CORPORATE OFFICE :FLAT NO. 1203, 1204, 12th FLOOR, CHIRANJIV TOWER, NEHRU PLACE, NEW DELHI-110019

ORISSA SPONGE IRON & STEEL LIMITED

TEL : 011-43742000
CIN NO. : L271020R1979PLC000819
E-MAIL : corporate@orissasponge.com
WEBSITE : www.orissasponge.com

NO: OSISL/SITE/ENV/25/11/01 11/11/2025

To,
The Director,
MOEF & CC,
Regional Office A/3,
Chandrasekharpur, Odisha

Sub: Submission of Half Yearly Environmental Clearance Compliance Report for the period of April 2025 to September 2025.

Ref: Environmental Clearance granted by MoEF & CC vide F No. J-11011/134/2006-IA-II(I) dtd july 19th 2006.

Respected Sir,

Inviting reference to the subject mentioned above, we are enclosing herewith the half yearly compliance to Environmental clearance conditions for the period of April 2025 to September 2025 for your kind perusal.

This is for your kind information and due consideration.

Thanking You

ORISSA SPONGE IRON & STEEL LTD. KEONJHAR ODISHA 758031 PALASPANGA

Sanjeev Kapoor
Executive Vice President
Orissa Sponge Iron & Steels Ltd.

SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE (EC)

ORISSA SPONGE IRON AND STEEL LIMITED

AT/PO:PALASPANGA, KEONJHAR,ODISHA

PERIOD - APRIL 2025 - SEPTEMBER 2025

LIST OF ANNEXURES

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Compliance to Environment Clearance **Ref. Environment Clearance (EC) vide File No. J-11011/134/2006-IA-II (I) dtd. 19.07.2007**		
Sl No	**SPECIFIC CONDITION**	**Compliance**
i)	The gaseous emission 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. 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. At no time the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stack to monitor SPM	As per load-based standards notified in Gazette of India by MoEF&CC, dated 19th May 1993: □ Waste water generation standard for integrated iron & steel plant is 16m3/ton of finished steel. Our plant is producing about 300 TPD of finished steel and waste water is generated 344.1 KLD, which is below the said norms □ In case of Integrated Iron & Steel plants, PM emission upto 400 mg/Nm3 shall be allowed during oxygen lancing. In our plant, no oxygen maintained within 400 mg/ nm3 during oxygen emission from steel plant is remaining within 100mg/Nm3 as per CEMS data transmitted to SPCB.

		□ Particulate, Matter (PM) emissions shall be within 250 mg/Nm3. Whereas, in our DRI Kilns, PM emission remains within 100 mg/Nm3 as per CEMS data transmitted to SPCB. Continuous Emission Monitoring Systems (CEMS) have already been installed in the existing stacks for real-time monitoring of Suspended Particulate Matter (SPM) and other relevant parameters. We further assure that all proposed and future units will also comply with the applicable emissionstandards of the MoEF&CC and SPCB, Odisha.
ii)	In plant control measures for checking fugitive from all vulnerable sources like spillage/raw material/coal handling etc. shall be provided. Further, specific measures like provision of dust extraction and suppression system consisting of water , sprinkling, suction hoods, fans, cyclones, bag filters, ventury scrubber etc. shall be installed at material	In the existing plant, adequate fugitive emission control measures have been implemented. Skirt plates have been provided along conveyor belts, and water sprinklers as well as dust suppression systems have been installed in raw material and coal handling areas to minimize dust generation. Specific measures such as rain guns,

	transfer points, blast furnace stock house and other enclosed raw material handling areas. 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 EPA standards for induction furnaces and arc furnaces shall be provided. Fugitive emission shall be regularly monitored and records maintained.	water sprinklers, and bag filters have been provided wherever required. A centralized de-dusting system has been installed, wherein fugitive emissions are captured through suction hoods, treated through bag filters, and released through stacks of adequate height conforming to EPAstandards. 4 ESPs, 2 at WHRB and 2 at AFBC installed. 4 bagfilters at iron ore circuit, 4 in coal circuit, 2 in product circuit, one in SMS installed. The fugitive emission is monitored regularly and the average PM2.5 comes around 37.3 µg/m3.
iii)	As indicated in EIA/EMP report, the company shall install Waste Heat Recovery Boilers (WHRB) to recover the waste heat and generate power from steam produced by the WHRB. The particulate emission from WHRB shall be controlled by installation of ESP as per CPCB specification and particulate emission shall not exceed 50 mg/Nm3.	The company has installed 1 × 6 MW and 1 × 12 MW Waste Heat Recovery Boilers (WHRB) andequipped them with Electrostatic Precipitators(ESP) to control particulate emissions. Additionally, bag filters, suction hoods, and dustextraction devices have been installed in theexisting plant to control air emissions. The average particulate emission as per

	Further, the company shall install bag filter , suction hood, dust extraction device and fume extraction system to control air emissions	the CEMS system installed is 47.30 mg/Nm3 which is under 50 mg/Nm3.
iv)	Total requirement of water shall not exceed 19,800 m3/d. The treated effluent from the DM water plant shall be reused for plant washing and gardening. The treated wastewater from blowdown of cooling tower, RO plant, backwash water and blow down of boiler shall be used for ash slurry making and disposal to ash pond. Wastewater shall also be used for slag quenching, dust suppression; gardening etc and balance will be stored in reservoir for further reuse. All the storm water from raw material and coal handling area shall be routed through ash pond. The effluent from domestic sources shall be used for green belt development after treatment in septic tank and soak pit. No effluent will be discharged outside of the factory premises. "Zero discharge	The existing makeup water requirement is 1,970.58 KLD, sourced from the Ardei River as per Agreement No. 21386/WR, WR-MAJII-WRC- 0072/2021 (OSWAS), Irr-II-WRC-40/21 dated 24.08.2021, with an approved withdrawal of 2,446 KLD. Treated effluent from cooling tower blow down, and boiler blow down is reused for plant washing, slag quenching, dust suppression, and gardening. Additionally, ash generated in the plant is utilized for making bricks by providing it to the registeredbrick makers. Domestic effluent of the colony is treated in a 30 KLD Sewage Treatment Plant (STP) and reusedfor green belt development and plantation. Presently domestic waste water from the

	shall be followed strictly as proposed.	plant isdischarged to soak pit via septic tank. We areproposing to install a new STP during ourexpansion project going for obtaining EC.
v)	Solid Waste will be generated in the form of bag house dust, WHRB dust, wet scrubber sludge, lumpy material and dust from DRI plant, slag from steel melting shop. Induction furnaces, electric arc furnace, fly ash from ESP and bottom ash etc. The entire quantity of fly ash generated during the process shall be utilized for making bricks. Granulated slag shall be used for brick making and non-granulated in road making. Scrap from steel melting shop and other areas shall be recycled in the proposed steel plant. Scale and debris from caster shall also be recycled in the plant itself. Ash/dust from ESP of WHRB and ash from AFBC boiler of CPP shall be collected in ash pond. ETP sludge shall be used in brick making and filling low laying areas.ESP fly ash shall be made available to cement plants and brick making plant	In the existing process, the entire quantity of flyash generated is utilized for brick making byproviding it to registered brickmanufacturers. Currently, we are not producing granulated slag,while IF slag is used for road making. Scrap fromthe steel melting shop and other areas arerecycled within the existing steel plant. Scale and debris from the caster are recycled within the plant as per the CTO point no D.(CTO attached for reference)

