
**EC COMPLIANCE REPORT
&
ENVIRONMENTAL STATUS REPORT
(April 2018 - September 2018)**

of

SUNFLAG IRON & STEEL CO. LTD.

Located At
Village – Eklari, Taluka – Mohadi,
Dist. – Bhandara.

Project Proponent:



**M/S. SUNFLAG IRON & STEEL CO. LTD.
Village – Eklari, Taluka – Mohadi, Dist. – Bhandara, 441905**



1.0 PREAMBLE

1.1 Introduction

Sunflag Iron & Steel Co. Ltd. (Sunflag Steel) has established state-of-the-art special Integrated Steel Plant in Bhandara District of Maharashtra State (India) in the year 1989 in technical collaboration with Mannesmann Demag and Krupp, West Germany. This factory is one of the most modern deploying state-of-the-art technologies which won acclaim in the International Exhibition of Steel Plant Equipment & Technology at Dusseldorf (West Germany). Pollution control systems installed for the various sources at the factory are also state-of-the-art. For the last several years, the factory is certified to ISO9001:2008 U S A .ISO / TS16949:2009 for quality management Global automobile application duly certified by UL-DQS and the factory are also certified to ISO 14001 & OHSAS: 18001:2007 in Feb'2013 for Environmental, Occupational, Health & Safety management systems. In addition to above our factory is also certified by AD 2000/ PED /WD for supplying to pressure equipment's duly certified by TUV-Nord, Germany.

Sunflag Steel caters to the demands of various core sector industries like Automobiles, Railways, Defense, Agriculture, Engineering Industry etc.

Sunflag Steel is located at 21⁰14'5" North latitude and 79⁰37'50" East longitude. The mean height of the plant site is 273 meters above MSL. The Sunflag Iron & Steel Co. Ltd. is located near Bhandara Road railway station at a distance of 53 km to the E-NE direction of Nagpur. More specifically it is located at about 7.5 km as crow flies from Bhandara in S-SE direction. In the year 2006, MoEF has granted for the expansion of the existing integrated steel plant from existing 0.20 million TPA to 0.50 Million TPA. In the year 2017 , MoEF has granted for the expansion of the existing integrated steel plant from existing 0.5 million TPA to 1.0 Million TPA

At present, this Integrated Steel Plant has a capacity to manufacture 1.0 Million TPA of high quality special steel in the form of rolled steel products using iron ore, coal & coke as basic inputs. The plant has a Direct Reduction Plant (DRP) to produce sponge iron & Mini Blast Furnace (MBF) to produce hot metal for captive consumption in the Steel Melting Shop (SMS). Further liquid metal is converted to steel billets at Continuous Casting Machine (CCM). The steel billets are taken to Bar & Section Mill (BSM), Alloy Steel Mill (ASM) and Blooming Mill to produce rolled steel products. The 30 MW Captive Power Plant (CPP) is existing along with other ancillary/utility plants in the factory.

The compliance status of the conditions of the MoEF, Govt. of India Environmental Clearances No. J-11011/355/2004-IAII (I) dated 21-02-2006 is given below :

COMPLIANCE STATUS OF CONDITIONS IMPOSED BY MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE VIDES THEIR LETTER NO. F No. J-11015/355/2004-I A II (I) dated 21-02-2006.

Period: From 1st April - 2018 to 30th - September 2018.

(A) SPECIFIC CONDITIONS:

Sr No	Conditions	Compliance
i)	<p>The gaseous emissions from various process units shall conform to the load / mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. At no time the emission level shall go beyond the prescribed standards. On line continuous monitoring system shall be installed in stacks to monitor SPM and Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit. Coke oven (non-recovery type) shall be used for power generation. Emissions from the Coke oven plant shall be within permissible limits of CPCB.</p>	<p>Adequate pollution control systems are provided at the existing sources which are in regular operation and modernization of the same is carried out from time to time. The gaseous emissions from various existing process units confirm the load/mass based standards notified by the Ministry from time to time. The emissions from the stacks meet the prescribed standards.</p> <p>Air pollution control system for the rotary kilns producing direct reduced iron comprises of waste heat recovery boilers and electrostatic precipitators. The cleaned gases after ESP are released to atmosphere through a 55 m & 60 m high forced draft chimney.</p> <p>Two separate fume/dust extraction and control system (i.e. The Primary and Secondary Fume Extraction System for SMS was installed & commissioned on July 2012 for further improving the Dust & Fume extraction) comprising of reverse air bag house, pulse jet bag house & common chimney of height 43 m are provided for 50 T capacity electric arc furnace (EAF) and ladle heating furnace (LHF).</p> <p>At CPP, air pollution control system comprising of devices i.e. economizer, air preheater, and electrostatic precipitator are designed for the full production capacity of FBC Boiler. The discharge of the electrostatic precipitator is through a stack of height 55 m with tops diameter 1.6 m. The discharge meets the norms. The waste heat recovered at WHRBs provided at DRI plant is also used for power generation at CPP.</p> <p>At coal washery, crushed coal is conveyed through conveyor belt for washing. Once the coal is mixed water there is no air pollution at the section. However the conveyor belts carrying crushed coal to coal washery section completely covered from top and both sides.</p>



		<p>The Mini Blast Furnace (MBF) (350 M3) is provided with adequate APC system. From MBF, the dust-laden gas after the dust catcher is cleaned in the GCP. There is two-stage venturi system, first stage provides the pre-cleaning of the gas and the second stage provides the final cleaning of the gas. The Blast Furnace gas after the venturi enters the moisture separator, where the finest water droplets are flung against the scrubber shell and run down into the sump and gas free particle leaves the GCP, the cleaned MBF gas is used at Sinter plant, Reheating furnaces of rolling mills and Hardening furnace.</p> <p>There is an effective air pollution control systems at sinter plant. The system comprises of Suction Ducting, Dust Settling Chamber, Electrostatic Precipitator, ID Fan and Stack. The cleaned gases after ESP are released to atmosphere through forced draft chimney.</p> <p>Online continuous ambient air quality monitoring system has been installed at three locations.</p> <p>On line continuous monitoring system has been installed in stacks to monitor SPM & SO₂.</p> <p>The emissions from the stacks and various units meet the prescribed standards results. Please refer Annexure -1 (A)</p>
<p>ii)</p>	<p>In plant control measures for checking fugitive emission from all the vulnerable sources like spillage/raw materials/coal handling etc. shall be provided. Further, specific measures like provision of dust suppression system consisting of water sprinkling, suction hoods, fans and bag filters etc. shall be installed at material transfer points, blast furnace stock house and other enclosed raw material handling areas.</p> <p>Centralized DE-dusting system i.e. collection of fugitive emission through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed height conforming to the standards for induction furnaces existing in the industry and proposed induction and are furnaces. Fugitive emissions shall be regularly monitored and records maintained.</p>	<p>At the vulnerable fugitive emission sources like spillage/raw materials/coal handlings etc., in plant centralized de-dusting facility provided. The plant has provided dust suppression system consisting of water sprinklers, suction hood, Covered shed and conveyer, bag filters at various points such as material transfer points, and other enclosed raw material handling areas in the existing plant.</p> <p>Fugitive emissions are being regularly monitored and maintained the records as per guidelines.</p>



<p>iii)</p>	<p>The company shall install Waste Heat recovery Boilers (WHRB) to recover the waste heat and generate power from the steam produced by the WHRB. Char shall be used in the power plant. The particulate emissions from the WHRB and Direct Reduction Iron (DRI) plant shall be controlled by installation of ESP as per the CPCB specifications and particulate emissions shall not exceed 50 mg/Nm³. Further, the company shall install bag filters to control gaseous emissions from the coke oven, wet scrubbers, suction hoods, dust extraction devices and fume extraction system at appropriate places to control gaseous emissions.</p>	<p>At DRP 1 & DRP 2, Waste Heat Recovery Boilers (WHRSG) provided to recover the waste heat from rotary kilns for generation of power from the steam produced by WHRSG at the existing CPP. The exhaust gases from the kiln containing dust, hydrocarbons etc. are burnt in the waste heat recovery Boiler and heat of the gases is recovered in Boiler for steam generation. The gases still containing very fine particulate matter enter the electrostatic precipitator where most of the particulates settle on the electrodes and gases almost free of the dust particles are released to atmosphere at a height of 55 m & 60 m through a chimney.</p> <p>The emissions from various units are within prescribed standard.</p>
<p>iv)</p>	<p>Total requirement of water shall not exceed 12,000 m³/d as per agreement signed with the Govt. of Maharashtra. Out of 3,000 m³/d waste water generated. 2,400 m³/d treated waste water shall be recycled and reused in the process and excess shall be used for gardening and irrigation purpose. The domestic waste water after treatment in STP shall be used for green belt development.</p>	<p>The plant meets its water requirement from Wainganga River. The river flows at a distance of 7.0 Km from the plant. Maximum water requirement for the existing steel plant is 12,000 m³/day. SISCO has been granted permission to draw water from Wainganga River @ 13,200 m³/day.</p> <p>Industrial effluent generation from the existing plant at rated capacity is 2414 m³/day. Existing practice of Boiler blow down recycle, dilution of neutralized DM Plant effluent, cooling tower blow down effluent, disposal for</p> <p>100 % reuse / recycled in the process; green belt development is continued for the additionally generated effluent as well.</p> <p>Domestic effluent from the plant is conveyed through drains to septic tanks followed by soak pits and sewage treatment plant. Treated domestic effluent is 100 % recycled for firefighting, used for gardening and green belt development.</p>



