odisha -756135 India T +91 6788 2423701 +91 6784 240803
E-Mail : facor.power@vedanta.co.in

FACOR POWER LIMITED Bhadrak

ENVIRONMENTAL STATEMENT REPORT

FOR THE FINANCIAL YEAR 2020-21

IN RESPECT OF

FACOR POWER LIMITED
Randia, Bhadrak,
Odisha.

FORM – V
(See Rule – 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2020-21

PART - A

01.	Name and address of the owner/occupier of the industry operation	:	**M/s. FACOR Power Ltd** At:D.P.Nagar, Po:Randia, District – Bhadrak-756135, Odisha.
02.	Industry Category Primary (STC Code) Secondary (SIC code)	:	Red category
03.	Production Capacity	:	Captive Power Plant - 100 MW
04.	Year of Establishment	:	July'2011
05.	Date of last Environmental Statement submitted	:	26.09.2020

FACOR POWER LIMITED * Bhadrak

PART - B

WATER CONSUMPTION & RAW MATERIAL CONSUMPTION

1. Water Consumption	M^3/day (Max.)
Process	117
Industrial Cooling	2313
Domestic (Potable)	54

2. Process Water Consumption

Name of the Products	Generation		Process water consumption / unit of Output	
	19-20	20-21	19-20	20-21
Power	281271 MWH	273511 MWH	2.96 m^3/MW	3.10 m^3/MW

3. Raw Material Consumption

Name of raw materials	Name of the product	Consumption of raw materials / unit of product output	
		19-20	20-21
Coal	Power	1.01 T/MW	0.96 T/MW
LDO	Power	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 2020 to March 2021 (average)

Sl. No.	Parameters	Quantity of Pollutants Discharged (load)
		Service Water Sample Water
01.	Color (Hazen)	Colorless
02.	Conductivity (Us/con)	NA
03.	pH	8.52
04.	Total Dissolved Solid (TDS)	756.90
05.	Total Suspended Solids (TSS)	NA
06.	Total Solids (TS)	NA
07.	Turbidity (NTU)	26.2
08.	Acidity	NA

09.	Alkalinity	96.0 PPM
10.	Zinc	NA
11.	BOD of 27 ^{0}C	NA
12.	Chloride as Cl	87.1 PPM
13.	Residual Chlorine	Nill
14.	Cyanide as CN	NA
15.	Chemical OxygenDemand (COD)	NA
16.	Calcium as Ca	190.0 PPM
17.	Dissolve Oxygen (DO)	NA
18.	Fluoride as F	NA
19.	T Hardness	320.0 PPM
20.	Iron as Fe	0.06
21.	Magnesium as Mg	130.0 PPM
22.	Nitrite (NO2)	NA
23.	Nitrate (NO3)	NA
24.	T Phosphate as (PO4)	7.2 PPM
25.	Sulphate as (SO4)	NA
26.	Silica / Silicate as (SiO2)	86.0 PPM

B. AIR

April 2019 to March 2020(average)

Sl.No.	Location	Pollutant concentration			
		PM (mg/NM^3)		SO_2 (mg/Nm^3)	NOx (mg/Nm^3)
01.	ESP outlet of CFBC Boiler	45.80		74.20	96.40
		CO2 (%)		CO (%)	Hg (%)
		7.2		<0.1	0.011
02.	Ambient Air	PM 2.5 ($\mu g/m^3$)	PM 10 ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NOx ($\mu g/m^3$)
		30.86	65.0	11.8	15.6

PART - D
HAZARDOUS WASTE

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

Hazardous Waste	Total Quantity	
	19-20	20-21
Used Oil	0.00 KL	0.84 KL
Waste containing Oil	0.00 T	0.00 T
Spent Resin	1.60 KL	1.60 KL

PART- E
SOLID WASTE

Source	Total Quantity (MT)	
	19-20	20-21
Fly ash from Silos	106086	101236
Bottom ash from Boiler	19760	16057

sprinkling of water at raw material yard, ash disposal site and inside & outside road of the factory.

6. Housekeeping has been taken on top priority and engaged 20 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 2020-21

i)	Energy consumption for Pollution control devices	:	18,38,375/-
ii)	Expenditure for Plantation maintenance work		5,73,780/-
iii)	Engagement of Labor for house keeping	:	28,68,900/-
iv)	Engagement of Water Tanker for dust suppression	:	2,16,000/-
v)	ESP & Bag filter Maintenance cost and expenditure for Dust suppression system	:	5,26,516/-
vi)	Expenditure for maintenance of AAQMS, CEMS & data transmission	:	1,60,000/-

Investment Proposal for Environmental Protection FY 2021-22

- Installation of Surface Runoff Treatment System – Rs.17,169,000/-
- Installation of Wheel Washing System – Rs.13,85,000/-
- Installation of HD IP Industrial Camera- Rs.8,30,000/-
- Installation of STP – Rs.24,00,000/-
- Installation of Rain water harvesting structure – Rs.14,50,000/-

PART – I

Any other particulars for improving the quality of the environment

FPL 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. Creation of new greeneries inside & outside the plant premises are in progress. Also small patches of gardens / lawns have been developed inside the plant premises and continuously we are developing wherever the open space is available to improve the plant beautification as well as prevention and control of pollution.

FACOR POWER LIMITED Bhadrak