	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.	
vi)	The company shall develop surface water harvesting structures to harvest the rain water for utilization in lean season besides recharging the ground water table	Surface water and Rain water harvesting done with downward stream connected to Rainwater harvesting Pond
vii)	Green Belt Shall be developed in at least 60 ha out of 141.64 ha area within and around the plant premises as per CPCB guidelines in consultation with DFO	Out of 60 ha, 30.074 ha of green belt has alreadybeen developed within the plant premises, and theremaining area will be developed within andaround the plant in the near future. Plantation record is attached as Annexure 5
viii)	Occupational Health Surveillance of workers should be done on regular basis and records maintained as per factories act	We carry out yearly health surveillance of all workers and maintain proper records Copy of annual health checkup of workers isattached as Annexure 6. Total 765 numbers of medical Periodic medical checkup done on 12/07/2025 and 33 persons who have newly joined they have done medical checkup before joining. Details in Annexure 6.
ix)	Recommendation made in the charter of Corporate Responsibility for	We have obtained necessary permission from the Dept. of Mines for procurement of Iron ore, Coal and Raw Materials from

	Environmental Protection for the steel Plant shall be implemented	Mines which have Valid EC
X)	The company shall obtain necessary clearance for the linked iron ore mining component before undertaking any construction at the project site or operationalising the Iron & Steel unit	We are procuring Iron Ore and Raw materials from Mines which are having valid EC.
Sl No.	**GENERAL CONDITIONS**	**COMPLIANCE**
i.	The project authorities must strictly adhere to the stipulations made by the Odisha Pollution Control Board (OPCB) and State Government.	We are strictly adhering to the stipulation made by the Odisha Pollution Control Board/ State Pollution Control Board, Odisha. CTO attached for Reference
ii.	No Further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests	Currently we have 1x350 TPD and 1 X 500 TPD DRI klin, 1X6 MW & 1 X 12 MW WHRB, 1X7.2 MW and 1X12 MW AFBC,CCM 1X2 Starand, 2X8 TPH and 1X12 TPH induction furnace. Which was already approved by the Ministry of Environment and Forests. And we assure that no further expansion will be carried out without prior approval of Ministry of Environment and Forests.
iii.	At least four ambient air quality-monitoring stations shall be established in down ward direction as well as	We have installed 4 CEMS 2 near CPP and 2 near DRI Unit the data is connected to the

	where maximum ground level concentration of SPM, SO2 and NOx are anticipated in consultation with the OPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhopal and the OPCB/CPCB once in six months	serverof the board as per current norms. The average ambient air quality as follows: PM10 : 78 µg/m3 PM2.5 :37.3 µg/m3 SO2 : 28.5 µg/m3 NOx : 31.5 µg/m3 CO : .71 µg/m3
iv.	Industrial waste water shall be properly collected, treated so as to confirm to the standards prescribed under GSR 422(E) dated 19th May, 1993 and 31st December, 1993 or as amended from time ti time. The treated water shall be utilized for plantation purpose.	Cooling tower blow down and boiler blow down are collected in the guard pond and reused for plant washing, ash quenching and dustsuppression. Domestic effluent of the colony is treated in a 30 KLD Sewage Treatment Plant (STP) and reusedfor green belt development and plantation. Presently domestic waste water from the plant isdischarged to soak pit via septic tank. We areproposing to install a new STP during ourexpansion project going for obtaining EC. No effluent is discharged outside the plantpremises, and a strict Zero Discharge policy isfollowed. A new ETP is proposed in the expansion project

		to treat the industrial waste water before reuse. Surface Runoff Study under progress, after which we will install a surface runoff treatment plant, once we receive surface runoff study report.
v.	The overall noise levels in and around the plant area shall 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 confirm to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noise control measures are provided to maintain the ambient noise levels under 75 dB(A) (daytime) and 70 dB(A) (night time) as per thestandards prescribed under EPA Rules 1989.
vi.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes ,	The company is complying with all environmentalprotection measures and safeguards asrecommended in EIA/EMP report. The company has implemented some socioeconomic development activities as mentioned below. i. Blacktop Road to Tangarani Village

	educational programmes, drinking water supply and health care etc.	ii. Mandap for different functions at Aharposhi Village iii. Cricket tournament sponsorship at Aharposhi village iv. Internal road making at Tangarani village v. Diverson stoppers provided to Sadar Police station vi. Distribution of different types dustbins and other items at Durgapuja mandap. vii. Family welfare (Tailor Training Center) to make near by women self dependent. viii. Ration Distribution nearby villages during different natural disasters.
vii.	As mentioned in the EIA/EMP, Rs. 40 .00 Crores and Rs. 0.50 Crores earmarked towards the capital cost and recurring cost/annum for the environmental pollution	Capital cost :6.27 crores The company has implemented Environmental pollution control measures of Rs. 0.52 crores in the financial year of 2023-2024 and of

	control measures shall be judiciously used to implement the condition stipulated by the ministry of environment and forest as well as the state government along with the implementation schedule for all the condition stipulated herein. The funds so provided shall not be diverted for any other purpose.	Rs. 0.702 crores in the financial year of 2024-2025 (details attached as Annexure 8). and will also earmark a minimum of Rs.0.50 Crores as recurring cost /annum for the Environmental pollution controlmeasures in upcoming years. Environmental Budget is attached as Annexure 8.
viii.	The Regional Office of this Ministry at Bhubaneswar/CPCB/OPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	As the company was in a lay off/ non-operational /temporarily closed from oct-2012 to till march- 2022 and operation started from april-2023 afterrenovation of plant. We could not submit the sixmonthlycompliance report & the monitored dataalong with statistical interpretation. We assureyou that from now on we will provide the sameregularly.
ix.	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 OPCB/Committee and may also be seen at website of the ministry of environment and forest at http:/envfor.nic.in this shall	Not Traceable (Due to closure of plant from Oct 2012 to March-2022)

	be advertise within seven days from the date of issue of the clearance letter, at least in two local newspaper 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.	
x.	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.	Financial closure date as below: 1X1,10,000TPA DRI in May 2007. 1X6 MW WHRB in Sept 2007 1X7.2 MW AFBC in Sept 2007, 1X 1,50,000 TPA DRI & 24 MW in Aug 2007

Compliance to Environment Clearance

Ref. Environment Clearance (EC) vide File No. J-11011/134/2006-IA-II (I) dtd. 05.10.2007

Sl No	Conditions	Compliance
1	All the blast furnace slag should be granulated and used for cement making	Blast furnace not constructed if in future we construct Blast Furnace we will use the blast furnace slag for cement making after granulated.
2	Ground level concentration of all the air pollutants should be assessed and report submitted to the	Ground level concentration of all the air pollutants are getting monitored and the reports are attached

	Ministry/CPCB and its Regional Office at Bhubaneswar, Orissa.	
3	Gaseous emissions including secondary fugitive emissions from the blast furnace should be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.	Blast furnace not constructed if in future we construct Blast Furnace we will take measures to control the pollution with appropriate measures and keep it within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB
4	Impact of transport of raw material, semi-finished and finished product transport on road transport system and surrounding environment shall be assessed and efforts shall be made to control the air emissions level within the permissible limit.	Specific measures such as rain guns, water sprinklers have been provided to control dust on road during transport ,3 nos of water tankers are also used to keep road dust under control during transport , all lorries cargo area are covered with tarpaulin to control the dust during transport. Also we have installed a wheel washing system at our main gate ,so no unwanted particle will go outside of the plant.
5	Raw material requirement for the proposed Sinter Plant-Blast Furnace technology shall not exceed Iron ore (309,750 TPA), Iron Ore fines (287,860 TPA), Non-coking coal 261,200 TPA), Metallurgical Coke (122,464 TPA)	Sinter Plant-Blast furnace not constructed. If in future we construct Blast Furnace we will not exceed the raw material as mentioned.

ANNEXURE-1

F. No. J-11011/134/2006- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail : pb.rastogi@nic.in
Talefax : 011-24367668
Dated July 19, 2006

To,

Shri M. A. Khan
Director (P & E)
M/s Orissa Sponge Iron Ltd.
A/413, Sahid Nagar
Bhubaneswar – 751 007
Orissa.

Fax No: 0674- 2547799
E-mail : orispong@sancharnet.in

Sub : Expansion of Sponge Iron unit at Palaspanga, Keonjhar, Orissa by M/s Orissa Sponge Iron Ltd. – Environmental clearance reg.