<p>v)</p>	<p>The solid waste generated shall be in the form of ash, slag, mill scale, dust, sludge and iron scrap, Mill scale, coke breeze, iron ore fines, dust and sludge from Mini blast furnace (MBF), Gas cleaning plant (GCP) shall be reused in the Sinter plant. Iron sponge, iron scrap and grinder waste shall be recycled to SMS section for melting and reuse. DRP ash and dust collected from ESP of gas cleaning system of DRP shall be used in the Boiler of CPP whereas bed ash and MBF slag shall be either used for land filling or sold to cement plants. The entire quantity of fly ash, mill scale and DRP sludge from the scrubber shall be utilized for making brick in company's own brick manufacturing plant. Non-granulated slag shall be used for road making. Dust from dust extraction system shall be recycled to the Sinter plant for reuse. Dust collected from DRI plant shall be reused in sinter plant. Used / spent oil generated shall be used as anti-rusting agent and excess sold to authorized re processors.</p>	<p>The generated solid mill scale, dust, sludge and iron scrap, Mill scale, coke breeze, iron ore fines, dust and sludge from Mini blast furnace (MBF), Gas cleaning plant (GCP) is being reused in the Sinter plant. Sponge iron, iron scrap and grinder waste is being recycled to SMS section for melting and reuse DRP ash and dust collected from ESP of gas cleaning system being used in the FBC Boiler of CPP, whereas bed ash is being used for land filling and MBF slag is being sold to cement plants.</p> <p>The fly ash is being utilized for making brick /Paver blocks at brick manufacturing plant and if balance is used for filling low lying area. Non-granulated slag shall be used for road making and paver block manufacturing at brick plant. Dust from dust extraction system being recycled to the Sinter plant for reuse. Dust collected from DRI plant being reused in sinter plant. Used / spent oil generated being used as anti-rusting agent and excess sold to authorize re processors.</p>
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vi)	The solid waste shall be generated in the form of char, kiln accretions, fly ash from ESP and bottom ash etc. Char generated shall be used in FBC Boiler having sufficient capacity to utilize the char expected to be generated after the expansion. Kiln accretions generated presently and the quality further enhanced during expansion project, shall be utilized for filling low lying areas. ETP sludge shall be used in Sinter Plant.	The detail of Solid waste and its utilization is as following-		
		S.N.	Type of Waste	Disposal/ Utilization
		1.	Fly Ash (CPP)	In house for Bricks & Paver blocks Manufacture / Outside bricks manufacture & filling low lying area.
		2.	Bed Ash (CPP)	Landfill
		3.	Dust from Bag Filter (DRP & SMS)	Reused at sinter.
		4.	DRP Sludge	Reused at Sinter Plant
		5.	Mill Scale (Rolling Mill)	Reused at Sinter Plant
		6.	EAF & SS Refining Convertor Slag ((SMS)	Landfill & Reused for manufacturing of Paver Blocks
		7.	Iron/Steel/Scrap/Rejects Billets (SMS/Rolling Mill)	Recycle at SMS
		8.	Grinder Waste (SMS/Rolling Mill)	Recycle at SMS
		9.	Coal Rejected Stone & Shell (Coal Washery)	Landfill
		10.	Granulated MBF Slag	By Sale to Cement manufacture.
		11.	Granulated Residue at MBF Gas Cleaning plant	Reused at Sinter plant.
		12.	Coke Fines (MBF Plant)	Reused at Sinter plants
		13.	Iron Ore Fines & Sinter (DRI & MBF Plant)	Reused at Sinter plants
		14.	Dusts/Sludge (ETP & WTP)	Reused at Sinter plants
		15.	Hot returned ore (Sinter Plant)	Reused at Sinter plants
16.	Removed Dust (DRI Plant & Sinter Plant)	Reused at Sinter plants		

vii)	<p>Mill scale shall be reused in Sinter plant, ESP fly ash shall be made available to the cement plants and brick making plants whereas bottom ash shall be disposed off in a suitably designed landfill as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer. Solid waste generated in the form of Iron ore fines, blast furnace slag, BF scrap scales from slab caster and scales from steel mill will be sold to the scrap dealers except for BF slag which will be sold to the cement manufacturers.</p>	<p>Mill scale is used in the sinter plant. Fly ash is used in brick making plants and bottom ash is disposed off at designated landfill. BF Slag is disposed off by sale to cement manufacturers. Iron ore fines, BF Scrap scales from slab caster and scales from steel mill are used at Sinter plant.</p>
viii)	<p>The company shall be developing surface water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.</p>	<p>Rain water harvesting ponds are existing in the plant premises and channels are provided for collection of rain water of the plant into the pond. The collected rain water is utilized for various plant activities in lean season. Also it helps in recharge of ground water table.</p>
ix)	<p>Green belt shall be developed in at least 71.5 ha area within and around the plant premises as per the CPCB guidelines in consultation with DFO.</p>	<p>Sunflag Iron & Steel Co. Ltd. has 200 Ha of land covering factory, colony and other amenities. Presently, land available for green belt is about 72 Ha and green belt has covered the maximum portion of land.</p> <p>From the last two decade, factory is regularly carrying out tree plantation and green belt development within the factory and colony premises as per CPCB guidelines. Till date, the factory has planted approx 4,25,000 trees covering 22 varieties such as Neem, Pipal, Casia, Mango, Gulmohor, Eucalyptus, Khair, Chichwa, Shisam, Ashoka, Karanj, Teak, Jamun, Palas, Hiwar, Dhaora, Bamboo, Royal Palm, Coconut, Guahava, etc. and the survival rate is about 96 %. The green belt is spread in and around the plant area.</p>
x)	<p>Occupational health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.</p>	<p>Medical examinations of workers are carried out regularly. A dispensary with regular medical practitioner and auxiliary nursing facility is available in the plant premises. Additionally, a panel of doctors regularly visits to the factory for checkup the health of workers & staff, the records of same is being maintained.</p>

xi)	The project authorities shall undertake eco-development measures including community welfare measures in and around the project site. An action plan indicating proposed activities under this shall be performed and submitted to the Maharashtra Pollution Control Board (MPCB) within three months from the date of issuing this letter.	Action plan for undertaking eco-development measures including community welfare measures in & around the plant indicating the activities to be performed and undertaken is submitted to Maharashtra Pollution Control Board.
xii)	Recommendations made in the corporate Responsibility for Environment Protection (CREP) for the steel plants shall be implemented and report submitted to the Ministry/CPCB/MPCB.	M/s. Sun-flag Iron & Steel Co. Ltd. is one of the leading Corporate Houses in the country and always emphasizes on its Corporate Responsibility for Environment Protection (CREP) for steel plant. Recommendations made in the CREP for steel plant are implemented by the plant on priority basis and regularly submit the report to Ministry/CPCB/MPCB. Refer Annexure - 3 .

(B) General Conditions

SN	Conditions	Compliance
i	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board (MPCB) and the State Government.	Consent to Operate is obtained from Maharashtra Pollution Control Board for existing set-up and it is valid upto 31-05-2022. Compliance of the stipulations indicated in the MPCB Consent to Operate, are regularly complied.
ii	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Factory will not carry out further expansion or modification in the plant without prior approval of Ministry of Environment and Forests.
iii	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ and NO _x are anticipated in consultation with the MPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional office at Bhopal and MPCB/CPCB once in six months.	Factory has an established Four Ambient Air Quality Monitoring Stations in consultation with MPCB. Factory is regularly monitoring and analyzing pollution sources. The programme includes stack sampling, ambient air quality monitoring, Noise level measurement and fugitive dust monitoring at various locations. The plant is regularly submitting the monitored data to MPCB. Please refer Annexure - 1 (A to D)



<p>iv</p>	<p>Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time the treated waste water shall be utilized for plantation purpose.</p>	<p>For the treatment of industrial effluent generated from the existing plant activities, an ETP is provided with flash mixer, clarifier, pH correction tank, sludge storage tank, sludge transfer pump, thickener, sludge drying beds, Vacuum filter etc is provided at steel plant.</p> <p>For CPP effluent, a neutralization pit is provided.</p> <p>At Centralized Pickling Plant, separate effluent treatment plant is provided with units as Collection cum neutralization Tank for Spent Acid, Collection cum Neutralization Tank for Rinse Water, Lime Solution Tank, Gravity Sand Filters, Filer press, Clariflocculator and treated Effluent Tank. Finally treated effluent is being recycle/reused for cleaning of pickling product.</p> <p>At MBF, water is sprayed in venture scrubbers used for cleaning MBF gases. The water from scrubbers is collected in thickener. The clear overflow from the thickener is recycled back for scrubbing. The thickened sludge from the bottom is dewatered in vacuum drier and the disposed water is sent back to the thickener. Dried Sludge is being use in the sinter plant. Effluent discharge from MBF is nil.</p>
<p>v</p>	<p>The project authorities must strictly comply with the provisions made in Manufacture, storage and import of Hazardous chemicals Rules 1989 as amended in 2000 for handing of hazardous chemicals etc. the project authorities must also strictly comply with the rules and regulations with regards to handing and disposal of hazardous wastes in accordance with regard to handing and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handing) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collection/ treatment/ storage / disposal of hazardous wastes.</p>	<p>Hazardous Chemicals handled in the factory are the Liquid Nitrogen and Liquid Oxygen. Both the chemicals are listed in the List of Hazardous Chemicals of Manufacture, Storage and Import of Hazardous Chemicals (Amendment) Rules, 2000. Both chemicals are stored in separate isolated storage tanks & used through pipeline in the manufacturing process. The necessary permissions for storage of these chemicals from concerned department are taken by the factory. Safety Audit and On-site Emergency Plan are already prepared by the factory and follow it regularly.</p> <p>Oxygen & Nitrogen are stored as per Explosive Rules and all the conditions will be followed meticulously. As per Hazardous Waste (MH &TM) Rules, 2008 of the Environment Protection Act, 1986 and Amendments thereto, the steel plant complies with all the stipulated norms. Membership of Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSDF), Butibori has been taken, reuse & disposal of hazardous wastes generated at factory is carried as per MPCB directions.</p>

<p>vi</p>	<p>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 should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).</p>	<p>Plant has provided noise control measures including acoustic hoods, silencers, enclosures etc. on all noise generating sources to maintain the noise level within the prescribed standards under EPA Rules, 1989.</p> <p>The report of the monitored noise level data please refer Annexure – 1 C.</p>
<p>vii</p>	<p>The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio- economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.</p>	<p>SISCO comply with the recommendations made by the Public Hearing Panel for expansion project. Compliance of the safeguards recommended in the EIA/EMP report is a regular feature of the plant.</p> <p>The company is undertaking socio-economic development activities in the surrounding villages like community development programmes, educational programmes, Skill development programme for unemployed youth & women's, drinking water supply, and health checkup camps.</p>
<p>viii</p>	<p>As committed, Project authorities shall provide funds of Rs. 20.54 Crores recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forest as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.</p>	<p>In order to implement the conditions stipulated by the Ministry of Environment and Forests, Govt. of India as well as the Maharashtra Government, factory has carried out capital expenditure on pollution control facilities and providing adequate funds for capital & recurring expenditure.</p>
<p>ix</p>	<p>The regional office of this Ministry at Bhopal/ MPCB/ CPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.</p>	<p>Noted. Six monthly compliance report is being submitted on regular basis.</p>

x	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 MPCB/ Committee and may also be seen at website of the Ministry of Environment and Forests at http://ensfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.	Complied.
xi	Project authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The factory has already informed the Regional Office as well as Ministry about the date of financial closure and final approval of the project and the date of commencing the land development work.
5.	The Ministry may revoke or suspend the clearance, if implementation of any of the above condition is not satisfactory	Noted.
6.	The Ministry reserve the right to stipulate additional conditions if found necessary. The company in a time bound manner will be implement these condition.	Noted.
7.	The above condition will be enforced, inter-alia under them provision 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 and Implemented.

