ELECTROSTEEL CASTINGS LIMITED

Srikalahasthi Works : Rachagunneri – 517641, Srikalahasthi Mandal,
Chittoor Dist. A.P., PH: 8578-286650-655
H.O.: G.K. Tower, 19, Camac Street, Kolkata 700 017, India
CIN: L27310OR1955PLC000310
Web: www.electrosteelcastings.com

PIONEERING 25 YEARS OF DI PIPES

12.12.2022

To,

The Inspector General of Forest
Ministry of Environment, Forests and Climate change
Government of India
Integrated Regional Office,
Vijayawada Green House Complex,
Vijayawada – 520010.

Dear Sir,

Sub: Six monthly compliance report for the period April to September'22 - Expansion of Ductile Iron Pipes Plant by installing 4x100 TPD Sponge Iron (1,30,000 TPA), Steel making facility (1,25,000 TPA), 4x9 MVA Ferro Alloy (Fe-Si:25,000 TPA or Si-Mn: 60,000 TPA or Fe-Mn: 75,000 TPA) along with 12 MW Captive power Plant (8 MW WHRB and 4 MW FBC) at Villages Merlapaka & Rahagunneri, Mandal Yerpedu & Srikalahasthi, District Chittoor, Andhra Pradesh by Srikalahasthi Pipes Ltd .

Please find enclosed Six monthly compliance report for the period April to September'22 for Environment Clearance no J-11011/158/2011 –1A, II(1) dated 21.02.2022 for conditions stipulated in Environment clearance to Electrosteel Castings Ltd, Srikalahasthi works .

The copy of the compliance report is sent to you as soft copy through mail (eccompliance-ap@gov.in) and same will be uploaded to the ECL website for your kind perusal.

Thanking you,

Yours faithfully

For ELECTROSTEEL CASTINGS LTD.

S. Murali Mohan Babu,
Vice President
(Iron, Ferro, Safety & Environment)

ELECTROSTEEL CASTINGS LIMITED ★ RACHAGUNNERI ★

Cc : CPCB, Régional office / APPCB, Régional office

Introduction:

Electrosteel Castings Ltd - Srikalahasthi works is one of the leading players in the DI pipe industry in India and it was established in 1991 by M/S Lanco Industries Limited. In the year 2002 Electrosteel Castings Ltd entered into a strategic alliance with LIL. On 29.09.14 Company name has been changed to Srikalahasthi Pipes Ltd (SPL) from M/S Lanco Industries Ltd. Srikalahasthi pipes Ltd has been amalgamated with ECL on 1st January 2022.

ECL, Srikalahasthi works plant is located at Rachagunneri, Srikalahasthi, Chittoor District, Andra Pradesh near Tirupathi and its key products include Pig Iron, Ductile Iron Pipes, Portland Slag Cement, Coke, Ferro Silicon and Captive power generation. Electrosteel Castings Ltd (SW) has a backward integration manufacturing facility which includes a Blast furnace, Ductile Iron pipe plant, Cement plant, sinter plant, coke oven plant, power plant and a sewage treatment facility in the same complex spread over 282.27 acres, giving the company a significant competitive advantage.

The company supplies DI pipes to various water Boards, Municipal Corporations and Turnkey Contractors across the country for their water infrastructure Projects which is the thrust area of the Government of India.

CFE obtained from APPCB under Change of product mix for increasing the production capacity without any increase in pollution load:

The MoEFCC issued a notification vide S.O. 980 (E) dt. 02.03.2021 exempting the requirement of EC for any increase in production capacity in respect of processing or production or manufacturing sectors with or without any change in raw material-mix, product-mix, quantities within products or number of products including new products falling in the same category, Configuration of the plant or process or operations in the existing area or in areas contiguous to the existing area for which Prior Environmental Clearance has been granted, provided that there is no increase in pollution load.

M/s. Electrosteel Castings Ltd has proposed to change the product-mix for increasing the production of Ductile Iron Pipes from 4,00,000 TPA to 6,00,000 TPA by converting 2,00,000 TPA additional hot metal into Ductile Iron pipes instead of producing Pig Iron, increasing Cement(PSC/OPC/SRC/PPC/CC/GGBS) production from 3,90,000 TPA to 5,85,000 TPA, total dropping of the Sponge Iron capacity 1,30,000 TPA and decreasing Captive power generation from 58.5 MW to 40.5 MW without any increase in the pollution load to meet the changing market demands. Adding additional land area of 46.1 acres in contiguous to the existing site area of 242.17 acres. The total site area after change in product mix is 288.27 acres. Accordingly, documentation including environment management plan has prepared. Above proposal details have been uploaded in Parvesh portal and acknowledgement has been obtained on 31.05.2022.

CFE order reference:

Order No. 391 /APPCB/CFE/RO-TPT/HO/2005 dated 03/08/2022 and valid up to 02.08.2029.

SNO	Products	Existing CFE and EC Capacities (TPA)	Existing CFO capacities (TPA)	Proposed CPM (TPA)	Total after CPM CFE (TPA)
1	Ductile Iron Pipes	4,00,000 TPA	4,00,000 TPA	2,00,000 TPA increased	6,00,000 TPA
2	Pig Iron/Liquid Metal	5,25,000 TPA	5,25,000 TPA	75,000 TPA increased	6,00,000 TPA
3	Low Ash Metallurgical Coke	4,62,000 TPA	2,80,000 TPA	No Change	4,62,000 TPA
4	Captive Power Generation	58.5 MW	22.0 MW	18 MW dropping	40.5 MW
5	Slag Cement (PSC/OPC/SRC/PPC/ CC/ GGBS)	3,90,000 TPA (PSC/OPC/ SRC)	2,00,000 TPA (PSC/OPC/ SRC	1,95,000 TPA * increased (PSC/OPC/SRC/ PPC/CC/ GGBS) * Quantity not approved. Only product mix approved	3,90,000 TPA (PSC/OPC/ SRC/ PPC/CC/ GGBS
6	Sponge Iron (4 x 100 TPD)	1,30,000 TPA**	Not yet started the production	The industry has dropped the proposal	Nil
7	Steel Products (SMS and wire rod mill/ Section mill/ Rolling mill to produce wire rods/Roundels/ Angels /Channels /Flats/TMT Bars/Steel/Spring Steel/ Alloy Steel/Special steel)	1,25,000 TPA	Not yet started the production	No Change	1,25,000 TPA
8	Ferro Alloy				
	Ferro Silicon	25,000 TPA	16,000 TPA	No Change	25,000 TPA
	Silico Manganese	60,000 TPA	32,000 TPA	No Change	60,000 TPA
	Ferro Manganese	75,000 TPA	42,000 TPA	No Change	75,000 TPA

Validity of Consent for Operation: 31.01.2023 & 30.04.2023 & 31.07.2024 & 31.08.2024 & 30.04.2023

Consent Ref: 1) APPCB/KNL/TPT/391/HO/CFO & HWA/2017-153 dt : 17.11.2017
2) APPCB/KNL/TPT/391/HO/CFO & HWA/2018 dt : 28.05.2018
3) APPCB/KNL/TPT/391/HO/CFO & HWA/2019 dt : 04.09.2019
4) APPCB/KNL/TPT/378/CFO/HO/2020 dt : 07.01.2021
5) APPCB/KNL/TPT/391/HO/2021dt 26.05.21& Amended on 05.11.21 & Amended on 10.02.2022
6) Consent Order No : 306687- APPCB/KNL/TPT/HO/CFO&HWA/2021 Dt 05.01.22
7) Amendment Order No. 306687/APPCB/KNL/TPT/CFO&HWA/HO/CFO /2022 dt 12.01.22

Products	UOM	Production capacity as per Consent Order/yr	Production 2022-23 up to Sep'22
Molten Metal/Pig Iron	MT	5,25,000	2,23,288
Ductile Iron Spun Pipe	MT	4,00,000	1,91,891
Cement (PSC/OPC/SRC)	MT	2,00,000	26,825
LAM Coke	MT	2,80,000	1,03,369
Electricity Captive Power	Units	22 MW	6,91,33,815 (15.74 MW)
Ferro Silicon	MT	16,000	7789
STP	KL	5 MLD	7,50,652

ELECTROSTEEL CASTINGS LTD
(SRIKALAHASTHI WORKS)

Name of the Project: Expansion of Ductile Iron Pipes Plant by installing 4x100 TPD Sponge Iron (1,30,000 TPA), Steel making facility (1,25,000 TPA), 4x9 MVA Ferro Alloy (Fe-Si:25,000 TPA or Si-Mn: 60,000 TPA or Fe-Mn: 75,000 TPA) along with 12 MW Captive power Plant (8 MW WHRB and 4 MW FBC) at Villages Merlapaka & Rahagunneri, Mandal Yerpedu & Srikalahasthi, District Chittoor, Andhra Pradesh – reg.