Sir,

This has reference to your letter no. Osil/Expansion/Env/05-06/5486 dated 17th March, 2006 alongwith application, EIA/EMP and related project documents also with CD and subsequent clarifications furnished by you vide your letter dated 11th April, 2006, 22nd April, 2006 and 9th May, 2006 for environmental clearance on the above mentioned project. The Ministry of Environment and Forests has examined your application. It is noted that proposal involves expansion of the existing Iron and Steel Plant (0.15 MTPA Sponge Iron; 0.30 MTPA Billet; 0.20 MTPA Fastmet and 48 MW Captive Power Plant) at Palaspanga, Keonjhar, Orissa as per details given below :

Name of the Products, Byproducts and Intermediate Products	Existing	Proposed activity (New)	Total
DR Kiln	1,10,000	1,50,000	2,60,000
Fastmet	–	2,00,000	2,00,000
SMS	1,00,000	3,00,000	4,00,000
Billet	1x2 strand	2x2 strand	3x2 strand
Power	13	48	61

Total area for setting up of the expansion project will be 141.64 ha.

2.0 Indigenous DR technology viz. Direct Reduced (DR)-Waste Heat Power-Induction Furnace (IF)-CCM Route will be used for the proposed steel billet production. Dust extraction and suppression system, bag filters, ventury scrubber and ESP will be provided to control air emissions. Total water requirement will be 19,800 m^3/d. The treated effluent will be reused for

slag quenching, dust suppression, gardening etc. No effluent will be discharged outside the factory premises. Solid waste will be either recycled in the proposed steel plant or used in landfill at low lying areas. Ash/dust from ESP of WHRB and AFBC boiler of CPP will be disposed off in the ash pond and fly ash will be used in manufacturing bricks.

3.0 Public hearing meeting was held on 29th October, 2005. 'NOC' has been accorded by the Orissa State Pollution Control Board vide letter no. 2126/Ind-II-NOC-3496 dated 4th February, 2006. Total cost of the project is Rs. 374.40 Crores.

4.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 27th January, 1994 as amended subsequently subject to strict compliance of the following specific and general conditions:

A. SPECIFIC CONDITIONS :

i) 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. 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. 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. Captive Power Plant stacks shall be provided with ESP.

ii) In plant control measures for checking fugitive emissions from all the vulnerable sources like spillage/raw materials/coal handlings etc. shall be provided. Further, specific measures like provision of dust extraction and suppression system consisting of water sprinkling, suction hoods, fans, cyclones, bag filters, ventury scrubber etc. shall be installed at material transfer points, blast furnace stock house and other enclosed raw material handling areas. Centralized de-dusting system i.e. collection of fugitive emissions 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 EPA standards for induction furnaces and arc furnaces shall be provided. Fugitive emissions shall be regularly monitored and records maintained.

iii) As indicated in the EIA/EMP report, the company shall install Waste Heat Recovery Boilers (WHRB) to recover the waste heat and generate power from the steam produced by the WHRB. The particulate emissions from the WHRB shall be controlled by installation of ESP as per the CPCB specification and particulate emissions shall not exceed 50 mg/Nm^3. Further, the company shall install bag filter, suction hood, dust extraction device and fume extraction system to control air emissions.

iv) Total requirement of the water shall not exceed 19,800 m^3/d. The treated effluent from the DM water plant shall be reused for plant washing and gardening. The treated wastewater from blow down of cooling tower, RO plant, backwash water and blow down of boilers shall be used for ash slurry making and disposal to ash pond. Wastewater shall also be used for slag quenching, dust suppression, gardening etc. and balance will be stored in reservoir for further reuse. All the storm water drain from the raw material and coal handling area shall be routed through ash pond. The effluent from domestic sources shall be used for green belt development after treatment in septic tank and soak

pit. No effluent will be discharged outside the factory premises. 'Zero' discharge shall be followed strictly as proposed.

v) Solid waste will be generated in the form of bag house dust, WHRB dust, wet scrubber sludge, lumpy material and dust from DRI plant; slag from steel melting shop, induction furnace, electric arc furnace, fly ash from ESP and bottom ash etc. The entire quantity of fly ash generated during the process shall be utilized for making bricks. Granulated slag shall be used for brick making and non-granulated in road making. Scrap from steel melting shop and other areas shall be recycled in the proposed steel plant. Scale and debris from caster shall also be recycled in the plant itself. Ash/dust from ESP of WHRB and ash from AFBC boiler of CPP shall be collected in the ash pond. ETP sludge shall be used in brick making and filling low lying areas. 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.

vi) The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.

vii) Green belt shall be developed in at least 60 ha out of total 141.64 ha area within and around the plant premises as per the CPCB guidelines in consultation with DFO.

viii) Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.

ix) Recommendations made in the Charter of Corporate Responsibility for Environmental Protection (CREP) for the steel plants shall be implemented.

x) The company shall obtain necessary clearances for the linked iron ore mining component before undertaking any construction at the project site or operationalising the Iron & Steel unit.

B. GENERAL CONDITIONS:

i. The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OPCB) and the State Government.

ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.

iii. At least four ambient air quality-monitoring stations shall 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 OPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhopal and the OPCB/CPCB once in six months.

iv. Industrial wastewater 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 form time to time. The treated wastewater shall be utilized for plantation purpose.

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 viz. 75 dBA (daytime) and 70 dBA (night time).

vi. 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.

vii. As mentioned in the EIA/EMP, Rs. 40.00 Crores and Rs. 0.50 Crores earmarked towards the capital cost and recurring cost/annum for the environmental 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 along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

viii. The Regional Office of this Ministry at Bhubaneswar/CPCB/OPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

ix. 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 OPCB/Committee and may also be seen at Website of the Ministry of Environment and Forests 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.

x. 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.

5.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

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

7.0. The above conditions will 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.

19/1/06

(Dr. P. B. Rastogi)
Additional Director

Copy to:-

1. The Secretary, State Department of Environment, Govt. of Orrissa, Bhubaneswar Orissa.
2. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110 032.
3. Chairman, Orissa Bengal Pollution Control Board, Parivesh Bhavan, A/118, Neelkanthhanagar, Unit-8, Bhuvaneswar - 751 012, Orissa.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharpur, Bhuvaneswar - 751 023, Orissa.
5. Joint Secretary (CCI-I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Monitoring Cell
8. Guard File.
9. Record File.

15/7/06

(Dr. P. B. Rastogi)
Additional Director

ANNEXURE-2

Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: paribesh1@ospcboard.org
Web site : www.ospcboard.org

OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ODISHA

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751 012

By Speed Post/
Through online

No. 17389 /IND-II-NOC- 6396 Date 06.11.2021 /

CONSENT TO ESTABLISH ORDER

In consideration of the application no. **3724959** received through online for obtaining Consent to Establish for **M/s Orissa Sponge Iron & Steel Ltd.,** the State Pollution Control Board is pleased to convey its Consent to Establish under Section 25 of Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 **for replacement of Steel Melting Shop (Induction Furnace of capacity 2 x 08 T & 1 x 12 T) by 1 x 30 T Induction Furnace without increase in production capacity 1,00,000 TPA, At – Palaspanga** (Khata No. & Plot No. as mentioned in the application form) in the district of **Keonjhar** with the following conditions.