COMPLIANCE STATUS OF CONDITIONS IMPOSED BY MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE VIDE THEIR LETTER NO. J-11011/355/2004-IAII (I) dated 02-05-2017

Period:From 1st April - 2018 to 30th - September 2018.

(A) SPECIFIC CONDITIONS :

i)	The project proponent shall install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.	Already complied for existing pant.
ii)	The canal passing through the project site should be fenced on both the sides, leaving a passage for maintenance related activities by the concerned department. No effluent should be discharged into the canal. No water from the canal should be abstracted without permission.	Complied.
iii)	The natural drainage passing through the site should not be disturbed or diverted and no solid waste or liquid effluent should be discharged into the drain.	Complied.
iv)	A statement on carbon budgeting including the quantum of equivalent Co ₂ being emitted by the existing plant operations, the amount of carbon sequestered annually by the existing green belt and the proposed green belt and the quantum of equivalent Co ₂ that will be emitted due to the proposed expansion shall be prepared by the project proponent and submitted to the Ministry and the Regional Office of the Ministry. This shall be prepared every year by the project proponent. The first such budget shall be prepared within a period of 6 months and subsequently it should be prepared every year.	Complied,already submitted vide letter No. SF: Utility :Pollution: 2392 dt. 27.10.2017. Report for current is attached herewith, Annexure-



v)	For the employees working in high temperature zones falling in the plant operation areas, the total shift duration would be 4 hrs or less per day where the temperature is more than 50°C. Moreover, the jobs of these employees will be alternated in such a way that no employee is subjected to working in high temperature area for more than 1 hr continuously. Such employees would be invariably provided with proper protective equipments, garments and gears such as head gear, clothing, gloves, eye protection etc.	Will be complied during operation of expansion project.
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vi)	Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm ³ and installing energy efficient	Will be complied during operation of expansion project.
vii)	Efforts shall further be made to use maximum water from the rain water harvesting sources. Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent should be treated and used for ash handling, dust suppression and green belt development. A revised water balance statement should be submitted by the Project Proponent with the 6 monthly compliance report.	Effort will be made during the operation of expansion project. Treated effluent will be made utilized during operation of expansion project. Revised water balance statement is enclosed as per Annexure-2.
viii)	All the coal fines and char shall be utilized within the plant and no char shall be used for briquette making or disposed off anywhere else. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.	Will be complied during operation of expansion project.
ix)	All internal roads shall be black topped/Concretized/Paver blocked or shall be any other type of pucca road. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.	Will be complied during operation of expansion project.
x)	The Standards issued by the Ministry vide G.S.R. No. 277(E) dated 31st March, 2012 regarding integrated iron and steel plant shall be followed.	Will be complied during operation of expansion project.
xi)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	Will be complied during operation of expansion project.

xii)	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the	Will be complied during operation of expansion project.
xiii)	Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished	Will be complied during operation of expansion project.
xiv)	'Zero' effluent discharge shall be strictly followed and no waste water shall be discharged outside the premises. The calculations to this effect shall be submitted.	Will be complied during operation of expansion project.
xv)	Regular monitoring of in-fluent 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 E(P) Act whichever are more stringent.	Will be complied during operation of expansion project.
xvi)	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office, SPCB and CPCB.	Will be complied during operation of expansion project.
xvii)	A time bound action plan shall be submitted to reduce solid waste generated due to the project related activities, its proper utilization and disposal.	To be complied during execution of expansion Project.
xviii)	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 shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Chennai.	Will be complied during operation of expansion project.



xix)	A Risk and Disaster Management Plan shall be prepared and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.	Already submitted vide letter No.SF:UTI:Pollution : 2374 dtd. 26.07.2017.
xx)	Green belt shall be developed in at least 33% of the project area by planting native and broad leaved species in consultation with local DFO and local communities as per the CPCB guidelines.	Will be complied during operation of expansion project.
xxi)	At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	To be complied during execution of expansion project.
xxii)	The proponent shall prepare a detailed CSR Plan for every year for the next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the annual report of the company.	<p>The Budget for spending under CSR activity for the year 2017-2018 was approved by the Board of Directors of the company at its meeting held on 14th August 2017 of 1,49,63,868/- as per the CSR Policy of the Company.</p> <p>The details of expenditure will be published on the annual report of the Company in the year 2018.</p> <p>As per the Section 135 of the Companies Act 2013 , the amount required to be spent on Corporate Social Responsibility (CSR) activities for the any financial year is derived by formula i. e. it is 2% of the net average profits of the Company for immediately three (3) preceding financial years.</p> <p>As per this clause no. xxii, Require the CSR budget for future 5 years, which at this point of time, i.e. Neither possible nor permitted to be arrived at as this is a future event. However, the same can be furnished on the yearly basis after adoption of Audited Annual Accounts by the boards of Directors of the Company, which may kindly be noted.</p>



xxiii)	<p>The Company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-alia address</p> <p>(i) Standard operating process/procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions,</p> <p>(ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and</p> <p>(iii) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.</p>	<p>Already submitted along with quarterly compliance report vide letter No. SF: UTI: Pollution: 2374 dtd 26.07.2017.</p>
xxiv)	<p>The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.</p>	<p>Will be complied during operation of expansion project.</p>
xxv)	<p>The project proponent shall provide for LED lights in their offices and residential areas.</p>	<p>Complied.</p>
xxvi)	<p>The project proponent shall install bio gas plant for kitchen waste utilization generated in their plant canteen and township (If any). The generated gas shall be utilized in their canteen and manure shall be used in their garden.</p>	<p>Will be complied during operation of expansion project.</p>
xxvii)	<p>Provision shall be made for the housing of construction labours 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.</p>	<p>Complied during execution of expansion project.</p>
xxviii)	<p>Public health center of the factory should be strengthened and also extend medical facilities to the villagers inhabiting surrounding areas. A report in this regard to be submitted along with the 6 monthly compliance report.</p>	<p>Complied during operation of expansion project.</p>

(B)General Conditions-

SN	Conditions	Compliance
i)	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	Noted and complied before commissioning of expansion project.
ii)	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests and Climate Change (MoEF & CC).	Noted
iii)	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10,PM2.5 SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional office at Nagpur and MPCB/CPCB once in six months.	Already Complied for existing project.
iv)	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended form time to time the treated waste water shall be utilized for plantation purpose.	Will be complied during operation of expansion project.
v)	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 should conform to the standards prescribed under EPA Rules, 1989 siz. 75 dBA (daytime) and 70 dBA (night time).	Will be complied during operation of expansion project.
vi)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Will be complied during operation of expansion project.

vii)	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.	Will be complied during operation of expansion project.
viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socioeconomic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	To be complied during execution of expansion project.
ix)	Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Nagpur. The funds so provided shall not be diverted for any other purpose.	To be complied during execution of expansion project.
x)	A copy of 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, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Already submitted along with quarterly compliance report vide letter No. SF: UTI: Pollution: 2374 dtd. 26.07.2017



xi)	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 the MOEFCC at Nagpur. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complied.
xii)	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 MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Nagpur / CPCB / SPCB shall monitor the stipulated conditions.	Complied during execution & operation of expansion project.
xiii)	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 amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Nagpur by e-mail.	Will be complied during operation of expansion project.

xiv)	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at 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 newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Nagpur.	Complied , already submitted along with quarterly compliance report vide letter No. SF: UTI: Pollution: 2374 dtd. 26.07.2017.
xv)	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	To be complied after sanctioned of project. Land Development work started during expansion project.
1.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
2.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
3.	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, Handling and Trans boundary Movement) Rules 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	Noted.

ANNEXURE-1. (A)

STACK EMISSION STATUS

Location :S-3 (BSM)

Stack Identity	S-3 (BSM)
Stack attached to	Reheating Furnace of Bar & Section Mill
Material of construction	Mild Steel
Stack height above ground level	65.0 mtr.
Stack shape at top	Circular
Stack diameter	1.5 mtr
Type of fuel	Furnace Oil & BF Gas

Results of Analysis

Sr. No.	Date of Monitoring	Temp(° C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NO _x (mg/Nm ³)
1.	02.04.2018	312	11.22	71407.28	35657.06	39.8	576	121
2.	09.04.2018	321	10.74	68352.42	33614.47	36.85	482	116
3.	20.04.2018	298	11.41	72616.05	37149.94	41.48	549	118
4.	23.04.2018	302	10.33	65743.07	33399.58	37.09	518	107
5.	04.05.2018	296	9.68	61606.28	31627.99	39.46	549	117
6.	07.05.2018	308	10.03	63833.78	32094.7	34.59	481	102
7.	18.05.2018	318	10.71	68161.05	33690.74	41.05	527	114
8.	21.05.2018	324	10.53	67015.92	32791.59	33.52	502	109
9.	04.06.2018	332	10.36	65934	31835.59	34.83	518	116
10.	11.06.2018	309	10.04	63897.42	32071.5	34.88	492	107
11.	22.06.2018	312	10.77	68543.35	34226.96	38.48	503	114
12.	25.06.2018	322	11.97	76180.05	37401.22	36.8	481	113
13.	06.07.2018	299	9.58	60969.85	31137.09	29.04	473	103
14.	12.07.2018	328	10.07	64088.35	31150.39	35.3	508	116
15.	16.07.2018	312	9.94	63261	31589.23	33.74	481	109
16.	28.07.2018	324	10.17	64724.78	31670.52	36.56	462	107
17.	02.08.2018	334	10.37	65997.64	31761.32	40.73	438	109
18.	10.08.2018	305	9.88	62879.14	31778.81	34.14	416	102



19.	13.08.2018	332	10.84	68988.85	33310.6	40.55	382	83
20.	24.08.2018	318	10.48	66697.71	32967.22	36.96	371	108
21.	28.08.2018	322	10.27	65361.21	32089.43	42.33	374	116
22.	06.09.2018	324	10.65	67779.64	33165.29	39.7	416	112
23.	10.09.2018	319	10.37	65997.64	32566.09	37.3	397	109
24.	18.09.2018	312	9.69	61669.92	30794.73	34.66	402	101
25.	25.09.2018	332	10.23	65106.64	31436.11	40.1	413	108
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 (Part 2)	IS:11255 (Part 7)

Norms: Total Particulate Matter (PM)-100 mg/Nm³. Sulphur Dioxide – 2916 Kg/Day.