EC clearance letter with date. J-11011/158/2011-IA. II (I) dated 11.01.2013, EC transfer dt 17.10.2016, validity extension dt 28.02.2020, Amendment dt 01.10.2020, EC transfer dated 21.2.2022.

CFE obtained under NIPL and CFE reference: Order No. 391 /APPCB/CFE/RO-TPT/HO/2005 dated 03/08/2022

Period of Compliance: April to September-2022

Present Status of the project:

S No	Product	UOM	Capacity as per EC dt.11.01.2013	Capacity Obtained in CFE under NIPL after CPM dt 03.08.22	Capacity already installed and CFO Obtained	Balance capacity to be set up
1	Ductile Iron Pipes	TPA	4,00,000	6,00,000	4,00,000	2,00,000
2	Pig Iron Liquid Metal	TPA	5,25,000	6,00,000	5,25,000	75,000
3	LAM Coke	TPA	4,62,000	4,62,000	2,80,000	1,82,000
4	Captive Power Generation	MW	58.5	40.5 (Dropped 18 MW)	22	18.5
5	Slag Cement (PSC/OPC/ SRC/ PPC / GGBS	TPA	3,90,000	3,90,000	2,00,000	1,90,000
6	Sponge (4X 100 TPD)	TPA	1,30,000	Dropped	-------	-------
7	Steel Products	TPA	1,25,000	1,25,000	Yet to be implemented	1,25,000
8	Ferro alloys unit	TPA	FeSi-25,000 SiMn-60,000 FeMn-75,000 (4x9 MVA)	FeSi-25,000 SiMn-60,000 FeMn-75,000 (4x9 MVA)	FeSi-16,000TPA SiMn-32,000TPA FeMn-42,000TPA (2x9 MVA)	FeSi-9,000 SiMn-28,000 FeMn-33,000 (2x9 MVA)

A. SPECIFIC CONDITIONS

S.No	Specific conditions	Compliance Status
i.	On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks should be provide and sufficient air pollution control devices viz. electrostatic precipitator (ESP), and bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm3 by installing energy efficient technology.	Three online real time continuous Ambient Air Quality Monitoring (CAAQM) stations installed in upwind, crosswind & download direction in consultation with APPCB and the online real time monitoring data is being transmitted to APPCB server for the parameters PM 10, PM 2.5, SO2 and NOx. Online continuous stack monitoring facility (PM & Gas measurement) have been provided to all the process stacks and data are being submitted to the APPCB and CPCB. MOEF authorized 3rd party monitoring of Ambient and Stack also being carried out and report submitted to the regional office of APPCB. Online Stack monitoring data from Apr'22 to Sep'22 and 3rd party monitoring data of June'22 are attached as Annexure Air pollution control devices viz. Electrostatic precipitator (ESP), and bag filters etc. have been provided to keep the emission level below the std limits. Necessary similar arrangements will be provided during set up of balance capacity also.
ii.	The National ambient air, quality standards issued by the ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 should be followed.	Noted and being complied. 3rd party monitoring data of June'22 are attached as Annexure
iii.	Gaseous emission levels including secondary fugitive emissions from the all the sources should be controlled within the latest permissible limits issued by the ministry vide G.S.R. 41(E) dated 30th May, 2008 and regularly monitored. Guidelines / code of practice issued by the CPCB should be followed.	Gaseous emission levels including secondary fugitive emission from all the sources are being controlled within the latest permissible limits. Online stack gas monitors have fixed in all the process area and the data is being uploaded to the APPCB and CPCB. Necessary similar arrangements will be provided during set up of balance

S.No	Specific conditions	Compliance Status
		capacity also.
iv.	As per the commitment submitted, charcoal produced from patta lands only should be used. The requisite documents in this regard, shall be submitted to the ministry's regional office at Bangalore on regular basis.	Noted and being complied. 25% Coke fines is used along with Charcoal (75%) . Charcoal is being used in our Ferro alloy plant which is being produced from Patta Land only. Approval given by Forest department is attached as annexure.
v.	Dust suppression system and bag filters shall be installed to control the fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points.	Water spray dust suppression system has provided at conveyer fugitive emission sources. Material transfer points, material storage bunkers. Product handling areas were connected to the bag filter to control fugitive dust emission. Water sprinkling arrangements have made in loading and unloading points to control fugitive dust emission. Similar arrangements will be arranged during the set up of balance capacity also.
vi.	Hot gases from the DRI kiln shall be passed thorough dust settling chamber (DSC) to remove coarse solids and after burning chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before dispersion into the atmosphere through ID fan stack, ESP shall be installed to control the particulate emissions from the WHRB.	Sponge Iron Project has been dropped during CFE expansion obtained through change of product mix under NIPL dated 03.08.22. Hence this condition is not applicable. Ref: Order No. 391 /APPCB/CFE/RO-TPT/HO/2005 dated 03/08/2022.
vii.	Total water requirement shall not exceed 1,920 m3/day. Efforts shall further be made to use maximum water from the rain water harvesting sources if needed capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources. Use of air-cooled condensers shall be explored and closed-circuit system shall be provided to reduce water consumption and water requirement shall be modified accordingly.	The total water permitted quantity in CFE under change of product mix (NIPL) is 13326 KLD. Fresh water is 11290KLD and recycle water is 2036 KLD. Year 2022-23 half yearly (Apr'22 to Sep'22) average water consumption per day was 4333 KLD. Tirupathi municipality primary treated sewage water is being used for plant process requirement. Roof top Rain water harvesting structures established and rain water being soaked in the ground to increase the ground water table. Already 26600 m3 reservoir is available to store the rain water. Additional 280 KLD collection pit arranged to collect the storm water from drains. All the process area has been established closed circuit cooling system to reduce the water

S.No	Specific conditions	Compliance Status
		consumption.
viii.	All the effluent shall be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero discharge shall be adopted; sanitary sewage shall be treated in septic tank followed by soak pit.	Effluent generated in Ductile Iron pipe plant and MBF are utilized for BF slag granulation, Sinter plant process, BF Gas cleaning plant, Pig Cast machine cooling, MBF yard spray and road spray. If effluent is excess it is sent to ETP at STP-2 for Effluent generated in Captive power plant is neutralized in neutralization pit then used for Coke quenching, coal yard and road spray. The average effluent generation between Apr'22 to Sep'22 was 1806 KLD. No effluent is discharged outside and Zero liquid discharge is being maintained. Sanitary sewage is being sent to STP for treatment and then used for process.
ix.	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated waste water shall meet the norms prescribed by the state pollution control board or described under the environment (protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's regional office at Bangalore, SPCB and CPCB.	Influent and effluent are monitoring regularly and recorded. Effluent is not discharged outside and zero liquid discharge is being maintained. Generating effluent is fully used for BF slag granulation, Gas cleaning plant make up, Coke quenching, Raw material yard and road spray. Effluent water gets fully evaporated in the above reuse process. Effluent water analysis is being done regularly, MOEF & CC authorized 3rd party monitoring also being done and report submitted to regional office of MOEF and CPCB every six month.
x.	All the char from DRI plant shall be utilized in FBC boiler of power plant and no char shall be disposed off anywhere else, FBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning.	Sponge Iron Project has been dropped during CFE expansion obtained through change of product mix under NIPL dated 03.08.22. Hence this condition is not applicable.
xi.	Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials/laying of roads.	Ferro silicon slag is being used in Induction furnace and also sold to foundries. No production of Ferro Manganese and Silico manganese hence no generation of Ferro Manganese and Silico Manganese slag.
xii.	No Ferro chrome shall be manufactured without prior approval from the Ministry of Environment & Forests.	Noted and will be complied