GENERAL CONDITIONS:

1. **This Consent to Establish is valid for the raw materials, product, manufacturing process and capacity mentioned in the application form. This order is valid for five years. The proponent shall commence construction of the project within a period of five years from the date of issue of this order. If the proponent fails to do substantial physical progress of the project within five years then a renewal of this consent to establish shall be sought by the proponent.**
2. The industry shall apply for grant of Consent to Operate under Section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board.
3. **This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

SPECIAL CONDITIONS:

A. GENERAL

1. This Consent to Establish is granted for the capacity as mentioned above and any expansion in the capacity change or modification in the process addition, alternation any nature has to be undertaken with prior approval of the Board. For any change in the site or area fresh Consent to Establish has to be obtained from the Board.
2. **The proponent shall comply to all the conditions stipulated in the No Increase in Pollution Load Certificate issued by the Board vide letter no. 11492, dated 07.08.2021.**
3. **The proponent shall dismantle existing induction furnaces of capacities 2 x 08 T & 1 x 12 T once 1 x 30 T Induction Furnace becomes operational.**

4. The proponent shall inform to the MoEF&CC, Govt. of India for installation of 1x30 T T/Heat Induction Furnace in place of existing 2x8 T and 1x12 T Induction Furnaces and take additional pollution control measures, if any as advised by the MoEF&CC, Govt. of India.
5. The overall production capacity of Billets shall not exceed the capacity as approved in Environmental Clearance issued by MoEF&CC, Govt. of India as well as Consent to Operate of the Board.
6. The unit shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of the project report.
7. The construction and demolition wastes to be generated from the proposed project shall be disposed of in accordance with the provision under "Construction & Demolition Wastes Management Rules 2016".
8. The plastic waste if any generated from the industry as well as colony shall be sent to nearby cement kiln for co-processing.
9. The construction material which has potential to be air borne shall be transported in covered trucks.
10. The transportation of raw material during construction and operation on road shall be done with covered trucks / vehicles. Industry shall regulate vehicles movement inside to avoid traffic congestion.
11. The civil construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the civil construction may carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board quarterly for record.
12. The Board may impose further conditions or modify the conditions stipulated in this order during installation and /or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and /or any information suppressed in the application form.
13. No production activity shall commence prior to installation of all pollution control measures. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and / or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.
14. The unit shall abide by E(P) Act, 1986 and Rules framed thereunder.

B. WATER POLLUTION

15. The cooling water shall be completely recycled and shall not be discharged to outside under any circumstances. Periodical discharge of the cooling water shall be made on its own land inside the factory premises.
16. Domestic effluent generated shall be discharged to soak pit via septic tank constructed as per BIS specification.

C. AIR POLLUTION

17. The unit shall install all the machineries under covered shed to minimize fugitive dust emissions.
18. Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National Ambient Air Quality

standards and standards for noise in industrial area as per **Annexure-I** and **Annexure – II** respectively.

19. The unit shall install fixed type water sprinklers system at the jaw crusher, roller crusher and other potential dust generating sources to control fugitive dust generation.
20. Swiveling hood shall be installed at the induction furnace for fume extraction and spark arrestor followed by bag filter as Air Pollution Control measures at the stack attached to the induction furnace.
21. The prescribed emission standard for induction furnace shall be as follows:

Induction furnace	**Pollutant**	**Emission standard**
	Particulate matter (mg/Nm^3)	150

D. SOLID & HAZARDOUS WASTE

22. The industry shall comply to the provisions of Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and amended thereafter.
23. Solid waste such as slag generated from the Induction Furnace and Slag Crusher during the process shall be dumped at the slag disposal site inside the factory premises

Encl: Annexure-I & II.

MEMBER SECRETARY

To

The Executive Vice President,
M/s Orissa Sponge Iron & Steel Ltd.,
A-201, First Floor, Okhla Industrial Area,
Phase I, New Delhi-110020.

Memo No._____/Date_____/

Copy forwarded to:

1. The Collector and District Magistrate, **Keonjhar**.
2. The Director, Factories & Boiler, Bhubaneswar
3. The District Industries Centre, **Keonjhar**.
4. The DFO, **Keonjhar**.
5. Consent to Operate Cell, SPC Board, BBSR.
6. Hazardous Waste Management Cell, SPC Board, BBSR.
7. The Regional Officer, SPC Board, **Keonjhar**.
8. Copy to Guard file.

CHIEF ENV. ENGINEER

ANNEXURE-3

Government of Odisha
Department of Water Resources
*****

No. 21386 /WR., Date: 21/8/2021
WR-MAJH-WRC-0072/2021 (OSWAS)
Irr.-II-WRC-40/21 (Physical)

From

Ms Archana Patnaik, IAS,
Special Secretary to Government.

To

M/s Orissa Sponge Iron and Steel Ltd.,
At- Palaspanga, Dist:- Keonjhar.

Sub: Reduction of the allocation from 1.57 cusec to 1.00 cusec of Surface water from river Ardei in favour of M/s Orissa Sponge Iron and Steel Ltd at Palaspanga in the District of Keonjhar.

Sir,

I am directed to invite reference to the subject noted above and say that Government in Water Resources Department have been pleased to reduce the allocation from 1.57 cusec to 1.00 cusec of Surface water from river Ardei in favour of your Industry without assurance during lean season At- Palaspanga, Dist:- Keonjhar with the following terms & conditions:-

Terms & Conditions:-

1. M/s Orissa Sponge Iron and Steel Ltd. shall make suitable arrangement to take the water from the Government water source at which it will be supplied. M/s Orissa Sponge Iron and Steel Ltd. shall not use the water supplied to him for any purpose other than that which is specified in the schedule.
2. If the water rate/license fees for the aforesaid quantity of water or any part thereof, is not paid on or before the date specified in agreement it shall become payable at once (unless the Government sanctions for special reason an extension of time) and M/s Orissa Sponge Iron and Steel Ltd. and the sureties shall be liable jointly and severally to pay the same with compound interest at the rate of two percent *per mensem* from the date of default. All amount due to the Government under terms of these presents shall if not paid in time, be recoverable as a public demand under the Odisha Public Demands Recovery Act, 1962.

P.T.O.

3. (i) M/s Orissa Sponge Iron and Steel Ltd. shall be liable for criminal and civil action if by drawal of water, the rights of any third party are affected and shall indemnify the Government against all claims for damage preferred by person or persons affected by the permission granted.

(ii) M/s Orissa Sponge Iron and Steel Ltd. shall not without prior permission in writing from the Government, lay pipeline on Government or communal lands. If the pipe lines have to pass through Government lands permission of the Government for this shall be taken separately which may be granted subject to the protection of rights of Government or community, as the case may be.

(iii) M/s Orissa Sponge Iron and Steel Ltd. shall not draw or lift water more than the quantity mentioned in the requisition or order and not exceeding the volume mentioned in the Schedule except with the prior approval of the Government. The Executive Engineer shall assess the fees to be charged as per Unit quantity of water drawn or allocated whichever is higher. If drawal is more than the allocation, a penal rate at six times the rate specified in Schedule III shall be charged on the quantity of excess drawal, in addition to the normal bill on allocated quantity. The excess drawal is permissible for a maximum period of six months, within which licensee shall have to apply for a higher allocation of water with reason where the licensee fails to so apply for such higher allocation or where the licensee is refused for such higher allocation, the agreement shall be liable to cancellation and the water supplied shall be stopped thereafter.

(iv) The permission granted shall not be deemed to exempt M/s Orissa Sponge Iron and Steel Ltd. from liability to payment of water charges lawfully assessable at the rate as may be prescribed by Govt. from time to time.

v) Government reserves the right to suspend or cancel the permission in case of violation of any of the covenants.

4. M/s Orissa Sponge Iron and Steel Ltd.at his own cost shall install a Flow Meter or a suitable measuring device for measurement of water drawn or lifted by him from the Govt. water source as per the procedure laid down in rule 23-A(b). The Executive Engineer shall visit the location of drawal or lifting of water, verify the quantities of water drawn or lifted by M/s Orissa Sponge Iron and Steel Ltd.and ensure such control as may be necessary for administering the drawal or lifting of water. Assessment of water rate shall be made as per the quantity of water drawn or allocated whichever is higher. In case of any defect or non-functioning of the Flow Meter, the licensee shall bring the fact to the notice of the Executive

Engineer forthwith and take appropriate steps to remove the defects in the Meter or for replacement thereof within a period of three months and in such cases the fees shall be charged on the quantity of water allocated for the said period of three months or till the defect in the Meter is removed or the Meter replaced, as the case may be whichever is earlier, and where the licensee fails to bring the defect or non-functioning of the Meter to the notice of the Executive Engineer or fails to remove the defects in the Meter or to replace the same, as the case may be, within a period of three months, the agreement shall be liable to cancellation and thereafter the water supply shall be stopped.