STACK EMISSION STATUS

Location:-SMS-Secondary

Stack Identity	SMS-Secondary
Stack attached to	EAF & LHF of Steel Melting Shop through Bag Filters
Material of construction	Mild Steel
Stack height above ground level	36.75 mtr.
Stack shape at top	Circular
Stack diameter	4.3 mtr
Type of fuel	Type of Fuel Electricity & O ₂ is used for melting

Results of Analysis

Sr. No.	Date of Monitoring	Temp (°C)	Velocity of Flue Gas (m/sec)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	05.04.2018	75	10.84	475897.07	41.21
2.	13.04.2018	83	11.57	496530.99	37.69
3.	20.04.2018	87	9.94	421839.15	39.16
4.	27.04.2018	78	9.66	420468.06	36.46
5.	05.05.2018	88	8.9	376656.79	33.89
6.	09.05.2018	82	9.95	428210.91	34.79
7.	17.05.2018	91	10.59	444485.47	37.93
8.	23.05.2018	91	12.58	528010.13	24.02
9.	05.06.2018	86	12.44	529406.09	33.89
10.	12.06.2018	78	11.99	521885.3	25.49
11.	23.06.2018	72	12.25	542475.33	27.67
12.	28.06.2018	75	12.6	553164.5	32.34
13.	03.07.2018	77	11.79	514646.18	31.16
14.	12.07.2018	72	12.07	534504.26	33.27
15.	20.07.2018	82	11.35	488461.69	24.27
16.	27.07.2018	78	11.74	511003.62	27.24
17.	07.08.2018	71	10.3	457448.05	23.13
18.	14.08.2018	84	10.84	463899.67	39.09

19	20.08.2018	78	11.49	500121.95	35.05
20	27.08.2018	74	10.41	458336.3	30.93
21	07.09.2018	81	10.8	466104.71	37.84
22	12.09.2018	86	12.06	513234.52	32.90
23	20.09.2018	78	11.36	432655.54	30.83
24	27.09.2018	83	10.76	461769.53	27.55
Method	IS:11255(Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.

STACK EMISSION STATUS

Location:-Bar Annealing Furnace-1 & 2(S-37)

Stack Identity	Bar Annealing Furnace-1 & 2 (S-37)
Stack attached to	Reheating Furnace
Material of construction	Mild Steel
Stack height above ground level	32.0 mtr.
Stack shape at top	Circular
Stack diameter	0.60 mtr
Type of fuel	Furnace Oil

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NO _x (mg/Nm ³)
1.	10.04.2018	68	3.39	3451.98	2957.14	22.32	47.3	11.6
2.	16.04.2018	65	3.77	3838.93	3317.81	24.42	51.7	12.8
3.	26.04.2018	72	4.18	4256.43	3604	20.43	48.1	11.9
4.	02.05.2018	78	3.22	3278.88	2728.83	21.28	51.9	12.4
5.	15.05.2018	74	3.2	3258.51	2743.14	19.29	46.1	11.6
6.	25.05.2018	81	3.45	3513.08	2898.97	20.33	43.7	9.2
7.	05.06.2018	76	3.21	3268.69	2735.94	18.09	56.2	11.8
8.	22.06.2018	71	3.4	3462.17	2940.01	17.67	52.8	11.4
9.	28.06.2018	64	3.57	3635.28	3151.13	20.76	61.4	12.1
10	02.07.2018	58	3.34	3401.07	3001.55	17.53	52.8	12.4
11	19.07.2018	52	3.1	3156.68	2837.3	19.47	54.2	13.7
12	23.07.2018	55	3.32	3380.07	3010.3	22.69	61.7	16.2
13	09.08.2018	51	3.88	3950.94	3562.16	17.6	47.3	11.2

14	27.08.2018	48	3.29	3350.16	3048.73	16.47	43.9	10.6
15	04.09.2018	55	3.11	3166.86	2820.42	17.72	43.6	12.4
16	15.09.2018	51	3.3	3360.34	3329.68	21.03	47.2	13.1
	Method	IS:11255(P art 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 (Part 1)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 130 Kg/Day.

STACK EMISSION STATUS

Location:-S-2 (CPP-FBC Boiler)

Stack Identity	S-2 (CPP-FBC Boiler)
Stack attached to	FBC Boiler of CPP through ESP
Material of construction	Mild Steel
Stack height above ground level	55 mtr.
Stack shape at top	Circular
Stack diameter	1.6 mtr
Type of fuel	Coal Fines, DRI Ash, ESP Dust

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)
1.	13.04.2018	122	9.31	67415.04	49856.13	40.77	714
2.	21.04.2018	114	8.48	61404.89	46350.12	36.8	682
3.	24.04.2018	117	8.61	62273.82	46644.43	42.03	738
4.	03.05.2018	120	8.35	60463.54	44942.78	35.76	671
5.	07.05.2018	112	8.46	61260.06	46481.03	41.08	703
6.	19.05.2018	120	8.64	62563.47	46503.67	31.3	654
7.	22.05.2018	109	8.23	59594.6	45572.46	39.69	682
8.	07.06.2018	102	8.35	60463.54	47100.03	30.9	712
9.	14.06.2018	110	7.94	57494.67	43851.83	36.59	781
10.	23.06.2018	116	8.2	59377.37	45487.03	34.82	687
11.	30.06.2018	112	8.26	59811.84	45382.18	23.57	604
12.	05.07.2018	105	8.57	64808.22	50083.79	35.58	712
13.	13.07.2018	112	8.74	63287.58	48019.39	38.72	738

14.	20.07.2018	119	8.91	64518.58	48079.24	27.13	681
15.	27.07.2018	109	8.61	62346.24	47676.66	29.51	703
16.	03.08.2018	114	8.08	58508.43	44163.79	28.93	653
17.	11.08.2018	108	8.22	59522.19	45636.55	25.62	617
18.	17.08.2018	112	8.55	61911.77	46975.5	32.04	708
19.	22.08.2018	109	8.03	58146.37	44464.98	34.14	692
20.	29.08.2018	118	8.12	58798.08	43928.39	27.19	603
21.	03.09.2018	114	8.28	59956.66	45256.96	28.27	594
22.	14.09.2018	109	7.83	56698.14	43357.51	36.12	602
23.	20.09.2018	112	7.54	54598.21	41426.35	34.72	571
24.	24.09.2018	117	7.83	56698.14	42468.13	39.04	614
	Method	IS:11255(P art 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 4100 Kg/Day.

STACK EMISSION STATUS

Location:-S-10 (MBF Stoves)

Stack Identity	S-10 (MBF Stoves)
Stack attached to	MBF Gas Fired Hot Blast Burner Stoves
Material of construction	Mild Steel
Stack height above ground level	45.0 mtr.
Stack shape at top	Circular
Stack diameter	2.0 mtr
Type of fuel	MBF Cleaned Gas & Coke

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NOx (mg/Nm ³)
1.	07.04.2018	136	12.47	141089.14	100769.52	38.51	671.8	216.9
2.	10.04.2018	141	12.89	145162.28	102426.51	41.29	702.4	239.1
3.	18.04.2018	138	11.93	134979.42	95936.67	36.93	681.2	241.7
4.	24.04.2018	148	9.8	110880	76936.08	34.72	627.8	194.6
5.	09.05.2018	142	13.04	147538.28	103852.16	35.02	703.8	231.7



6.	18.05.2018	148	12.07	136563.42	94756.99	33.48	671.2	216.4
7.	23.05.2018	197	13.51	152856	95004.36	24.75	684.7	221.9
8.	30.05.2018	152	13.79	156024	107241.14	31.23	693.1	204.6
9.	06.06.2018	145	13.62	154100.57	107692.85	31.14	673.1	218.3
10.	14.06.2018	134	12.64	143012.57	102645.22	36.33	701.9	231.7
11.	25.06.2018	142	10.51	118913.14	83702.93	34.61	681.4	204.6
12.	05.07.2018	138	12.98	146859.42	104380.39	30.39	716	204
13.	09.07.2018	122	11.91	134753.14	99655.37	32.38	693	187
14.	25.07.2018	134	12.02	135997.71	97610.4	36.76	708	192
15.	07.08.2018	156	11.89	134526.85	91603.19	25.14	673	216
16.	17.08.2018	138	11.93	134979.42	95936.67	31.41	682	239
17.	20.08.2018	142	11.23	127059.42	89437.1	27.05	649	204
18.	07.09.2018	152	12.71	143804.57	98842.26	34.26	701	239
19.	12.09.2018	139	12.37	139957.71	99233.55	30.89	694	218
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 (Part 2)	IS:11255 (Part 7)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.
Sulphur Dioxide – 1620 Kg/Day.