S.No	Specific conditions	Compliance Status
xiii.	Proper utilization of fly ash shall be ensured as per fly ash notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash should be provided to cement and brick manufactures for further utilization and memorandum of understanding should be submitted to the Ministry's regional office at Bangalore.	Sponge Iron and coal-based power plant project dropped hence no generation of fly ash in the plant.
xiv.	Risk and disaster management plan along with mitigation measures should be prepared and a copy submitted to the ministry's regional office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.	Emergency preparedness schemes are available and it is being implemented regularly through mock drill which is in line with Risk and disaster management plan. The same has been submitted to the regional office of MOEF, APPCB and CPCB.
xv.	As proposed, green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	Complied Total green belt area developed is 53.7(33% of plant area) acres as per EC amendment letter dated 1st October'20. The selection of plant species as per the CPCB guidelines and in consultation with DFO. During the period 5000 saplings have been planted in the factory premises.
xvi.	All the recommendations made in the charter on corporate responsibility for environment protection (CREP) for the sponge iron plants and steel plants should be implemented.	Sponge Iron project dropped hence CREP for the steel plants will be implemented during implementation of the project.
xvii.	All the commitments made to the public during the public hearing / public consultation meeting held on 15th September, 2011 shall be satisfactorily implemented and a separate budget for implementing the same be allocated and information submitted to the Ministry's regional office at Bangalore.	Providing Employment to the local people, Free Medical Camps to the nearby villages and Supplying of Drinking water to the nearby villages are the important commitments made during the public hearing and the same is being fulfilled regularly. Skill development on tailoring and embroidery for local women. Employment opportunity have been given to around 875 competent local people. Daily 18 KL drinking is being supplied to Rachagunneri village. First Aid Center established at near Rachagunneri village. Daily doctor is available 2 hrs to serve surrounding village people.
xviii.	At least 5% of the total cost of the project should be earmarked towards the enterprise social commitment (ESC) based on public hearing issues and item-wise details along with time bound action plan should be prepared and submitted to	CSR committee is in place and CSR policy has been established, accordingly activities are being taken up and completed. Rs 4.17 Cr has spent for the financial year 2022-2023 under CSR,

S.No	Specific conditions	Compliance Status
	the ministry's regional office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.	considering the public hearing issues, infrastructure development, Education and health. Medical camp conducted on 15.04.22 at Chindepalli village and Total 170 people have benefited in the camp. Medical camp for eye checkup conducted at Rachagunneri village on 16.09.22 and total 151 people have benefited in the camp.
xix.	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.	Noted and being complied.
xx.	The company shall submit within three months their policy towards corporate environment responsibility which should inter-alia address (i) standard operating process/procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) system of reporting of non compliance/violation environmental norms to the board of directors of the company and / or stakeholders or shareholders.	Environmental Cell has been established in the company. Environmental head is responsible to highlight the Environmental issues, deviations, required improvements, objective and targets to all divisional heads and plant heads. In daily meeting, this will be discussed and division head will direct the concern sections representative to resolve the issue. It will be reviewed periodically to ensure implementation. If not implemented it will be brought to the notice of plant head and he will conduct the meeting along with division heads for necessary action. An Internal audit system is existence in the company. The internal auditor periodically conducts audit and their report would include any non-compliance/violations if any and submitted to the audit committee of the board of directors. This will be followed by reporting of action taken on the non-compliance.

B. General Conditions

S.No	General conditions	Compliance status
i.	The project authorities shall strictly adhere to the stipulations made by the Andhra Pradesh Pollution Control Board (APPCB) and State Govt.	ECL has been adhering all the stipulations made by the APPCB. Consent for Operation (CFO) renewal and Expansion CFOs have been obtained from the Andhra Pradesh Pollution Control Board and the same is valid up to 31.01.2023, 30.04.2023, 31.07.2024, 31.08.2024 and 30.04. 2023 respectively.
ii.	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Efforts are being taken to control the emissions within the prescribed limits and assured that in the event of failure of any pollution control system adopted in the unit, will be immediately put out of operation and will not be restarted until the desired efficiency has been achieved.
iii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	As per MoEFCC notification vide S.O. 980 (E) dt. 02.03.2021 ECL has been proposed capacity expansion under change of product mix and no increase in pollution load category and obtained CFE CPM. Details have been given in MOEFCC Parvesh portal and obtained acknowledgement.
iv.	The gaseous emissions from various process units shall confirm to the load/mass-based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	The gaseous emissions from various processes are within the standards prescribed from time to time by authorities.
v.	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Authorization from the APPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.	Hazardous waste like Used oil/waste lubricating oil, Zinc dust and used batteries are stored and disposed to the authorized recyclers as per HWM Rules-2016. HW authorizations were obtained from APPCB for collection, storage, reuse and disposal. The HWM validity is valid up to 31.01.2023, 30.04.2023, 31.07.2024, 31.08.2024 and 30.04. 2023 respectively

vi.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the A. P. Pollution Control Board must be obtained for collection / treatment / storage / disposal of hazardous wastes.	Hazardous waste like Used oil/waste lubricating oil, Zinc dust and used batteries are stored and disposed to the authorized recyclers as per HWM Rules-2016. HW authorizations were obtained from APPCB for collection, storage, reuse and disposal. The HWM validity is valid up to 31.01.2023, 30.04.2023, 31.07.2024, 31.08.2024 and 30.04. 2023 respectively.
vii.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	The overall noise levels in and around the plant area are being kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures on all sources of noise generation. The noise levels (day time and night time) is being monitored by MoEF & CC recognized laboratory at Six locations and the levels are within the limits. Personal protective equipments such as earplugs and mufflers are being provided to the workmen. The Noise level reports are being submitted to the Regional offices of MOEF&CC and APPCB and the same arrangements will be implemented in the expansion project also.
viii.	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	1)26,000m3 rain water harvesting pit developed near colony to collect rain water from colony houses and utilized for plant process. 2) Roof top rain water harvesting system have implemented in MBF office (25 KL) and MBF Coal shed (32KL) to increase the ground water table. 3) 200 KL Sump constructed in CPP to collect Rain water through drain. 4) 4 Nos Rain water soaking pit developed in Canteen, SPP and DIP pipe storage yard area to collect rain water from the drain. 5) 25 KL roof top rain water harvesting system implemented

		in Ferro alloy plant. 6) 25 KL roof top rain water harvesting structure established in Gasket godown. Rain water harvesting structure will be implemented to the other expansion project also.
ix.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance (OHS) of the works is regularly carried out and records are maintained as per the factories act. OHS centre is equipped with doctor, supporting staffs and facilities. The workers are provided with earmuffs/earplugs those who are in the noise generating areas and undergoing periodic tests. Also, the workers especially working in the area of furnaces are wearing protective clothing to protect from the high level of heat radiation. First Aid trainings are being organized by experts to selected team members, so as to maintain First Aiders availability round the clock in various divisions.OHS facilities will be extended to the expansion unit also. Health surveillance of the employee and worker have done on 17.02.22 to 10.03.22 and total 3863 participated in the surveillance programme. On 31.05.22 health checkup carried out through Tata Cancer Institute and total 137 people (workmen and employees) have benefited (Male – 59, Female-78). On 04.08.22 Cardio and Ortho health check have been done by Amara hospital. Total 73 employees have been benefited. On 18.08.22 Apollo has conducted health camp and 49 employees have benefited.
x.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report	As per EIA recommendations the environmental protection measures are being implemented regularly to improve the environment. EMP is being taken yearly with target and being