5. M/s Orissa Sponge Iron and Steel Ltd. shall construct full proof effluent discharge plant before commissioning of the project. For proper test of such effluent there shall be computerized testing system and M/s Orissa Sponge Iron and Steel Ltd. shall give details of effluent discharged in the natural source (in river or nala).
6. For construction of head works and control mechanism i.e. intake well, pump house and other related facilities, M/s Orissa Sponge Iron and Steel Ltd. will get the land leased in their favour through IDCO as is done in respect of any other government land required by the industry. IDCO will make available land on long term lease to M/s Orissa Sponge Iron and Steel Ltd. The continuance of the lease agreement will subject to the condition that the industry shall pay water rates as per prevailing water rate and all other dues of Government and IDCO from time to time.
7. M/s Orissa Sponge Iron and Steel Ltd. would be required to pay 3 (three) months advance water charges in favour of Executive Engineer concerned in shape of Bank Draft or FDR duly discharged by the company as non – interest bearing security deposit and for 9 (nine) months a Bank Guarantee duly pledged in favour of concerned Executive Engineer. Onus of maintaining the Bank Guarantee lies with the company.
8. In case of water supply for M/s Orissa Sponge Iron and Steel Ltd.is to be met from a common source through a sharing mechanism, such common infrastructure for drawal of water will be constructed, maintained and operated either by IDCO or Special Purpose Vehicle (SPV) after taking due clearance from IDCO. Water will be supplied to Industry by IDCO/SPV and they would also be liable for payment of water rate to the Govt. and will in turn have arrangements as similar therein as clauses (6) and (7) detailed earlier.
9. M/s Orissa Sponge Iron and Steel Ltd. will not disturb the normal flow of water so that riparian rights in the downstream will be affected and the company shall have no claim on the account.

10. The drawal mechanism for raw water and disposal system of effluent to be established by the industry without disturbing existing eco system and environmental set up.
11. The Rehabilitation and Resettlement Action Plan/ Welfare Action Plan, if so required will be prepared in conformity with the current Odisha Rehabilitation and Resettlement policy and executed by its own cost under the supervision of the Water Resources Department and the Collector of the District.
12. M/s Orissa Sponge Iron and Steel Ltd. should not claim as a matter of right to get the desired quantity of water during non-monsoon and lean period to meet their full industrial use and the Company has to make adequate storage facility in their own land for supply of water to their plant during such period.
13. The safety design of all the structures lies fully on the company.
14. In case of any dispute / interpretation required, the decision of the Government in Water Resources Department shall be final.
15. Any surplus power from the Captive Power Plant shall be sold by M/s Orissa Sponge Iron and Steel Ltd.to GRIDCO or any other entity to be notified by the State Government under mutual acceptable terms & conditions.
16. The allocation of water will automatically lapse if the company does not use the water for the purpose applied for within three years of allotment.
17. This agreement shall be valid for a period of three years from the date of execution subject to the renewal of agreement by the Executive Engineer. For renewal of the agreement, the concerned drawee has to apply minimum three months before the expiry of the agreement.
18. If it is found that the industry is drawing water unauthorizedly before signing the agreement/ installation of flow-meter, the Executive Engineer will charge a penal rate at six times the normal rate as provided in Schedule III of the Rule.
19. Government shall be at liberty to review the water allocation unilaterally in case of exigencies.
20. The Executive Engineer or his authorized representative reserves the right to inspect all installations of drawal and disposal mechanism during and after construction including intake structure, flow meter and treatment plant.
21. M/s Orissa Sponge Iron and Steel Ltd. will have to show clearly in water management plan as to what storage facility the company will create for the lean season and to what extent and how the water is going to be recycled which shall be a part of the project report of the unit.

22. M/s Orissa Sponge Iron and Steel Ltd. may engage at their own cost consultant(s) experienced in the field to take up field investigations, prepare design and drawing to set up the water supply scheme for drawing water from the Govt. water source for their proposed plant. The actual work will start after approval of the scheme by the competent authority of Water Resources Department who can inspect work during the construction.
23. The exact place for lifting will be decided in consultation with the competent authority of Water Resources Department.
24. Department of Water Resources (DoWR) will not be held responsible for non-availability of water due to dry season, disruption, repair & maintenance of Canal/Reservoir.
25. The agreement to be executed by the Industry/ commercial establishment with local authority/ Executive Engineer must be approved by the DoWR before drawal of water.
26. M/s Orissa Sponge Iron and Steel Ltd. will have to adopt water harvesting, rooftop water harvesting, ground water recharge and recycling of waste water measures in its plant premises as per the approved water management plan.
27. M/s Orissa Sponge Iron and Steel Ltd. shall follow the zero effluent discharge principle and satisfy State Pollution Control Board (SPCB) norms and obtain requisite permissions from the SPCB, Odisha before drawal of operational water.
28. M/s Orissa Sponge Iron and Steel Ltd shall pay contribution towards Water Conservation Fund (WCF) complying with Gazette notification no. 1545 dtd. 07.11.2015 of DoWR.
29. In case, M/s Orissa Sponge Iron and Steel Ltd. intends to supply bulk water to Municipalities, Notified Area Councils other local authorities and cluster of villages, M/s Orissa Sponge Iron and Steel Ltd. shall install separate Flow Meter or measuring device, as the case may be, at a suitable place along the pipeline to ensure quantum of water supplied to such Municipalities, notified Area Councils, other local authorities and cluster of villages for drinking and washing etc. in addition to installation of the Flow Meter under clause 23-A (1) (b) which shall be treated as industrial or commercial use and license fee for such industrial or commercial use shall be at the rate double the existing rate as provided in item 3(ii) of Schedule-III.
30. M/s Orissa Sponge Iron and Steel Ltd. shall abide by the conditions laid down by the competent authority of DoWR during approval of scheme of drawal.
31. M/s Orissa Sponge Iron and Steel Ltd. shall undertake water utilization audit in every three years and make the report available for scrutiny by the competent authority of DoWR.

32. License fees shall be charged and collected at the rate as specified in the schedule- III per unit or quantity of water actually drawn or allocated whichever is higher and shall be enhanced at the rate of ten percent per annum with effect from the first day of April.
33. M/s Orissa Sponge Iron and Steel Ltd. acquired with the irrigated land for industrial purpose, under unavoidable circumstances has to comply with the conditions laid down vide DoWR Notification No. 4538, dtd. 24.02.2016.
34. M/s Orissa Sponge Iron and Steel Ltd. shall register the project in the IWCRCM website within 7 days of entry, after due execution of agreement with the concerned Executive Engineer of DoWR.

Yours faithfully

Special Secretary to Government

Memo No. 21387 **/WR, Dtd.** 24/8/2021

Copy forwarded to the E.I.C., P & D, Odisha, Bhubaneswar/ CE, Water Services, BBSR/ CE & BM, Baitarani Basin, Keonjhar for information and necessary action.

24.8.2021

Additional Secretary to Government

Memo No. 21388 **/WR, Dtd.** 24/8/2021

Copy forwarded to Industries Department / Steel & Mines Department/ IPICOL / IDCO for information and necessary action.

24.8.2021

Additional Secretary to Government

Memo No. 21389 **/WR, Dtd.** 24/8/2021

Copy forwarded to the Member Secretary, State Pollution Control Board (SPCB), BBSR for information and necessary action.

24.8.2021

Additional Secretary to Government

Memo No. 21390 **/WR, Dtd.** 24/8/2021

Copy forwarded to Collector & District Magistrate, Keonjhar for information and necessary action.