STACK EMISSION STATUS

Location:-S-23 (Sinter Plant)

Stack Identity	S-23 (Sinter Plant)
Stack attached to	Head ESP at Sinter Plant
Material of construction	Mild Steel
Stack height above ground level	50.0 mtr.
Stack shape at top	Circular
Stack diameter	3.0 mtr
Type of fuel	Coke Breeze/Fines

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NO _x (mg/Nm ³)
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1.	06.04.2018	131	11.97	304722	220333.93	49.92	231.7	31.9
2.	11.04.2018	124	9.77	248716.28	183009.08	47.97	216.4	27.3
3.	19.04.2018	121	11.39	289956.85	214979.02	49.5	228.3	28.7
4.	25.04.2018	127	10.72	272900.57	199298.2	48.2	187.6	21.8
5.	10.05.2018	122	10.88	276973.71	204833.22	46.16	204.7	23.8
6.	16.05.2018	134	10.24	260681.14	187100.15	48.97	194.2	18.7
7.	24.05.2018	128	9.82	249989.14	182110.8	44.16	181.6	21.4
8.	29.05.2018	117	9.43	240060.85	179810.76	41.01	183.8	19.2
9.	08.06.2018	120	9.46	240824.57	179005.83	42.34	167.2	21.9
10.	13.06.2018	118	9.87	246934.28	184486.06	44.74	172.1	24.7
11.	21.06.2018	124	9.63	245152.28	180386.64	45.37	161.9	18.3
12.	27.06.2018	119	10.29	261954	195208.13	40.73	154.3	16.8
13.	04.07.2018	122	10.49	267045.42	197490.85	44.08	162.7	17.3
14.	11.07.2018	118	10.28	261699.42	195517.19	41.72	152.6	16.8
15.	17.07.2018	132	9.7	246934.28	178108.77	51.88	184.2	21.6
16.	26.07.2018	138	11.63	296066.57	210429.43	46.04	167.3	16.2
17.	06.08.2018	126	11.01	280283.14	205202.67	51.81	153.9	16.2
18.	16.08.2018	117	11.26	286647.42	214705.1	47.86	137.2	13.8
19.	21.08.2018	123	10.26	261190.28	192672.96	50.36	141.6	14.7
20.	05.09.2018	120	10.31	262463.14	195089.86	44.02	162.4	17.3
21.	13.09.2018	136	9.92	252534.85	180366.94	45.32	168.9	18.1
22.	19.09.2018	120	9.38	238788	177492.04	47.88	171.3	17.2
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 5 (Part 2)	IS:11255 (Part 7)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.
Sulphur Dioxide – 272 Kg/Day.

STACK EMISSION STATUS

Location:-S-24 (Sinter Plant)

Stack Identity	S-24 (Sinter Plant)
Stack attached to	Tail ESP at Sinter Plant
Material of construction	Mild Steel
Stack height above ground level	40.0 mtr.
Stack shape at top	Circular
Stack diameter	2.376 mtr
Type of fuel	Coke Breeze/Fines

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NO _x (mg/Nm ³)
1.	06.04.2018	146	10.96	175602.87	122426.8	70.54	51.9	13.8
2.	11.04.2018	142	11.31	181210.62	127554.12	73.11	54.7	16.1
3.	19.04.2018	141	10.49	168072.45	118591.92	77.48	61.4	18.3
4.	25.04.2018	138	9.12	146122.09	103856.33	69.75	56.1	16.7
5.	10.05.2018	147	10.05	161022.7	111994.52	72.17	46.1	12.7
6.	16.05.2018	144	8.8	140995	98770.35	64.46	42.9	11.8
7.	24.05.2018	137	8.82	141315.45	100684.99	68.56	51.2	14.3
8.	29.05.2018	141	8.36	133945.25	94511.77	60.39	47.3	12.6
9.	08.06.2018	139	8.23	131862.37	93493.75	65.94	41.7	11.6
10.	13.06.2018	141	8.87	142116.55	100277.44	72.79	46.1	12.8
11.	21.06.2018	137	8.72	139713.23	99543.43	75.23	51.6	14.3
12.	27.06.2018	134	8.49	136028.13	97632.24	63.77	43.8	11.9
13.	04.07.2018	138	8.33	133464.59	94860.01	68.14	37.4	12.1
14.	11.07.2018	142	8.47	135707.69	95524.61	71.84	41.2	13.7
15.	17.07.2018	133	8.28	132663.48	95451.83	74.57	43.6	12.8
16.	26.07.2018	146	10.55	169033.78	120219.72	65.84	36.1	12.4
17.	06.08.2018	143	9.18	147083.42	103283.11	56.3	31.7	11.6

18.	16.08.2018	152	12.49	200116.77	137547.75	68.89	34.8	13.9
19.	21.08.2018	138	9.22	147724.31	104995.11	71.51	36.4	14.8
20.	05.09.2018	143	8.48	135867.91	95407.49	52.9	28.6	11.7
21.	13.09.2018	138	9.03	144680.1	102831.44	67.22	31.7	12.4
22.	19.09.2018	134	8.18	131061.26	94067.34	64.41	29.1	11.8
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 5 (Part 2)	IS:11255 (Part 7)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 92 Kg/Day.

STACK EMISSION STATUS

Location:-S-1A (ASM)

Stack Identity	S-1A (ASM)
Stack attached to	Reheating Furnace of Alloy Steel Mill
Material of construction	Mild Steel
Stack height above ground level	30.0 mtr.
Stack shape at top	Circular
Stack diameter	1.1 mtr
Type of fuel	Furnace Oil & BF Gas

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NO _x (mg/Nm ³)
1.	05.04.2018	278	7.31	25018.99	13264.07	38.63	304.7	112.8
2.	12.04.2018	283	5.52	18892.59	9926.03	36.19	281.6	104.7
3.	16.04.2018	302	5.83	19953.59	10137.06	35.4	264.1	101.4
4.	26.04.2018	309	6.46	22109.81	11097.39	40.21	294.7	118.3
5.	03.05.2018	274	5.88	20124.72	10747.35	38.52	281.6	104.7
6.	08.05.2018	292	4.63	15846.5	8193.01	30.07	249.2	86.4
7.	15.05.2018	315	5.45	18653.01	9266.81	31.42	271.8	101.2
8.	22.05.2018	307	4.69	16051.86	8084.55	35.27	301.4	108.6
9.	04.06.2018	289	5.33	18242.3	9482.04	30.03	294.7	112.8



10.	11.06.2018	291	5.97	20432.75	10582.94	33.87	303.8	104.7
11.	20.06.2018	278	5.06	17318.21	9181.43	27.68	281.4	102.4
12.	26.06.2018	284	5.31	18173.85	9531.26	36.26	291.6	114.3
13.	03.07.2018	276	4.56	15606.92	8304.31	28.96	304.76	116.2
14.	13.07.2018	284	5.08	17386.66	9118.42	32.08	317.29	121.4
15.	19.07.2018	294	5.58	19097.94	9839.25	35.19	312.52	118.7
16.	25.07.2018	302	5.16	17660.46	8972.07	34.91	291.68	104.3
17.	02.08.2018	287	4.86	16633.69	8676.79	32.47	318	112
18.	10.08.2018	297	5.37	18379.2	9419.12	23.08	276	104
19.	14.08.2018	301	4.92	16839.05	8569.68	28.32	307	109
20.	23.08.2018	292	5.12	17523.56	9060.09	34.97	312	108
21.	06.09.2018	297	4.65	15914.95	8156.22	37.12	297	104
22.	14.09.2018	302	5.16	17660.46	8972.07	38.31	301	107
23.	21.09.2018	296	5.59	19132.17	9822.24	26.87	284	93
24.	27.09.2018	310	4.7	16086.08	8060.1	32.02	291	102
Method	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 5 (Part 2)	IS:11255 (Part 7)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.
Sulphur Dioxide – 720 Kg/Day.

STACK EMISSION STATUS

Location:-S-34 (Reheating Furnace-3)

Stack Identity	S-34 (Reheating Furnace-3)
Stack attached to	Reheating Furnace Blooming Mill
Material of construction	Mild Steel
Stack height above ground level	70.0 mtr.
Stack shape at top	Circular
Stack diameter	2.0 mtr
Type of fuel	Furnace Oil

Sr. No.	Date of Monitoring	Temp (°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NOx (mg/Nm ³)
1.	09.04.2018	312	10.77	121854.85	60847.94	42.64	817	139
2.	18.04.2018	331	11.18	126493.71	61177.38	39.1	761	124
3.	23.04.2018	317	10.35	117102.85	57979.49	38.1	749	121
4.	08.05.2018	305	10.12	114500.57	57868.03	35.94	864	139
5.	17.05.2018	321	10.86	122873.14	60426.78	37.34	903	143
6.	21.05.2018	334	10.74	121515.42	58479.23	39.98	871	127
7.	30.05.2018	316	10.81	122307.42	60659.16	36.1	857	131
8.	06.06.2018	312	10.89	123212.57	61525.91	37.8	793	124
9.	12.06.2018	326	10.43	118008	57549.76	34.26	682	116
10.	20.06.2018	321	10.72	121289.14	59647.79	30.32	716	108
11.	26.06.2018	332	10.48	118573.71	57252.17	33.36	703	112
12.	02.07.2018	307	10.5	118800	59833.91	27.39	642	117
13.	09.07.2018	321	11.08	125362.28	61650.89	34.62	703	124
14.	19.07.2018	311	9.42	106580.57	53311.89	32.05	659	118
15.	23.07.2018	327	9.81	110993.14	54038.56	29.14	653	121
16.	01.08.2018	322	10.15	114840	56381.31	44.89	716	117
17.	09.08.2018	318	10.36	117216	57937.31	38.29	652	106
18.	13.08.2018	302	9.73	110088	55928.23	36.81	628	102
19.	22.08.2018	312	10.06	113821.71	56836.61	38.33	694	113
20.	30.08.2018	332	9.45	106920	51625.29	36.56	703	108
21.	04.09.2018	324	10.53	119139.42	58589.76	42.34	683	109
22.	10.09.2018	327	10.31	116650.28	56792.82	42.51	659	87
23.	18.09.2018	322	10.63	120270.85	59047.61	40.6	581	81
24.	25.09.2018	318	10.24	115858.28	57266.22	44.17	617	102
Method		IS:11255	IS:11255	IS:11255	IS:11255	IS:11255	IS:1125	IS:11255

	(Part 3)	(Part 3)	(Part 3)	(Part 3)	(Part 1)	5 (Part 2)	(Part 7)
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Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 5490 Kg/Day.

STACK EMISSION STATUS

Location:-DRP-2 Main

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)	SO ₂ (kg/day)	NOx (mg/Nm ³)
1.	03.04.2018	157	11.43	253471.68	172194.76	45.81	649	76.2
2.	28.04.2018	161	9.38	208010.28	140008.77	42.85	627	61.8
3.	23.05.2018	184	9.21	204240.96	130552.61	36.63	701	82.9
4.	09.06.2018	147	9.79	217103.04	150999.51	43.27	584	47.9
5.	29.06.2018	143	9.18	203575.68	142952.41	37.56	527	41.6
6.	07.07.2018	139	8.75	194040	137579.26	44.42	539	41.6
7.	04.08.2018	156	10.34	229299.84	156136.84	37.77	482	27.9
8.	08.09.2018	170	8.97	198918.72	131168.89	46.69	502	31.7
9.	24.09.2018	159	8.96	198696.96	134358.89	45.49	481	27.4
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)	IS:11255 5 (Part 2)	IS:11255 (Part 7)

Norms: **Total Particulate Matter (PM)- 50 mg/Nm³.**
Sulphur Dioxide – 4520 Kg/Day.