		implemented regularly.
xi.	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	Separate Environmental Management Cell (EMC) with the following composition has been established: i. Chief Operating Officer. ii Sr. Vice President (Operations) iii Vice President iv All Divisional Heads v AGM - Environment v. Sr. Manager – Environment; vi. All Functional heads and Environment assistants. EMC meets once in a month and reviews existing environment management system. Summary of the review meetings is prepared once in six months. Full-fledged environment Laboratory is established for the analysis of domestic and effluent water samples. Further environmental monitoring is also being carried out by third party recognized by MoEF & CC.
xii.	As proposed, Rs. 12 crore and 1.20 crore shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures shall be judiciously used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. A time bound implementation schedule shall be submitted to the Ministry and its Regional Office at Bangalore to implement all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	As of September, ’2022 the total Capital cost has spent for the pollution control measures are Rs 82.66 Cr and the Recurring cost for the period April to September 2022 is Rs 7.36 Cr. Environment pollution control measures are being judiciously used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
xiii.	A copy of clearance letter shall be sent by the proponent to concerned panchayat zilaparishad / Municipal corporation, Urban local body and the local NGO, if any from whom suggestion/representations. If any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied.

xiv.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of CPCB and the APPCB. The criteria pollutant levels namely; RSPM (PM2.5 and PM10) SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at convenient location near the main gate of the company in the public domain.	Complied at regular interval. Ambient and Stack emission report are being displayed at main gate. It is uploaded to the company website as part of six-monthly compliance report
xv.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the regional office of MoEF, the respective zonal office of CPCB and the APPCB. The regional office of this ministry / CPCB / APPCB shall monitor the stipulated conditions.	Being complied
xvi.	The environmental 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 mended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall be also be sent to the respective regional offices of the MoEF by e-mail.	Is being complied
Xvii	The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the APPCB and may also be seen at website of the ministry of environment and forests and http:/envfor.nic.in. this shall be advertised within seven days from the date of issue of the clearance letter, at least in two local news papers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the regional office.	Advertisements were given in two local newspapers namely Indian Express and vartha on 24.1.2013 and advertisement copies were submitted to the Regional Office of the MoEF& CC
xviii	The authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concern authorities and the date of commencing the land development work.	Is being complied

11	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted for compliance
12	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.	Noted for compliance
13	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act,1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	Noted for compliance

Electrosteel Castings Limited

CREP Compliance for the period of April'22 to September'22

Sl. No	Action point	Compliance Status/action taken
1.	**Coke Oven**	
A	To meet the parameters PLL, PLD & PLO as notified under EPA by Dec'06	Not Applicable since ours is Non recovery type coke oven plant.
B	To re-build at least 40% of Coke Oven Batteries by 2012	Not Applicable since ours is Non recovery type coke oven plant
2.	**Blast furnace**	
A	Direct injection of reducing agents by June, 2013	Complied. PCI coal is injected as reducing agents.
3.	**Solid waste / Hazardous waste management**	
1	SMS & BF slag utilization 70% by '04, 80% by '06 and 100% by '08 – CREP	BF slag 45% being utilized in our Cement plant. Balance quantity is being sold to other Cement Industries.
2	Charge of tar sludge / ETP sludge in coke oven by June'03	There is no Tar Sludge generation in our plant. Hence Tar sludge is not charged to the Coke oven. ETP Sludge is being used in Sinter plant.
3	Inventorization of hazardous wastes	Hazardous waste generation and disposal are being recorded as and when. Monthly consolidated report is being maintained. Annual return is being submitted in form-4 regularly to the APPCB.
4	Water conservation & water pollution : reduce specific water consumption to 5 m3/tls	Complied
5	To operate COBP effluent treatment plant efficiently to achieve the standards by July'04	Effluents are treated in ETP and reused in Slag Granulation
6	Installation of continuous stack monitoring equipment by Jun'05	Complied. Major process stacks were provided with continuous stack monitoring equipment and connected to APPCB & CPCB.
7	Setting up of 3 nos. on-line ambient air quality monitoring stations by Jun '05	3 Nos Continuous Ambient Air Quality Monitoring stations were installed and connected to APPCB on Dec-2014 onwards. (Downwind, up wind and Cross wind)
8	To operate existing pollution control eqpt.& keep proper records	Complied
9	To implement the recommendations of LCA Study • Battery 1, 2, 3 repaired. In good health • Coke dry quenching, BF top gas recovery, LD gas recovery and 100% continuous casting. • Dog house- SMS: • PCI in BF 1&2: • Sp. Water Consumption • Specific Energy consumption	NA

10	Energy recovery from BF top gas pressure	BF gas is being utilized in MBF Stove, 2.5 MW gas based power plant, Annealing furnaces and Sinter plant.
11	Use of tar free runners / BF	NA
12	De-dusting in cast house	Complied
13	Suppression of fugitive emission using N_2	NA
14	Processing of waste containing flux & ferrous wastes through waste recycling plant	Recycle in the sinter plant
15	To implement rain water harvesting measures	Complied
16	Reduction of green house gasses by: a. Reduction in power consumption	In heat treatment furnace HSD is replaced with BF gas.
17	b. Use of by-products gases for power generation	BF gas and Coke oven waste heat being used to produce power
18	c. Promotion of Energy Optimization Technology incl. energy audit	Energy conservation process is being implemented
19	To set targets for Resource Conservation such as raw material, energy and water consumption	a) To conserve the resources 70% of Iron ore lumps along with Lime stone and Dolomite are replaced with Sinter product. This sinter product is being produced from fines of Iron ore, limestone and dolomite. Thus conserving 70% of Raw material like Iron ore lumps, Lime stone and Dolomite. b) To conserve Ground water, daily around 4000 - 4500 KLD of primary treated Sewage water from 'Tirupathi municipality is being drawn and treated in 5 MLD STP at plant premises. Treated water is being used for plant process. Thus, conserving daily around 4000 - 4500 KLD ground water. c)To conserve the energy, 22 MW Captive power established to produce power from BF gas and Waste heat from Coke oven.
20	Up-gradation of the monitoring and analysis facilities for air and water pollutants. Also impart elaborate training to the manpower	Online monitoring facility provided for stacks and Ambient Air. Regular awareness programme on environmental aspects and impacts are being conducted for employees.
21	Power Plants should provide dry fly ash free of cost to the users	NA
22	Good housekeeping	5s Practice and TPM are being initiated and monitored to improve the house keeping.
Cement plant		
	Cement Plants, which are not complying with notified standards, shall do the following to meet the standards; Augmentation of existing Air Pollution Control Devices - by July 2003 Replacement of existing Air Pollution Control Devices - by July 2004	ECL Cement plant is based on VSK (Vertical shaft kilns) technology and complying the notified standards G.S.R. 612(E) dated 25.08.2014. Pollution control equipment's were provided in all process locations to meet the standard as per CFO. Air pollution control equipment's bag filter were replaced as and when and regular maintenance is being carried out.