24.08.2021

Additional Secretary to Government

Memo No. 21391 **/WR, Dtd.** 24/8/2021

Copy forwarded to Executive Engineer, Baitarani Division, Salapada for information and necessary action.

24.8.2021

Additional Secretary to Government

ANNEXURE-4

ONSITE EMERGENCY PLAN

M/S.ORISSA SPONGE IRON & STEEL LIMITED

At/Po-Palaspanga, Dist-Keonjhar,Odisha

CONTENTS

1.0 GENERALINFORMATIONABOUTTHEFACTORY

M/s.Orissa Sponge Iron &Steel Limited is an integrated steel plant situated at Vill-Palaspanga, PO-Palaspanga, Dist-Keonjhar of Odisha State. The proposed plant is accessible by all weather road from the district headquarter Keonjhar (20km).The site is located 300 mtr. aerially from NH- 20,which connects Bhubaneswar to Barbil.The nearest railway station is Parjanpur at a distance of 6km. The nearest airport is at Bhubaneswar, which is approximately 230km from the site.

ExistingPlant

1. DRI
2. CPP
3. RMHS
4. SMS

FACTORY ADDRESS:-

The registration number of Plant is KJ-.30
M/s. Orissa Sponge Iron & Steel Limited
Vill-Palaspanga, PO-Palaspanga, Dist-Keonjhar of Odisha

MAILING ADDRESS:-

M/s. Orissa Sponge Iron & Steel Limited
Vill- Palaspanga, PO-Palaspanga Dist-Keonjhar of Odisha

Name & Designation of Occupier :

Sri Ashish Saxena,
Designation:-Director
E-Mail:- ashish.saxena@orissasponge.com
Mob:- 9716566726

Name & Designation of Manger :

Sri Priyabrata Pati,
Designation:-Manager
E-Mail:- priyabrata.pati@orissasponge.com
Mob:-8093090647

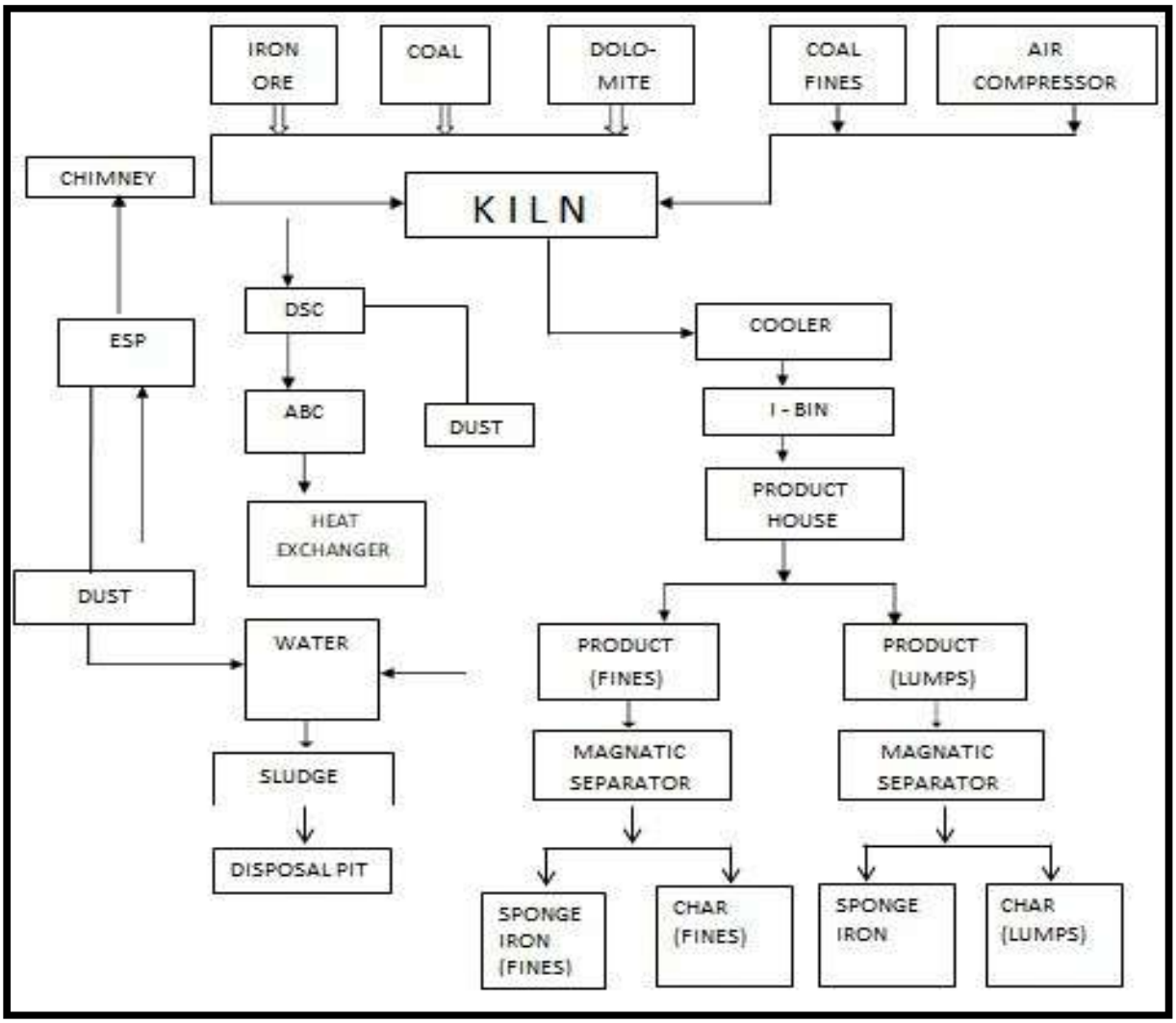
Factory Manager

Occupier

Process Description

Direct reduced iron(D.R.I.)Plant:

Main raw materials - iron ore, non-coking coal and dolomite are fed to the ground hoppers with the help of pay loaders and tippers. They are carried away by belt conveyors to the crusher house and there after fed to kiln. Iron ore is reduced by heating with coal in the rotary kiln at a temperature of about 1000^0C to 1100^0C. After reduction, products are cooled in a drum type rotary cooler. Product is then separated into D.R.I. or sponge iron and char by magnetic separation. In rotary cooler, product is cooled by in direct water spray.



Captive Power Plant (C.P.P.):

(1) Waste Heat Recovery Boiler: Waste heat recovery boiler 1x51(WHRB-2) TPH & 1X 42 (WHRB-1)TPH based power plant is proposed to utilize the heat from gases exiting DRI kilns.

(2) AFBC: Boiler1x60 (AFBC-2)TPH based on coal fines, middling from washery and char from DRI kilns has been proposed. The power generated from the CPP will meet the requirement of the steel plant. The unit has well experienced and dedicated work force and been equipped with modern equipment's with built in safety features for its critical task operations.
Highly experienced and dedicated team of safety & fire engineers oversee the safe operations of the unit along with the operational team members

(3) TG : TURBINE 1x 24 MW running with WHRB 1x 51 TPH and part load of AFBC 1x60 TPH. The power generated to be used to cater to the homeload and incase there is any surplus Power, then that is to be evacuated to OPTCL through 132KV grid as per the envisaged power purchase agreements.

(4) Auxiliary cooling tower of 24 MW 1100M3 water holding capacity to be run to TG Building for TG-Auxiliary system cooling system.

(5) WATER TREATMENT PLANT: A double décor De-mineralized Plant or Water Treatment Plant of capacity 8m3/hr capacity for cooling tower make, Boiler make up and emergency make up through high speed pumps in close proximity of the Power plant.

(6) Ash Conveying system: High density pneumatic conveying system of dense phase media to be adopted for ash conveying for both be dash from Boiler sand bottom ash of ESP to the BED ash and Fly ash Silo for storage and then to be disposed off there from.

(7) Air cooled condenser: To cool down exhaust steam from turbine surface condenser is used, after condensing the steam it's stored in condensate tank after this condensate pump in to deaerator.