STACK EMISSION STATUS

Location:-Flux Screening (Sinter Plant)

Stack Identity	V.D.Boiler
Stack diameter	0.6 meter

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 600 Kg/Day.

STACK EMISSION STATUS

Location:-Flux Screening (Sinter Plant)

Stack Identity	Boiler House (MBF)
Stack diameter	0.8 mtr

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 540 Kg/Day.

STACK EMISSION STATUS

Location:-Flux Screening (Sinter Plant)

Stack Identity	Boiler House (Utility)
Stack diameter	0.8 mtr

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**
Sulphur Dioxide – 157 Kg/Day.

STACK EMISSION STATUS

Location:- Flux Screening (Sinter Plant)

Stack Identity	Flux Screening (Sinter Plant)
Stack diameter	1.1 meter

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	14.04.2018	38	6.06	20740.78	19481.55	29.6
2.	12.05.2018	40	6.4	21904.45	20443.1	25.49
3.	16.06.2018	36	6.15	21048.81	19898.85	25.52
4.	21.07.2018	29	4.79	16394.11	15857.69	22.62
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.

STACK EMISSION STATUS

Location:-Flux Crusher Sinter Plant

Stack Identity	Flux Crusher Sinter Plant
Stack diameter	1.1 mtr

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	14.04.2018	36	3.42	11705.19	11065.7	23.2
2.	12.05.2018	38	4.28	14648.6	13759.24	20.34
3.	16.06.2018	34	4.41	15093.54	14361.89	20.49
4.	21.07.2018	27	3.37	11534.06	11231.04	18.4
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: Total Particulate Matter (PM)-100 mg/Nm³.

STACK EMISSION STATUS

Location:-Product House (DRP-2)

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	03.04.2018	41	16.44	56267.07	52346.01	38.25
2.	27.04.2018	42	16.87	57738.78	53544.63	42.76
3.	26.05.2018	42	13.04	44630.33	41388.38	37
4.	09.06.2018	35	16.08	55034.94	52197.14	40.43
5.	29.06.2018	33	17.79	60887.54	58125.39	33.59
6.	29.08.2018	36	17.36	59415.84	56169.77	40.1
7.	22.09.2018	40	17.47	59792.32	55803.31	43.54
8.	28.09.2018	38	16.68	57088.49	53622.5	45.08
	Method	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**

STACK EMISSION STATUS

Location: -Charbin (DRP-2)

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	21.04.2018	40	7.27	7402.93	6909.04	40.23
2.	31.05.2018	44	7.67	7810.25	7197.21	28
3.	15.06.2018	38	7.24	7382.57	6934.35	29.25
4.	30.06.2018	36	6.66	6781.78	6411.27	23.8
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³**

STACK EMISSION STATUS

Location: -Coal Crusher (DRP-2)

Results of Analysis

Sr. No.	Date of Monitoring	Temp(°C)	Velocity of Flue Gas (m/sec)	Total Gas Quantity (m ³ /h)	Volume of Flue Gas (Nm ³ /hr)	Total Particulate Matter (PM) (mg/Nm ³)
1.	04.04.2018	43	8.08	38624.7	35705.65	40.29
Method		IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 3)	IS:11255 (Part 1)

Norms: **Total Particulate Matter (PM)-100 mg/Nm³.**



ANNEXURE - 1 (B)

AMBIENT AIR QUALITY STATUS
1.0 Location:- A - 1 (Eklari Gate)

Sr. No.	Month	Date of Monitoring	PM ₁₀	PM _{2.5}	SO ₂	NO _x
			µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	April--18	02.04.2018	83.1	28.4	11.6	27.4
2		03.04.2018	86.3	31.9	12.8	28.7
3		09.04.2018	76.2	26.8	9.4	24.9
4		10.04.2018	81.7	32.4	12.1	31.6
5		16.04.2018	76.1	28.2	9.7	26.4
6		18.04.2018	64.3	23.8	9.1	21.6
7		23.04.2018	76.8	29.6	12.4	28.3
8		24.04.2018	81.9	32.4	12.8	31.6
9	May--18	02.05.2018	64.9	18.2	9.2	24.8
10		03.05.2018	71.6	21.8	11.4	26.1
11		07.05.2018	73.9	27.2	8.3	26.4
12		08.05.2018	81.6	31.9	11.8	31.2
13		14.05.2018	76.2	28.4	9.1	28.7
14		15.05.2018	79.3	27.3	9.4	28.1
15		21.05.2018	74.7	24.8	8.3	24.6
16		22.05.2018	81.6	28.9	11.8	27.3
17		29.05.2018	76.2	26.4	9.7	23.8
18		30.05.2018	79.4	28.7	11.6	24.9
19	Jun--18	04.06.2018	75.2	24.7	11.3	28.1
20		05.06.2018	81.4	28.4	11.9	31.8



21		11.06.2018	73.1	23.9	9.4	27.3
22		12.06.2018	68.3	19.7	8.3	28.6
23		18.06.2018	71.6	26.4	11.7	31.9
24		19.06.2018	67.2	24.9	9.8	26.4
25		25.06.2018	64.9	23.6	7.3	21.8
26		26.06.2018	58.3	18.3	7.1	19.6
27	July--18	02.07.2018	78.5	26.7	12.8	31.9
28		03.07.2018	82.4	31.6	13.4	34.7
29		09.07.2018	71.9	28.1	8.2	26.8
30		10.07.2018	76.3	24.7	9.3	24.1
31		16.07.2018	82.7	32.9	11.7	31.4
32		17.07.2018	73.9	28.1	8.6	24.6
33		23.07.2018	79.2	31.8	11.4	28.9
34		24.07.2018	81.6	29.3	9.2	26.1
35	Aug--18	01.08.2018	87.3	31.1	14.2	32.9
36		02.08.2018	82.1	28.4	11.6	26.7
37		06.08.2018	67.1	29.2	9.3	21.4
38		07.08.2018	72.6	33.4	9.7	23.8
39		13.08.2018	84.5	36.2	12.1	32.4
40		14.08.2018	78.2	33.4	9.3	26.1
41		20.08.2018	72.2	20.8	11.2	27.4
42		21.08.2018	81.7	29.2	8.4	21.9
43	27.08.2018	80.1	35.7	9.7	26.8	
44	28.08.2018	77.5	33.2	8.1	18.4	
45	Sept--18	03.09.2018	78.4	37.5	13.8	31.6
46		04.09.2018	87.2	25.2	9.4	28.1



47		10.09.2018	77.3	19.2	8.3	16.4
48		11.09.2018	79.1	20.2	9.1	18.6
49		17.09.2018	86.8	29.1	11.7	31.4
50		18.09.2018	89.1	31.2	9.4	27.3
51		24.09.2018	85.9	30.2	9.8	26.7
52		25.09.2018	87.8	31.6	11.3	32.4

• All Concentrations are in microgram per cubic meter

2.0 Location :- Pump House (Near Water Reservoir (A-2)

Sr. No.	Month	Date of Monitoring	PM ₁₀	PM _{2.5}	SO ₂	NO _x
			µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	April--18	03.04.2018	79.3	34.8	12.6	24.7
2		04.04.2018	83.9	31.6	9.4	21.4
3		10.04.2018	73.6	28.1	8.3	18.2
4		11.04.2018	64.8	24.7	8.7	19.3
5		18.04.2018	68.3	24.9	9.1	21.8
6		19.04.2018	71.6	31.8	11.3	23.6
7		24.04.2018	67.3	28.1	9.7	19.3
8		25.04.2018	72.8	29.4	11.2	21.8
9	May--18	02.05.2018	61.9	22.8	8.1	21.6



10		03.05.2018	58.2	19.6	7.6	17.2
11		08.05.2018	76.1	31.8	11.3	23.9
12		09.05.2018	72.4	24.6	9.1	17.2
13		15.05.2018	67.3	21.4	8.3	16.8
14		16.05.2018	63.9	19.6	8.1	16.4
15		22.05.2018	59.2	18.7	7.6	17.1
16		23.05.2018	64.8	23.4	8.7	21.9
17		29.05.2018	67.1	24.9	8.3	23.6
18		30.05.2018	71.3	26.1	9.2	24.8
19	Jun--18	05.06.2018	62.7	21.9	7.6	18.4
20		06.06.2018	57.3	18.3	6.9	16.2
21		12.06.2018	61.4	23.8	9.3	21.6
22		13.06.2018	62.7	24.6	8.4	19.3
23		19.06.2018	64.3	27.1	9.7	23.8
24		20.06.2018	57.1	18.9	8.6	18.4
25		26.06.2018	54.9	16.3	8.2	16.9
26		27.06.2018	47.3	14.8	7.3	16.2
27	July--18	03.07.2018	67.2	18.4	8.2	17.9
28		04.07.2018	71.6	23.8	9.4	18.4
29		10.07.2018	64.3	21.6	8.7	17.3
30		11.07.2018	68.1	26.4	11.3	24.7
31		17.07.2018	61.9	24.8	9.4	21.6
32		18.07.2018	54.3	17.1	7.9	17.3
33		24.07.2018	56.2	19.4	8.3	18.1
34		25.07.2018	52.7	16.3	6.8	16.7
35	Aug--18	01.08.2018	78.6	26.2	9.3	18.3



36		02.08.2018	89.3	32.8	11.2	21.7	
37		07.08.2018	79.2	37.5	8.4	16.3	
38		08.08.2018	69.1	33.5	7.1	16.8	
39		13.08.2018	77.6	29.3	8.2	21.9	
40		14.08.2018	80.2	37.6	7.9	18.3	
41		21.08.2018	68.7	20.9	6.8	17.4	
42		22.08.2018	72.2	25.1	7.3	21.1	
43		27.08.2018	82.7	29.2	6.7	18.9	
44		28.08.2018	78.2	25.1	6.4	17.3	
45		Sept--18	04.09.2018	81.6	20.9	8.2	17.6
46			05.09.2018	87	25.1	9.3	18.4
47			11.09.2018	84.6	25.2	9.7	21.6
48			12.09.2018	87.1	29.1	8.4	17.3
49			18.09.2018	79.2	20.3	7.3	18.4
50	19.09.2018		76.4	31.6	8.1	16.8	
51	25.09.2018		79.8	29.3	7.8	21.2	
52	26.09.2018		80.6	30.6	8.4	23.9	
NAAQM Standard			100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80(24 hrs)	