	Cement Plants located in critically polluted or urban areas (including 5 km distance outside urban boundary) will meet 100 mg/ Nm3 limit or particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm3.	We are 11 KM away from urban boundary. The emission level of particulate matter is less than 100 mg/Nm3 as per CFO for Vertical shaft kiln cement plant.
	The new cement kilns to be accorded NOC/Environmental Clearance w.e.f 01.04.2003 will meet the limit of 50 mg/Nm3 for particulate matter emissions.	Obtained Environment Clearance for the cement plant vide reference - . J-11011/914/2007-IA. II (I) dated 25.07.2008
	CPCB will evolve load based standards by December 2003.	NA
	CPCB and NCBM will evolve SO2 and NOx emission standards by June 2004.	SO2 and NOx are well below the standard as notified by MOEF.
	The Cement industries will control fugitive emissions from all the raw material and products storage and transfer points by December 2003. However, the feasibility for the control of fugitive emissions from limestone and coal storage areas will be decided by the National Task Force (NTF). The NTF shall submit its recommendations within three months.	All conveyer belts, transfer points are covered by hood. Shed provided for some of the raw materials. Open area stock piles are covered with Tarpaulin. Regular water sprinkling on roads is being carried out to avoid fugitive emission.
	CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum cokes as fuel in cement kiln by July 2003.	NA
	After performance evaluation of various types of continuous monitoring equipment and feedback from the industries and equipment manufacturers, NTF will decide feasible unit operations/sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003	All process stacks of the plant were installed online CEMS and data are connected to the APPCB and CPCB site.
	Tripping in kiln ESP to be minimized by July 2003 as per the recommendations of NTF.	NA
	Industries will submit the target date to enhance the utilization of waste material by April, 2003.	As such our cement plant is operating to consume blast furnace slag generated in MBF operation.40% to 50% of the slag used for cement manufacturing. Waste material will be utilized after commencement of Rotary cement plant .
	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.	NA
	Cement industries will carry out feasibility study and submit target dates to CPCB for co-generation of power by July 2003.	NA

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. Electrosteel Castings Ltd.
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 26.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: AMBIENT AIR QUALITY
Sampling location-3: Near Old STP **Lab Ref:** CL/AAQ/1812/06/22-002/22

TEST RESULTS

S .No	PARAMETERS	TEST METHOD	UNITS	RESULTS	NAAQ STANDARDS
1.	Average Flow Rate	--	m^3/min	1.14	--
2.	Particulate matter ($pm_{2.5}$)	IS:5182 (Part-23)2006	$\mu g/m^3$	26	< 60
3.	Particulate matter (pm_{10})	IS:5182 (Part-23)2006	$\mu g/m^3$	37	< 100
4.	Sulphur dioxide	IS:6182 (Part 2) 2001	$\mu g/m^3$	15	< 80
5.	Oxides of nitrogen	IS:5182 (Part-6) 2006	$\mu g/m^3$	20	< 80

NOTE:NAAQS: National Ambient Air Quality Standards.

Instrument Details:-
Instrument : PM 2.5/PM 10 sampler
Model / Sl No : APM 154/41-DTB-2013
Make :LataEnvirotech
Calibration Due :17.02.2023

Checked By

Authorized Signatory

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Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: AMBIENT AIR QUALITY
Sampling location-1: Near Main Gate **Lab Ref:** CL/AAQ/1812/06/22-003/22

TEST RESULTS

S .No	PARAMETERS	TEST METHOD	UNITS	RESULTS	NAAQ STANDARDS
1.	Average Flow Rate	--	m^3/min	1.10	--
2.	Particulate matter ($pm_{2.5}$)	IS:5182 (Part-23)2006	$\mu g/m^3$	32	< 60
3.	Particulate matter (pm_{10})	IS:5182 (Part-23)2006	$\mu g/m^3$	44	< 100
4.	Sulphur dioxide	IS:5182 (Part-2) 2001	$\mu g/m^3$	15	< 80
5.	Oxides of nitrogen	IS:5182 (Part-6) 2006	$\mu g/m^3$	20	< 80

NOTE:NAAQS: National Ambient Air Quality Standards.

Instrument Details:-
Instrument : PM 2.5/PM 10 sampler
Model / Sl No :APM 154/42-DTB-2013
Make :LataEnvirotech
Calibration Due :17.02.2023

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Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: AMBIENT AIR QUALITY
Sampling location- 2: Near STP **Lab Ref:** CL/AAQ/1812/06/22-004/22

TEST RESULTS

S .No	PARAMETERS	TEST METHOD	UNITS	RESULTS	NAAQ STANDARDS
1.	Average Flow Rate	--	m^3/min	1.14	--
2.	Particulate matter ($pm_{2.5}$)	IS:5182 (Part-23)2006	$\mu g/m^3$	36	< 60
3.	Particulate matter (pm_{10})	IS:5182 (Part-23)2006	$\mu g/m^3$	52	< 100
4.	Sulphur dioxide	IS:5182 (Part-2) 2001	$\mu g/m^3$	15	< 80
5.	Oxides of nitrogen	IS:5182 (Part-6) 2006	$\mu g/m^3$	20	< 80

NOTE:NAAQS: National Ambient Air Quality Standards.

Instrument Details:-
Instrument : PM 2.5/PM 10 sampler
Model / Sl No : APM 154/41-DTB-2013
Make :LataEnvirotech
Calibration Due :17.02.2023

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Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: AMBIENT AIR QUALITY
Sampling location- 6 : Near Coke oven 2nd Gate **Lab Ref:** CL/AAQ/1812/06/22-005/22

TEST RESULTS

S .No	PARAMETERS	TEST METHOD	UNITS	RESULTS	NAAQ STANDARDS
1.	Average Flow Rate	--	m^3/min	1.09	--
2.	Particulate matter ($pm_{2.5}$)	IS:5182 (Part-23)2006	$\mu g/m^3$	32	< 60
3.	Particulate matter (pm_{10})	IS:5182 (Part-23)2006	$\mu g/m^3$	49	< 100
4.	Sulphur dioxide	IS:5182 (Part-2) 2001	$\mu g/m^3$	17	< 80
5.	Oxides of nitrogen	IS:5182 (Part-6) 2006	$\mu g/m^3$	15	< 80

NOTE:NAAQS: National Ambient Air Quality Standards.

Instrument Details.-
Instrument : PM 2.5/PM 10 sampler
Model / Sl No :APM 154/42-DTB-2013
Make :LataEnvirotech
Calibration Due:17.02.2023

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Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: AMBIENT AIR QUALITY
Sampling location-5: Near SPP **Lab Ref:** CL/AAQ/1812/06/22-006/22

TEST RESULTS

S .No	PARAMETERS	TEST METHOD	UNITS	RESULTS	NAAQ STANDARDS
1.	Average Flow Rate	--	m^3/min	1.13	--
2.	Particulate matter ($pm_{2.5}$)	IS:5182 (Part-23)2006	$\mu g/m^3$	22	< 60
3.	Particulate matter (pm_{10})	IS:5182 (Part-23)2006	$\mu g/m^3$	45	< 100
4.	Sulphur dioxide	IS:5182 (Part-2) 2001	$\mu g/m^3$	12	< 80
5.	Oxides of nitrogen	IS:5182 (Part-6) 2006	$\mu g/m^3$	20	< 80

NOTE:NAAQS: National Ambient Air Quality Standards.

Instrument Details:-
Instrument : PM 2.5/PM 10 sampler
Model / Sl No : APM 154/41-DTB-2013
Make :LataEnvirotech
Calibration Due : 17.02.2023

Checked By

Authorized Signatory

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Issue Date: 02.07.2022

Sample Registration No:1812/06/22-001
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completion Date:** 02.07.2022
Sample Description:
Discipline: Chemical
Group: Waste Water
Sample Particulars: ETP inlet Water
Sample Quantity & Condition: 600ml *1 No & Intact
Sample Collected By: Care Labs Representative (Prashanthi) **Lab Ref:** CL/W/1812/06/22-001/22

TEST RESULTS

S.No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS
1.	pH	APHA-4500-B	--	7.4
2.	Total Dissolved Solids	APHA-2540-C	mg/l	1,840
3.	Total Suspended Solids	APHA-2540-D	mg/l	60
4.	Chemical oxygen demand	APHA-5220.B	mg/l	250
5.	Biochemical oxygen demand (3 days at 27°C)	IS:3025(Pt-44)	mg/l	42
6.	Chlorides as Cl	APHA-4500-Cl-B	mg/l	310
7.	Sulphates as SO_4	IS:3025(Pt-24)	mg/l	96.9
8.	Oil & Grease	APHA-5520.B	mg/l	4.0

IS-Indian Standard,**APHA**-American Public Health Association.
Sample not drawn by us.