Details of Equipment section wise:

1. AFBC Boiler.
2. WHRB Boiler.
3. Fuel Handling System.
4. Generator Package.
5. Surface Condenser.
6. Water Treatment Plant.
7. Ash Conveying system.

AFBC Boiler-2:

The steam generation capacity of the Boiler is of 60 TPH. The working pressure and temperature are 77.0 KG/CM.SQ and 500 degree C respectively. It's pivotal components are Combustion zone, Cyclone separator , evaporator, economizer, Steam Drum, Waterwalls, down comers and risers, air preheater, Primary superheater, Secondary superheater.

8. Water through Boiler feed pump gets transferred from dearator through HP heater to the economizer of the Boiler. The feed water temperature at economizer inlet is 235^0C. The nit flows from economizer to evaporator then to steam drum, the steam drum has the tendency to maintain steam and waterin 50:50 ratio (Steam in Top and Water in Bottom).

9. From steam drum it again passes through down comers and risers (which are inside the furnace) then converted into steam and flows back to steam drum.

10. From steam drum the steam flows through the primary and secondary super heater to become superheat and flows into the common steam distribution header.

11. Air pre heater tubes are supplied to the furnace to facilitate combustion process. The purpose of primary and secondary air is to provide impetus to combustion as it is free from moisture. The purposes of primary and secondary air fan are to maintain the staged combustion procedure of AFBC Boiler.

12. Bunkers for coal, dolochar, and bed materials storage are there from which fuel gets feeded into furnace through bucket elevators.

13. The cyclone separator is there after the combustion zone (temp. 800 to 900 Deg.C) to separate the LOI (Loss of Ignition) particles from the flue gas to refrain them from getting entered into the ESP where it would have affected adversely to ESP's performance, ensuing deterioration of its dust collection efficiency eventually. Loop seal blowers are there at the bottom of the cyclone chambers to reinstate the unburned particles deposited, back to the furnace. So that proper combustion can be achieved and, renders the boiler more efficient.

14. The flue gas then disposed of to the atmosphere through Chimney through Induced draft fan.

Waste Heat Recovery Boiler:

15. One number of 51TPH steam production capacity WHRB-2 that utilize the flue gas generated from the existing KILN are there. The working pressure and temperature is77.0 KG/CM.SQ and 500^0C. The boiler consists of Radiant zone, evaporators, economizer, risers and down comers, Steam Drum, primary and secondary superheater.

16. There are continuous and intermittent blow down system to flush the adulterated steam from the bottom of steam drum to deter them from going into the Turbine, which is detrimental to Turbine blades.

17. Feed water from deaerator flows into Boiler via economizer-Evaporator-steam drum-risers & down comers-evaporator-steam drum and steam flows from steam drum-primary super heater-secondary super heater-Common steam distribution header.

18. The path of flue gas is opposite to feed water flow, it flows through the path from ABC(After Burning Chamber) to Boiler radiant zone–Secondary superheater-primary superheater-evaporator-economizer-ESP-Chimney.

19. The feed water inlet temperature at the economizer inlet140^0C.And the flue gas outlet temp. before ESP is 170^0C.

Fuel Handling System:

20. Coal and dolo-char stored in coal feed hopper then, from there they transferred to coal feed hopper to screen and crushers house to make them congenial (by making them proper size) for proper combustion. From screen house to AFBC fuel bunker through belt conveyors.

Turbo-generator:

21. The Alternator or AC generator of power production capacity 24MW at 11KV voltage and 50Hz Frequency generates power based on the mutual induction of armature mmf & field mmf, by flux cutting action. It's a rotating field type AC machine where the field is the rotor is coupled with the shaft of the turbine. DC excitation system of 110 VDC is used to excite the field to a create magnetic field therein.The power generated will get transferred to the distribution board through a Generator Transformer of capacity (11/132 KV) making the power distribution system at 33 KV voltage level.

22. Other parts of TG areas follows:
23. PRDS
24. Gland seal system
25. Steam ejector
26. LPH eater
27. Deaerator and storage tank
28. Hotwell & Condensate return tank
29. Surge tank

PRDS:

Three Tapings from the main-steam line are taken for PRDS system; one is for pegging steam to deaerator; one for dumping purpose and the last one is for auxiliary steam for GSC and surface condenser.

GSS:

Around.1% of mainstream is used for gland sealing system at 0.1kg/cm2 pressure to seal the turbine's front, gland and labyrinth sealing to forebear it from producing backward thrust.

SteamEjector:

Around 5% of mainstream is used for ejector system (Main & Hugger).Its function is to create vacuum at turbine outlet in order to mitigate chances of back flowing of steam into Turbine and for vacuum pulling in the Condenser.

LP heater:

Low pressure heater is used to preheat the condensate prior to entering into the deaerator.

Hotwell & Condensate return tank:

The steam after dissipating its heat converted into hot water gets stored in the hotwell and condensate storage tank from there it gets transferred to the deaerator through condensate extraction pump.

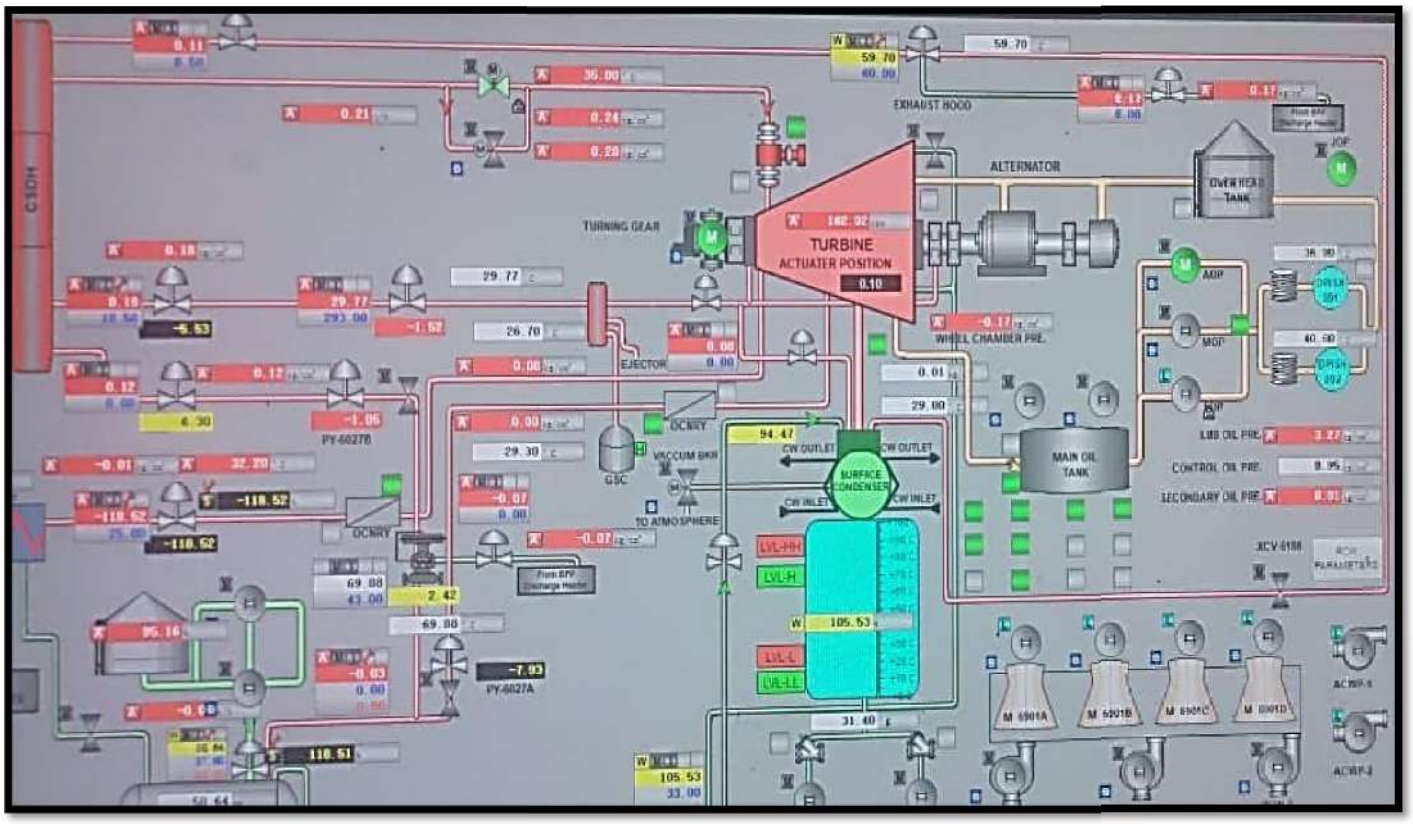
Surge Tank:

To compensate the loss of steam at boiler and turbine de mineralized water from Water treatment plant gets transferred into the surge tank by high discharge pump sand then feed into the condensate storage tank.