● All Concentrations are in microgram per cubic meter

3.1 Location : STP (A-3)

Sr. No.	Month	Date of Monitoring	PM ₁₀	PM _{2.5}	SO ₂	NO _x
			µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	April--18	04.04.2018	74.2	16.1	8.7	17.3
2		05.04.2018	81.9	19.6	9.1	21.6



3		11.04.2018	73.4	21.7	8.4	18.4
4		12.04.2018	64.2	18.3	7.3	19.2
5		18.04.2018	68.7	19.8	8.1	21.7
6		19.04.2018	71.6	22.3	7.9	19.8
7		25.04.2018	64.3	21.6	8.4	18.3
8		26.04.2018	67.2	19.1	8.2	19.6
9	May--18	03.05.2018	57.1	18.2	6.8	17.6
10		04.05.2018	61.9	21.6	7.3	18.4
11		09.05.2018	64.3	18.4	7.3	17.8
12		10.05.2018	67.1	19.2	7.1	18.6
13		16.05.2018	71.6	21.9	8.3	17.4
14		17.05.2018	68.3	23.8	7.9	21.7
15		23.05.2018	73.9	24.3	8.7	23.6
16		24.05.2018	67.1	18.2	6.8	16.3
17		29.05.2018	71.7	21.6	8.4	21.9
18		30.05.2018	68.3	19.7	6.3	18.2
19	Jun--18	06.06.2018	58.7	17.6	7.1	18.4
20		07.06.2018	62.8	23.9	8.4	21.6
21		13.06.2018	56.3	18.4	7.3	19.3
22		14.06.2018	54.7	16.8	7.1	18.2
23		20.06.2018	61.9	23.1	8.6	21.8
24		21.06.2018	58.3	21.7	7.9	19.7
25		27.06.2018	56.2	18.4	7.2	18.4
26		28.06.2018	52.9	17.6	6.4	18.2
27	July--18	04.07.2018	54.9	18.2	8.1	21.6
28		05.07.2018	57.3	21.6	9.2	23.8



29		11.07.2018	61.4	23.8	9.7	24.1
30		12.07.2018	58.2	19.4	8.6	17.9
31		18.07.2018	52.7	21.3	8.2	16.4
32		19.07.2018	48.3	18.6	7.3	17.2
33		25.07.2018	53.9	19.1	7.6	16.8
34		26.07.2018	47.2	16.2	6.8	16.4
35	Aug--18	02.08.2018	56.6	20.9	6.8	18.2
36		03.08.2018	61.7	25.1	7.1	19.3
37		08.08.2018	75.5	25.1	6.4	16.9
38		09.08.2018	68.8	20.9	7.2	21.4
39		16.08.2018	71.2	20.9	9.3	23.8
40		17.08.2018	62.2	16.8	6.7	19.3
41		22.08.2018	68.9	16.8	8.1	17.2
42		23.08.2018	78.9	20.9	8.4	19.8
43		29.08.2018	69.4	20.1	7.3	16.4
44		30.08.2018	75	16.8	6.8	21.2
45	Sept--18	05.09.2018	86.6	16.7	7.1	17.3
46		06.09.2018	73.3	25.1	8.4	18.6
47		12.09.2018	64.4	20.9	7.3	17.8
48		13.09.2018	59.2	25.1	6.8	16.2
49		19.09.2018	54.5	20.9	7.6	17.1
50		20.09.2018	56.7	25.1	8.4	21.8
51		26.09.2018	59.9	20.9	7.2	18.6
52		27.09.2018	65.6	25	8.1	21.4
NAAQM Standard			100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80(24 hrs)

● All Concentrations are in micro gram per cubic meter.



4. Location : Guest House (A-4)

Sr. No.	Month	Date of Monitoring	PM ₁₀	PM _{2.5}	SO ₂	NO _x
			µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	April--18	05.04.2018	73.8	23.6	11.6	27.9
2		06.04.2018	67.3	18.2	8.4	21.6
3		12.04.2018	69.2	21.8	11.7	24.8
4		13.04.2018	71.9	24.7	9.3	26.1
5		19.04.2018	63.8	26.1	8.2	19.4
6		20.04.2018	57.3	23.8	8.7	21.9
7		26.04.2018	67.1	24.7	11.2	23.7
8		27.04.2018	71.4	26.3	11.8	24.1
9	May--18	03.05.2018	54.7	16.2	8.1	21.7
10		04.05.2018	57.3	17.9	8.7	24.6
11		10.05.2018	67.3	18.3	9.8	23.7
12		11.05.2018	72.8	23.6	8.4	24.9
13		17.05.2018	68.1	17.2	8.7	19.4
14		18.05.2018	64.3	18.1	9.1	21.8
15		24.05.2018	71.6	23.8	11.4	24.9
16		25.05.2018	67.2	21.9	9.8	17.3
17		29.05.2018	62.8	19.3	7.9	16.4
18		30.05.2018	59.7	21.4	8.2	18.1
19	Jun--18	07.06.2018	56.2	18.4	7.9	23.8
20		08.06.2018	62.7	23.8	9.4	26.4
21		14.06.2018	54.6	16.9	7.3	18.2
22		15.06.2018	48.3	16.2	6.8	17.3

23		21.06.2018	56.2	21.8	7.4	23.9
24		22.06.2018	54.7	19.3	6.3	18.4
25		28.06.2018	56.1	18.7	7.1	21.6
26		29.06.2018	61.4	21.6	7.6	19.7
27	July--18	05.07.2018	62.1	24.7	8.6	26.1
28		06.07.2018	59.3	21.8	7.2	24.8
29		12.07.2018	61.9	26.1	8.4	23.7
30		13.07.2018	58.2	18.7	7.3	19.6
31		19.07.2018	54.7	17.6	7.1	18.4
32		20.07.2018	61.8	23.7	9.4	21.8
33		26.07.2018	58.3	21.9	7.9	19.3
34		27.07.2018	56.2	17.4	7.2	16.4
35	Aug--18	02.08.2018	67.1	33.5	9.2	28.2
36		03.08.2018	59.3	21.8	6.8	23.9
37		09.08.2018	86.8	29.2	6.4	21.7
38		10.08.2018	82.1	25.1	7.1	24.6
39		16.08.2018	72.7	29.2	8.3	24.1
40		17.08.2018	70.5	33.4	7.4	26.7
41		23.08.2018	57.4	25	8.1	17.3
42		24.08.2018	70.6	29.2	7.2	16.9
43		29.08.2018	78.7	20.8	8.3	18.6
44		30.08.2018	81.2	25.1	8.1	16.4
45	Sept--18	06.09.2018	70.1	39.3	11.6	31.8
46		07.09.2018	73.6	37.5	9.4	28.1
47		13.09.2018	78.6	37.6	11.2	29.4
48		14.09.2018	59	33.2	8.7	21.8



49		20.09.2018	79.6	33.4	9.1	26.7
50		21.09.2018	75.2	29.1	8.4	28.3
51		27.09.2018	78.2	27.2	9.3	21.6
52		28.09.2018	79.1	31.2	8.1	18.7
NAAQM Standard			100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80(24 hrs)

- All Concentrations are in microgram per cubic meter

ANNEXURE-1. (C)

Ambient Noise Quality Status

April-2018		Hourly Average Noise Level dB (A)							
Sr No.	Location	1 st		2 nd		3 rd		4 th	
		07.04.2018		14.04.2018		21.04.2018		28.04.2018	
		Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
1.	N-1 (Eklari Gate)	64.3	57.1	57.2	48.3	68.1	57.2	71.2	58.1
2.	N-2 (Pump House-2) Near Water Reservoir	58.2	41.9	51.9	43.7	56.3	42.8	62.7	51.9
3.	N-3 (STP)	51.7	42.8	48.1	37.9	53.9	41.6	56.3	43.7
4.	N-4 (Guest House)	62.9	54.3	56.3	48.1	64.7	53.1	64.8	52.4
Norms		75	70	75	70	75	70	75	70

May-2018		Hourly Average Noise Level dB (A)							
Sr No.	Location	1 st		2 nd		3 rd		4 th	
		05.05.2018		12.05.2018		19.05.2018		26.05.2018	

		Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
1.	N-1 (Eklari Gate)	61.4	52.6	61.9	53.9	64.7	58.3	68.4	56.3
2.	N-2 (Pump House-2) Near Water Reservoir	57.3	46.2	57.3	42.8	53.9	41.7	57.2	53.9
3.	N-3 (STP)	53.1	41.6	53.6	38.4	48.3	37.2	52.7	46.2
4.	N-4 (Guest House)	58.7	48.3	58.7	46.1	56.1	49.3	62.8	51.4
Norms		75	70	75	70	75	70	75	70

Location	Hourly Average Noise Level dB (A)							
	1 st		2 nd		3 rd		4 th	
	09.06.2018		16.06.2018		23.06.2018		30.06.2018	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
N-1 (Eklari Gate)	62.7	54.9	57.3	48.2	61.4	56.2	59.6	46.2
N-2 (Pump House-2) Near Water Reservoir	56.3	47.2	51.9	41.7	53.9	42.8	52.7	42.8
N-3 (STP)	54.6	42.6	48.2	37.9	47.3	41.6	46.9	38.6
N-4 (Guest House)	61.4	52.8	56.1	42.1	54.7	43.8	58.4	41.9
Norms	75	70	75	70	75	70	75	70

Location	Hourly Average Noise Level dB (A)							
	1 st		2 nd		3 rd		4 th	
	07.07.2018		14.07.2018		21.07.2018		28.07.2018	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
N-1 (Eklari Gate)	61.4	52.8	58.1	47.3	57.6	46.2	64.8	56.1
N-2 (Pump House-2) Near Water Reservoir	54.9	43.7	52.9	43.8	54.7	43.9	53.9	43.8



N-3 (STP)	51.7	41.2	46.3	38.1	48.3	38.1	48.2	38.4
N-4 (Guest House)	63.4	56.1	61.7	52.4	61.9	53.6	61.3	52.7
Norms	75	70	75	70	75	70	75	70