Reviewed by
(T.Jyothi)

Authorized Signatory
(P. Mamatha)
Technical Manager

~ END OF THE REPORT~

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Issue Date: 02.07.2022

Sample Registration No:1812/06/22-002
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date: 27.06.2022 **Analysis Completion Date:** 02.07.2022
Sample Description:
Discipline: Chemical
Group: Waste Water
Sample Particulars: ETP Outlet Water
Sample Quantity & Condition: 500ml ×1 No & Intact
Sample Collected By: Care Labs Representative (Prashanthi) **Lab Ref:** CL/W/1812/06/22-002/22

TEST RESULTS

S.No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	As Per APPCB STANDARDS
1.	pH	APHA-4500-B	--	7.4	5.5-9.0
2.	Total Dissolved Solids	APHA-2540-C	mg/l	1,530	Max 2100
3.	Total Suspended Solids	APHA-2540-D	mg/l	14	Max 100
4.	Chemical oxygen demand	APHA-5220.B	mg/l	20	Max 250
5.	Biochemical oxygen demand (3 days at 27°C)	IS.3025(Pt-44)	mg/l	4.0	Max 30
6.	Chlorides as Cl	APHA-4500-Cl-B	mg/l	210	Max 1000
7.	Sulphates as SO_4	IS:3025(Pt-24)	mg/l	69.6	Max 1000
8.	Oil & Grease	APHA-5520.B	mg/l	4.0	Max 10

IS-Indian Standard, **APHA**-American Public Health Association.
Sample not drawn by us.

Reviewed by
(T.Jyothi)

Authorized Signatory
(P. Mamatha)
Technical Manager

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Issue Date: 02.07.2022

Sample Registration No:1812/06/22-003
Sample Collection Date: 26.06.2022
Sample Registration Date: 27.06.2022
Analysis Starting Date: 27.06.2022
Analysis Completion Date: 02.07.2022
Sample Description:
Discipline: Chemical
Group: Waste Water
Sample Particulars: STP inlet Water
Sample Quantity & Condition: 500ml ×1 No & Intact
Sample Collected By: Care Labs Representative (Prashanthi)
Lab Ref: CL/W/1812/06/22-003/22

TEST RESULTS

S.No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS
1.	pH	APHA-4500-B	--	7.8
2.	Total Dissolved Solids	APHA-2540-C	mg/l	840
3.	Total Suspended Solids	APHA-2540-D	mg/l	63
4.	Chemical oxygen demand	APHA-5220.B	mg/l	150
5.	Biochemical oxygen demand (3 days at 27°C)	IS:3025(Pt-44)	mg/l	32
6.	Chlorides as Cl	APHA-4500-Cl-B	mg/l	160
7.	Sulphates as SO_4	IS:3025(Pt-24)	mg/l	52.9
8.	Oil & Grease	APHA-5520.B	mg/l	5.0

IS-Indian Standard, **APHA**-American Public Health Association. Sample not drawn by us.

Reviewed by
(T.Jyothi)

Authorized Signatory
(P. Mamatha)
Technical Manager

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TC-8067

17 YEARS ANNIVERSARY
IN -THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. Electrosteel Castings Ltd.
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No:1812/06/22-004
Sample Collection Date: 26.06.2022
Sample Registration Date: 27.06.2022
Analysis Starting Date: 27.06.2022
Analysis Completion Date: 02.07.2022
Sample Description:
Discipline: Chemical
Group: Waste Water
Sample Particulars: STP Outlet Water
Sample Quantity & Condition: 500ml ×1 No & Intact
Sample Collected By: Care Labs Representative (Prashanthi)
Lab Ref: CL/W/1812/06/22-004/22

TEST RESULTS

S.No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	As Per APPCB STANDARDS
1.	pH	APHA-4500-B	--	7.6	5.5-9.0
2.	Total Dissolved Solids	APHA-2540-C	mg/l	740	Max 2100
3.	Total Suspended Solids	APHA-2540-D	mg/l	12	Max 100
4.	Chemical oxygen demand	APHA-5220.B	mg/l	<5.0	Max 250
5.	Biochemical oxygen demand (3 days at 27°C)	IS:3025(Pt-44)	mg/l	<3.0	Max 30
6.	Chlorides as Cl	APHA-4500-Cl-B	mg/l	80	Max 1000
7.	Sulphates as SO_4	IS:3025(Pt-24)	mg/l	36.9	Max 1000
8.	Oil & Grease	APHA-5520 B	mg/l	2.0	Max 10

IS-Indian Standard, **APHA**-American Public Health Association.
Sample not drawn by us.

Reviewed by
(T.Jyothi)

Authorized Signatory
(P. Mamatha)
Technical Manager

~ END OF THE REPORT~

Care Labs
assuring quality check
(Estd : 2005)
Recognized by Ministry of Environment Forest & Climate Change, Govt. of India
An NABL Accredited Laboratory, Chemical & Biological Scope.TC- 8067
Food Safety Standards Authority of India, Govt. of India
An ISO 45001 : 2018 Certified Laboratory

Corp. off. : # 3-11-482/2, Plot No.1, 3rd Floor,
Sai Sadan Complex, Above Punjab National Bank,
Shiva Ganga Colony, L.B. Nagar, Hyd-500 074.
Office Contact . : +91 98854 36529
Mobile : +91 80195 88820
E-mail : mail2carelabs@gmail.com
Web : www.carelabs.in

17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. EelectrosteelCastings Ltd ,
(Spun Pipe Division)
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: STACK EMISSION **Lab Ref:** CL/SK/1812/06/22-001/22
Sampling location-1:Stack Attached to Magnesium Converter de-dusting system - I

TEST RESULTS

Diameter of Stack(m) :0.80
Cross SectiinalArea(m^2) :0.50
Flue Gas Temparature(^oC) : 38
Velocity (m/sec) : 15.70
Flow Rate (m^3/hr): 28,440

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	CPCB STANDARDS
1.	Particulate Matter (PM)	IS 11255 (Part 1)-1985	mg/Nm^3	34.3	< 100

Instrument Details:
Instrument : Stack Monitoring Kit
Make : Aero Vironment
Model / Sl No : SEA C 90WITH DGM/060307
Calibration Due : 17.02.2023

Checked By

Authorized Signatory

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. EelectrosteelCastings Ltd ,
(Pig Iron Division)
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: STACK EMISSION **Lab Ref:** CL/SK/1812/06/22-001/22
Sampling location-1:Stack Attached to the 1 x 3 Stoves

TEST RESULTS

Diameter of Stack(m)	: 1.53
Cross SectlinalArea(m^2)	:1.837
Flue Gas Temparature(^oC)	: 105
Velocity (m/sec)	: 8.2
Flow Rate (m^3/hr)	: 54228

TEST REPORT

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	CPCB STANDARDS
1.	Particulate Matter (PM)	IS 11255 (Part 1)-1985	mg/Nm^3	20	< 50
2.	Sulphur Di oxide	IS 11255 (Part 2)-1985	mg/Nm^3	48	<250
3.	Oxides of Nitrogen (NO_x)	IS 11255 (Part VII)-1985	mg/Nm^3	50	<150
4.	Carbon Monoxide (CO)	CPCB Guidelines	ppm	150	--

Instrument Details:

Instrument	: Stack Monitoring Kit
Make	: Aero Vironment
Model / Sl No	: SEA C 90WITH DGM/060307
Calibration Due	: 17.02.2023

Checked By

Authorized Signatory

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. EelectrosteelCastings Ltd ,
(Cement Division)
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: STACK EMISSION **Lab Ref:** CL/SK/1812/06/22-001/22
Sampling location-1:Stack Attached to the Cement mill

TEST RESULTS

Diameter of Stack(m) : 0.60
Cross Sectional Area(m^2) : 0.283
Flue Gas Temparature(^oC) : 82
Velocity (m/sec) : 9.40
Flow Rate (m^3/hr) : 10,440

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	CPCB STANDARDS
1.	Particulate Matter (PM)	IS 11255 (Part 1)-1985	mg/Nm^3	35.2	< 100

Instrument Details:
Instrument : Stack Monitoring Kit
Make : Aero Vironment
Model / Sl No : SEA C 90WITH DGM/060307
Calibration Due : 17.02.2023

Checked By

Authorized Signatory

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. Electrosteel Castings Ltd
(Power Plant Division)
Rachagunneri (V), Srikalahasti (M),

Issue Date:02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: STACK EMISSION **Lab Ref:** CL/SK/1812/06/22-001/22
Sampling location-1:Stack Attached to the 12 M.W. Power plant Boiler 1 &2 (2 x 23.7 TPH)
(For Coke Oven Battery I&II)

TEST RESULTS

Diameter of Stack(m) :2.20
Cross SectiinalArea(m^2) :3.8
Flue Gas Temparature(^oC) : 132
Velocity (m/sec) : 8.40
Flow Rate (m^3/hr) : 1,12,310

S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	CPCB STANDARDS
1.	Particulate Matter (PM)	IS 11255 (Part 1)-1985	mg/Nm^3	36	< 100
2.	Carbon Monoxide (CO)	CPCB Guidelines	ppm	10	--
3.	Sulphur Di oxide	IS 11255 (Part 2)-1985	mg/Nm^3	196	< 800
4.	Oxides of Nitrogen (NO_x)	IS 11255 (Part VII)-1985	mg/Nm^3	53.2	< 500

Instrument Details:
Instrument : Stack Monitoring Kit
Make : Aero Vironment
Model / Sl No : SEA C 90WITH DGM/060307
Calibration Due : 17.02.2023

Checked By

Authorized Signatory

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. Electrosteel Castings Ltd
(Power Plant Division)
Rachagunneri (V), Srikalahasti (M),

Issue Date:02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Description:
Discipline: Chemical
Group: Waste Water
Sample Particulars: Waste Water from Neutralization Pit (12 MW CPP)
Sample Quantity & Condition: 1 L ×1 No & Intact
Sample Collected By: Care Labs Representative (Mr. Sridhar) **Lab Ref:** CL/W/1812/06/22 002/22

TEST RESULTS

S.No	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS
1.	pH	APHA-4500-B	--	7.6
2.	Total Dissolved Solids	APHA 2540 C	mg/l	1,510
3.	Total Suspended Solids	APHA-2540-D	mg/l	23
4.	Chemical oxygen demand	APHA-5220.B	mg/l	50
5.	Biochemical oxygen demand (3 days at 27°C)	IS:3025(Pt-44)	mg/l	8.0
6.	Oil & Grease	APHA-5520.C	mg/l	2.0

IS-Indian Standard, APHA-American Public Health Association.

Reviewed by
(T.Jyothi)

Authorized Signatory
(P. Mamatha)
Technical Manager

~ END OF THE REPORT~

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17 YEARS ANNIVERSARY
IN THE FIELD OF TESTING SERVICES

TEST REPORT

ISSUE TO:
M/s. EelectrosteelCastings Ltd ,
(Ferro Allow Plant)
Rachagunneri (V), Srikalahasti (M),

Issue Date: 02.07.2022

Sample Registration No: 1812/06/22
Sample Collection Date: 26.06.2022 **Sample Registration Date:** 27.06.2022
Analysis Starting Date:27.06.2022 **Analysis Completed Date:** 02.07.2022
Sample Particulars: STACK EMISSION **Lab Ref:** CL/SK/1812/06/22-001/22
Sampling location-1: Stack Attached to Submerged Arc furnace

TEST RESULTS

Diameter of Stack (m) : 2.5
Cross Sectiinal Area (m^2) : 4.91
Flue Gas Temperature (^oC) : 74
Velocity (m/sec) : 10.40
How Rate (m^3/hr) : 2,04,460

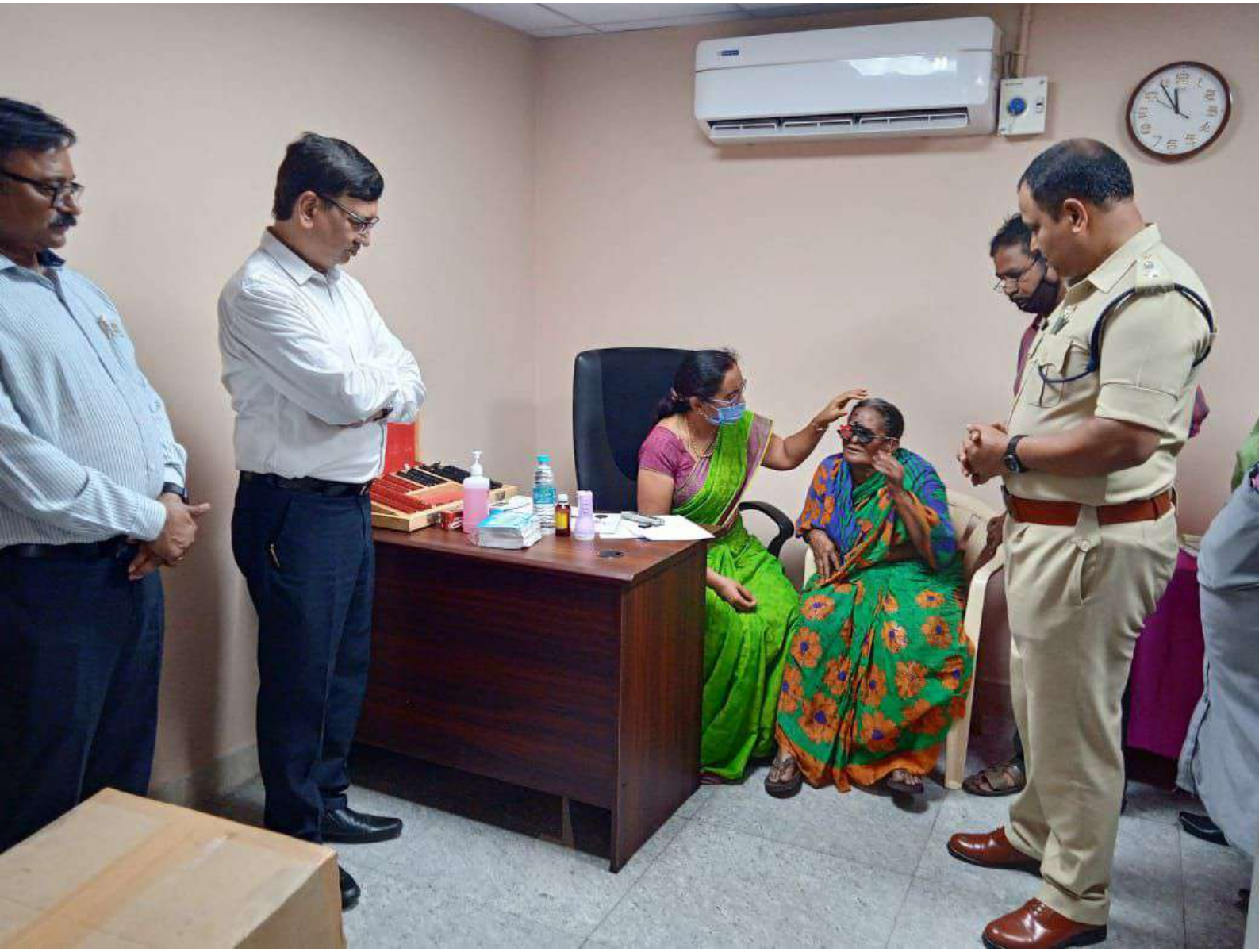
S.NO	TEST PARAMETERS	TEST METHOD	UNITS	RESULTS	CPCB STANDARDS
1.	Particulate Matter (PM)	IS 11255 (Part 1)-1985	mg/Nm^3	32.5	< 50