Location	August-2018							
	Hourly Average Noise Level dB (A)							
	1 st 04.08.2018		2 nd 11.08.2018		3 rd 18.08.2018		4 th 25.08.2018	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
N-1 (Eklari Gate)	57.2	46.1	62.7	53.9	58.4	42.7	64.8	56.9
N-2 (Pump House-2) Near Water Reservoir	61.4	52.9	58.3	43.7	56.1	47.3	57.3	47.1
N-3 (STP)	51.3	38.2	47.1	36.4	46.3	39.2	51.9	42.8
N-4 (Guest House)	56.7	43.8	54.8	41.6	53.6	42.9	61.7	56.2
Norms	75	70	75	70	75	70	75	70

Location	September-2018							
	Hourly Average Noise Level dB (A)							
	1 st 08.09.2018		2 nd 15.09.2018		3 rd 22.09.2018		4 th 29.09.2018	
	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time
N-1 (Eklari Gate)	56.3	43.9	64.7	54.2	62.9	53.8	63.9	57.2
N-2 (Pump House-2) Near Water Reservoir	62.7	54.8	57.3	41.6	57.1	48.3	58.3	48.6
N-3 (STP)	53.6	37.1	48.2	36.1	51.7	38.2	52.7	41.8
N-4 (Guest House)	61.9	46.2	53.9	42.7	61.4	51.6	62.1	54.3
Norms	75	70	75	70	75	70	75	70

ANNEXURE-1. (D)

FUGITIVE DUST EMISSION MONITORING STATUS

Sr. No.	LOCATION	Month	SPM ($\mu\text{g}/\text{m}^3$)
1.	Sinter Plant (Near Main Control Room Building)	April- 2018	1294
		May- 2018	1382
		June – 2018	1164
		July – 2018	1193
		August- 2018	1256
		September – 2018	1394
2.	Raw Material Handling Area (Near Transfer Point)	April- 2018	927
		May- 2018	1059
		June – 2018	927
		July – 2018	852
		August- 2018	916
		September – 2018	1052
3.	DRP-2 (Near Coal Circuit Area)	April- 2018	653
		May- 2018	718
		June – 2018	659
		July – 2018	1296
		August- 2018	607
		September – 2018	1273
4.	Raw Material Feed Area (Near Mixing Area)	April- 2018	814
		May- 2018	793
		June – 2018	804
		July – 2018	761



		August– 2018	816
		September – 2018	938
5.	SMS (Near Ladle Heating Furnace)	April– 2018	671
		May– 2018	684
		June – 2018	637
		July – 2018	718
		August– 2018	671
		September – 2018	617
6.	MBF (Near Mini Blast Furnace)	April– 2018	608
		May– 2018	571
		June – 2018	549
		July – 2018	527
		August– 2018	549
		September – 2018	653
Norms			2000

Annexure- 1.(E)

TREATED EFFLUENT QUALITY STATUS

1. Location : E-2 STP Outlet

Sr. No.	Test Parameter	Measurement Unit	Test Results						Limit as per Consent Conditions
			Apr-18	May-18	June-18	July-18	Aug-18	Sept-18	
1.	Total Suspended Solids	mg/l	< 10	< 10	< 10	< 10	< 10	< 10	50
2.	Biochemical oxygen demand(BOD at 27°C for 3 days)	mg/l	5.1	4.2	3.7	4.1	4.8	5.3	30

3.	Chemical oxygen demand (COD)	mg/l	14.8	12.6	11.4	12.6	13.1	14.8	100
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1.1 Location : E-1.2 (Wastewater Tank) In Front of Raw Water Treatment Plant

Sr. No.	Test Parameter	Measurement Unit	Test Results						Limit as per Consent Conditions
			Apr-18	May-18	June-18	July-18	Aug-18	Sept-18	
1.	pH value	-	6.84 at 25°C	6.92 at 25°C	6.84 at 25°C	6.73 at 25°C	6.82 at 25°C	6.94 at 25°C	5.5 to 9.0
2.	Total dissolved solids	mg/l	1128	1237	1039	1192	1236	1129	2100
3.	Total Suspended Solids	mg/l	16.4	21.8	24.8	27.1	26.4	24.7	100
4.	Biochemical oxygen demand(BOD at 27°C for 3 days)	mg / l	6.1	5.2	4.3	6.2	5.8	6.3	100
5.	Chemical oxygen demand (COD)	mg / l	17.3	16.1	13.9	17.9	16.2	17.9	250
6.	Oil & Grease	mg / l	< 4	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg / l	137.28	121.48	118.52	121.49	131.84	128.52	600
8.	Sulphate (as SO ₄)	mg/l	57.19	46.29	43.76	38.54	32.59	24.18	1000
9.	Iron (as Fe)	mg/l	1.17	1.13	1.03	1.13	1.26	1.17	5.0

1.2 Location : E-1.3 (Coal Washery)

Sr. No.	Test Parameter	Measurement Unit	Test Results						Limit as per Consent Conditions
			Apr-18	May-18	June-18	July-18	Aug-18	Sept-18	
1.	pH value	-	7.53 at 25°C	7.62 at 25°C	7.59 at 25°C	7.42 at 25°C	7.27 at 25°C	7.18 at 25°C	5.5 to 9.0
2.	Total dissolved solids	mg/l	594	547	618	561	517	493	2100
3.	Total Suspended Solids	mg/l	56	46	42	38	32	31	100
4.	Biochemical oxygen demand	mg / l	14.3	12.7	13.9	12.4	11.9	12.6	100

	(BOD at 27°C for 3 days)								
5.	Chemical oxygen demand (COD)	mg /l	42.9	37.2	38.4	34.9	32.7	34.9	250
6.	Oil & Grease	mg /l	< 4	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg /l	23.7	28.1	27.1	28.7	24.8	18.7	600
8.	Sulphate (as SO ₄)	mg/l	24.9	16.4	18.3	16.2	17.3	12.9	1000
9.	Iron (as Fe)	mg/l	0.17	0.13	0.17	0.18	0.21	0.18	5.0

1.3 Location : ETP Main Outlet (Utility)

Sr. No.	Test Parameter	Measurement Unit	Test Results					Limit as per Consent Conditions	
			Apr-18	May-18	June-18	July-18	Aug-18		Sept-18*
1.	pH value	-	8.16 at 25°C	7.34 at 25°C	7.29 at 25°C	7.24 at 25°C	7.17 at 25°C	7.91 at 25°C	5.5 to 9.0
2.	Total dissolved solids	mg/l	1381	588	604	573	637	548	2100
3.	Total Suspended Solids	mg/l	24	< 10	< 10	< 10	< 10	< 10	100
4.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / l	7.3	< 2	< 2	< 2	< 2	< 2	100
5.	Chemical oxygen demand (COD)	mg / l	21.9	8.16	9.27	7.26	8.17	8.16	250
6.	Oil & Grease	mg / l	< 4	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg / l	26.8	113.90	118.26	104.39	107.49	25.63	600
8.	Sulphate (as SO ₄)	mg/l	32.1	50.53	47.19	41.57	32.16	23.08	1000
9.	Iron (as Fe)	mg/l	0.37	0.05	0.08	0.13	0.17	0.14	5.0

1.4 Location : E-3- Pickling Outlet

Sr. No.	Test Parameter	Measurement Unit	Test Results					Limit as per Consent Conditions	
			Apr-18	May-18	June-18	July-18	Aug-18		Sept-18
1.	pH value	-	7.04 at 25°C	7.82 at 25°C	7.82 at 25°C	7.73 at 25°C	7.68 at 25°C	8.09 at 25°C	5.5 to 9.0

2.	Total dissolved solids	mg/l	312	254	254	243	261	166	2100
3.	Total Suspended Solids	mg/l	17.6	< 10	< 10	< 10	< 10	< 10	100
4.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / l	5.4	< 2	< 2	< 2	< 2	< 2	100
5.	Chemical oxygen demand (COD)	mg / l	16.3	< 4	< 4	< 4	< 4	< 4	250
6.	Oil & Grease	mg / l	< 4	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg / l	182.46	34.46	34.46	28.19	17.28	14.93	600
8.	Sulphate (as SO ₄)	mg/l	34.52	3.89	3.89	12.27	11.64	16.51	1000
9.	Iron (as Fe)	mg/l	0.37	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	5.0

1.5 Location : E-1 (DRP Drain Effluent)

Sr. No.	Test Parameter	Measurement Unit	Test Results						Limit as per Consent Conditions
			Apr-18	May-18	June-18	July-18	Aug-18	Sept-18	
1.	pH value	-	8.16 at 25°C	7.82 at 25°C	7.79 at 25°C	7.17 at 25°C	6.94 at 25°C	7.03 at 25°C	5.5 to 9.0
2.	Total dissolved solids	mg/l	719	673	683	653	584	537	2100
3.	Total Suspended Solids	mg/l	68	42	37	31	28	26	100
4.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / l	32.4	24.7	21.9	13.7	9.4	7.3	100
5.	Chemical oxygen demand (COD)	mg / l	121.52	118.6	103.59	36.8	26.1	21.9	250
6.	Oil & Grease	mg / l	< 4	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg / l	131.68	104.29	108.76	113.57	104.52	112.58	600
8.	Sulphate (as SO ₄)	mg/l	23.7	16.52	14.27	46.29	38.43	41.62	1000
9.	Iron (as Fe)	mg/l	0.16	0.18	0.16	0.17	0.14	0.17	5.0

1.6 Location : MBF ETP Outlet

Sr. No.	Test Parameter	Measurement Unit	Test Results					Limit as per Consent Conditions
			Apr-18	May-18	June-18	July-18	Aug-18	
1.	pH value	-	7.18 at 25°C	7.27 at 25°C	7.18 at 25°C	7.06 at 25°C	7.18 at 25°C	5.5 to 9.0
2.	Total dissolved solids	mg/l	917	738	652	643	671	2100
3.	Total Suspended Solids	mg/l	32.8	16.4	21.6	24.7	23.6	100
4.	Biochemical oxygen demand (BOD at 27°C for 3 days)	mg / l	9.4	6.2	7.3	5.8	4.9	100
5.	Chemical oxygen demand (COD)	mg / l	26.9	18.3	21.9	17.3	16.8	250
6.	Oil & Grease	mg / l	< 4	< 4	< 4	< 4	< 4	10
7.	Chloride (as Cl)	mg / l	146.27	118.28	103.53	109.6	112.7	600
8.	Sulphate (as SO ₄)	mg/l	54.19	51.64	46.19	42.8	38.9	1000
9.	Iron (as Fe)	mg/l	0.28	0.17	0.16	0.17	0.16	5.0