Instrument Details:
Instrument : Stack Monitoring Kit
Make : Aero Vironment
Model / Sl No : SEA C 90WITH DGM/060307
Calibration Due : 17.02.2023

Checked By

Authorized Signatory


ELECTROSTEEL CASTINGS



M/S Electrosteel Castings Ltd-SW

Ground water analysis report	
Location: Solid waste storage area	
Date of Sampling: 10.08.2022	
Parameters	Result
PH	7.4
Total Dissolved Solids (mg/l)	1165
Total Hardness (mg/l)	258
Sulphates (mg/l)	24
Chlorides(mg/l)	185
Iron (mg/l)	0.04
Turbidity (mg/l)	0.13
Oil & Grease (mg/l)	0.1

Electrosteel Castings Limited-SW				
Plant Fugitive emission status from April to September -2022				
SNO	Division	Location	Fugitive Emission	
			May-22	Aug-22
			µgm/m3	µgm/m3
1	Spun pipe	Between Induction furnace & Spinning machine-Hot Zone	1572	1655
2		Near Zn coating machines-Cold Zone	1244	1582
3	Pig Iron Div	MBF Cast house	1524	1542
3		infront of MBF Lab	1587	1596
4		Near Sinter plant Control room	1862	1751
5		Raw Material Yard	1596	1668
6	Cement Div	Near Cement Plant Office	1362	1145
		Raw Material Yard	1752	1722
7	COP	Coke oven Main Gate	1158	1248
8		Coal piles Yard	1865	1887
9	12MW CPP	Near 12 CPP building	1154	1252

ELECTROSTEEL CASTINGS LIMITED

Online Pollution Monitoring Portal

Site Name: Electrosteel Castings Ltd.

From Date: 2022/04/01 To Date: 2022/09/30

Report Name: Custom Report

Sl No.	Time	ZCD_1-PM_U	ZCD_2-PM_U	MCD_1-PM_U	MCD_2-PM_U	IFDDS-PM_U	MBF_STOVES-PM_U	MBF_STOVES-SO2_U	MBF_STOVES-NOx_U	MBF_SINTER_H-PM_U	MBF_SINTER_T-PM_U	MBF_CHDS-PM_U	FCDS-PM_U	CEMENT_MILL-PM_U	CEMENT_R_MIL-PM_U	SDDS-PM_U	TPH_BOILER-PM_U	TPH_BOILER-SO2_U	TPH_BOILER-NOx_U
1	2022-04-01	7.37	7.63	36.29	30.42	3.23	10.6	4.6	9.5	5.46	15.68	9.82	5.71	10.98	7.2	4.74	14.55	214.58	64.43
2	2022-05-01	15.06	9.06	13.88	27.04	1.42	13.69	6.07	13.9	4.73	23.4	9.98	5.49	6.36	10.66	9.11	14.43	100.91	75.17
3	2022-06-01	17.44	8.48	36.84	15.25	6.6	17.58	14.29	12.64	4.79	15.91	9.09	6.51	4.04	10.39	13.13	14.59	70.13	74.61
4	2022-07-01	24.76	5.97	32.41	11	12.27	15.47	18.79	29.17	5.66	10.69	11.07	7.79	15.03	12.88	9.42	15.52	256.84	82.07
5	2022-08-01	19.86	5.92	40.45	12	13.58	15.32	7.98	7.88	4.96	6.34	11.07	2.12	8.75	15.5	9.55	17.92	255.12	82.32
6	2022-09-01	16.58	6.25	36.8	13.9	8.53	9.38	5.01	6.44	4.53	13.91	10.73	2.52	9.5	9.22	7.77	19.3	263.91	82.1
Avg		16.85	7.22	32.78	18.27	7.61	13.67	9.46	13.26	5.02	14.32	10.29	5.02	9.11	10.98	8.95	16.05	193.58	76.78

Online Pollution Monitoring Portal

Site Name: Electrosteel Castings Ltd.

From Date: 2022/04/01 To Date: 2022/09/30

Report Name: Custom Report

Sl No.	Time	Stack_22_Zinc_Coating_dedusting_III-PM_U	Stack_18_Annealing_Furnace_I-PM_U	Stack_19_Annealing_Furnace_II-PM_U	Stack_29_Pipe_Cooling_AirVentSystem-PM_U	Stack_13_15TPH_Boiler_2_5MW-PM_U	Stack_13_15TPH_Boiler_2_5MW-SO2_U	Stack_13_15TPH_Boiler_2_5MW-NOx_U	Stack_37_Coke_Oven_3_Battery_CPP_3_Boiler-PM_U	Stack_37_Coke_Oven_3_Battery_CPP_3_Boiler-SO2_U	Stack_37_Coke_Oven_3_Battery_CPP_3_Boiler-NOx_U	Stack_42_Coke_Oven_4_Battery_CPP_4_Boiler-PM_U	Stack_42_Coke_Oven_4_Battery_CPP_4_Boiler-SO2_U	Stack_42_Coke_Oven_4_Battery_CPP_4_Boiler-NOx_U	Stack_43_Submerged_Arc_Furnace-PM_U
1	2022-04-01	17.55	15.1	10.47	14.55	7.93	41.97	30.7	9.22	12.47	98.73	7.02	17.65	48.19	8.39
2	2022-05-01	18.32	18.17	10.47	18.16	7.89	42.41	29.87	10.36	10.79	119.44	10.3	25.54	44.77	9.85
3	2022-06-01	19.19	20.87	16.89	16.47	9.19	41.72	33.55	10.3	23.47	91.28	6.55	68.95	48.85	6.61
4	2022-07-01	16.43	19.8	26.64	20.43	10.04	42.22	19.18	9.93	38.52	78.44	3.24	23.54	20.76	11.05
5	2022-08-01	14.88	20.33	28.05	20.2	10.23	42.69	26.4	9.56	30.3	105.86	6.82	34.18	34.4	16.23
6	2022-09-01	15.18	23.82	28.4	20.97	10.22	43.58	33.03	9.99	27.31	128.26	6	42.32	75.89	12.85
Avg		16.93	19.68	20.15	18.46	9.25	42.43	28.79	9.89	23.81	103.67	6.66	35.46	45.48	10.83

Online Pollution Monitoring Portal

Site Name: Electrosteel Castings Ltd.

From Date: 2022/04/01 To Date: 2022/09/30

Report Name: Custom Report

Sl No.	Time	STATION_1-PM10_U	STATION_1-PM2.5_U	STATION_1-SO2_U	STATION_1-NOx_U	STATION_2-PM10_U	STATION_2-PM2.5_U	STATION_3-PM10_U	STATION_3-PM2.5_U
1	2022-04-01	9.69	6.13	21.79	3.76	11.42	5.14	NA	NA
2	2022-05-01	16.25	8.59	22.73	3.76	13.12	6.97	31.7	8.66
3	2022-06-01	10.38	6.86	23.9	3.8	10.22	3.41	36.77	3.21
4	2022-07-01	10.59	5.54	25.93	3.8	11.66	2.87	2.24	0.72
5	2022-08-01	17.36	8.54	25.62	3.82	8.59	2.14	60.57	31.4
6	2022-09-01	5.87	6.95	23.62	3.79	8.25	2.39	0.4	4.34
Avg		11.69	7.10	23.93	3.79	10.54	3.82	26.34	9.67