Water Treatment Plant:

30. Inordertocatertotheboilermakeupwaterandcoolingtowermakeupwater,WaterTreatmentPlant(WTP)i senvisagedforBoilerMakeupwater.
31. Flow chart of Boiler make up water stream is as follows:
32. Multi Grade Filter(WAC)→Ultra filtration system(UF)→Reverse Osmosis
33. System(RO)→Degasser System→Mixed Bed Polishing
34. System (MB)(1W+1S)→DM water storage tank to Surge tank.
35. Flow chart of Cooling Tower makeup water stream is asfollows:
36. Raw water→High rate solid contact clarifier(HRSCC)→ClearWater
37. Storage Tank(CWST)→Treated water to cooling tower makeup.

FLOWDIAGRAMOF1X24MWCPP,KEONJHAR



2.0 ORGANISATION SETUP

Mr.Ashish Saxena
Occupier

Mr. Suman Singh
AVP

Mr. Priyabrata Pati
Factory Manager

Mr. Shailendra Shrivastava
Store

Mr.Suraj Sahoo
HR

Mr. Saroj Bramha
Admin

Mr. Biswajit Sahoo
Safety officer

Mr. C.K Shukla
Security

3.0 MANPOWER:

Licensed manpower is 1000nos.However at present the shift wise manpower is given below:

SHIFT	Period	Number of employee		Total
		Regular	Contractor	
A	0600–1400hrs.	18	184	202
B	1400–2200hrs.	14	174	188
C	2200–0600hrs.	15	163	178
General Shift	0900–1730hrs.	50	308	358
	Total	**97**	**829**	**926**

Depending on the requirement, the employees are called in different shifts.

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4.0 PRODUCT & BY PRODUCT:-

SL.NO.	NAME OF PRODUCT	ONE TIME STORAGE QUANTITY IN TONNE	STORAGE TYPE & CAPACITY OF STORAGE	SIZE OF THE SPONGE IRON SHED
1	Sponge Iron	4700T	Under Shed of capacity 10000T	1 Length-50Mtrs Breath-18Mtrs Height-3Mtrs 2 Length-40Mtrs Breath-18Mtrs Height-3Mtrs 3 Lengh-25Mtrs Breath-18 Mtrs Height3Mtrs 4 Length-39Mtrs Breath-25 Mtrs Height-3Mtrs 5 Length-30 Mtrs Breath-18Mtrs Height-3Mtrs
2	Electric Power	Electric power generation 24 MW	NA	NA

BY-PRODUCT:-

SL.NO.	NAME OF THE BY-PRODUCT	ONE TIME STORAGE QUANTITY IN TONNE	STORAGE TYPE & CAPACITY OF STORAGE	SIZE OF THE CHAR COAL YARD
1	Char Coal	**200T**	Dump Yard of Capacity 81000.T	LENGTH-250MTRS BREATH–60MTRS HEIGHT–6MTRS

5.0 INVENTORYOFRAWMATERIALS:-

5.1

Sl.No.	Name of the Raw Material	Quantity of one time storage in MT	Type of Storage and capacity of storage areas	Size of the storage areas
1	IronOre	A.186615MT B.14260MT	A.OpenYard-16960.MT B.OpenYard-10800MT	A. OpenYard L-110Mtrs, B-40Mtrs B. OpenYard L-70 Mtrs, B-40Mtrs.,
2	Dolomite	1000MT	UnderShed1200.MT	UnderShed L-25Mtrs, B-20Mtrs.,H-3 Mtrs.
3	Coal	3600MT	1. OpenYard4000.MT 2.11740MT 3.2820MT 4.7240MT	1. OpenYard L-50mt., B-45mt., 2. UnderShed L-60mt., B-50mt, H-4mt. 3. UnderShed L-38mt, B-19mt H-4mt. 4. UnderShed L-50mt., B-37mt H-4mt

6.0 INVENTORYOFHAZARDOUSSUBSTANCE:-

Sl.No.	Name	Quantity of one time Storage	Type of Storage	Size of the above ground storage
1	HCL (30%-33%)	12KL	15KL Above the ground	D-2.8m L-2.8M
2	H_2SO_4 (98%)	1.5KL	2KL Above the Ground	Jarical strorage
3	(i) Transformer Oilinside2.5 MVA transformer (ii) Transformer Oil inside 1.6 MVA transformer	(i) 1700.Lts. inside the transformer (ii) 1000Lts.inside the Transformer	–	–

7.0INVENTORYOFHAZARDOUSGASES/SUBSTANCESPRODUCT/GENERATEDDURINGTHEPROCESS

Sl.No.	Name	Quantity of one time Storage	Type of Storage
NIL			

8.0IDENTIFICATIONOFHAZARDS:-

Hazards are mostly manifested in the form of pool-fire or fire. Each anticipated hazard scenarioassociated in the unit is described along with its assessment of impact on plant and locality in the followingtable.

Sl.No.	**Area/Activity**	**Hazard**	**Impact**
1.	Storage and Handling of Light Diesel Oil(LDO)	Pool fire / Fire ball may occurring case of direct contact with flame	Fire may propagate to the nearby tank and Stores.

2.	In transformer.	Fire may occur, short circuit/overheating of transformer oil inside the transformer/any naked flame come in Contact of the transformer oil	Fire will propagate within the transformer area.

9.0 IDENTIFICATION OF MOST CREDITABLE HAZARDS CENARIO:

The anticipated hazard scenario associated with the factory as mentioned above are critically analyzed and the following scenario is identified as Most Credible Hazardous Scenario:

METEOROLOGICAL DATA (Source-METEOROLOGICAL CENTRE,BHUBANESWAR)

Parameter	**Season**		
	SUMMER	**RAINY**	**WINTER**
Average wind speed(m/sec)	10	6	2
Average wind direction(from)	NE	NE	SE
Humidity (%)	60	92	34
Average ambient air temperature(^{0}C)	33	28	22

Case-1:FIRE HAZARD IN TRANSFORMER OIL IN 2.5MVA TRANSFORMER

Transformer oil is a flammable liquid as per schedule-1, Part-II (b) (v) having flash point of 144^0C, auto ignition temperature of >270^0C and explosive limit of 0.7% volume in air. So, it is susceptible to fire hazard. Whenever Transformer oil catches fire it shall manifest in the form of pool fire.

The significant heat flux that spread from the source in case of pool fire in transformer is mentioned below.

		Summer	**Rainy**	**Winter**	
Transformer Oil	4.5	17.9	17.2	15.5	Causes pain if unable cover the body within 20 seconds. However blistering of the skin (2nddegree burn) is likely caused with no lethality.
	12.5	9.8	9.5	8.3	Minimum energy required Form melting of plastic
	37.5	3.0	3.8	2.9	Sufficient to cause damage to the equipment.

Significant heat flux experienced at distance due to fire on transformer containing transformer oil in different season.

FIRE MODELING FOR TRANSFORMER OIL

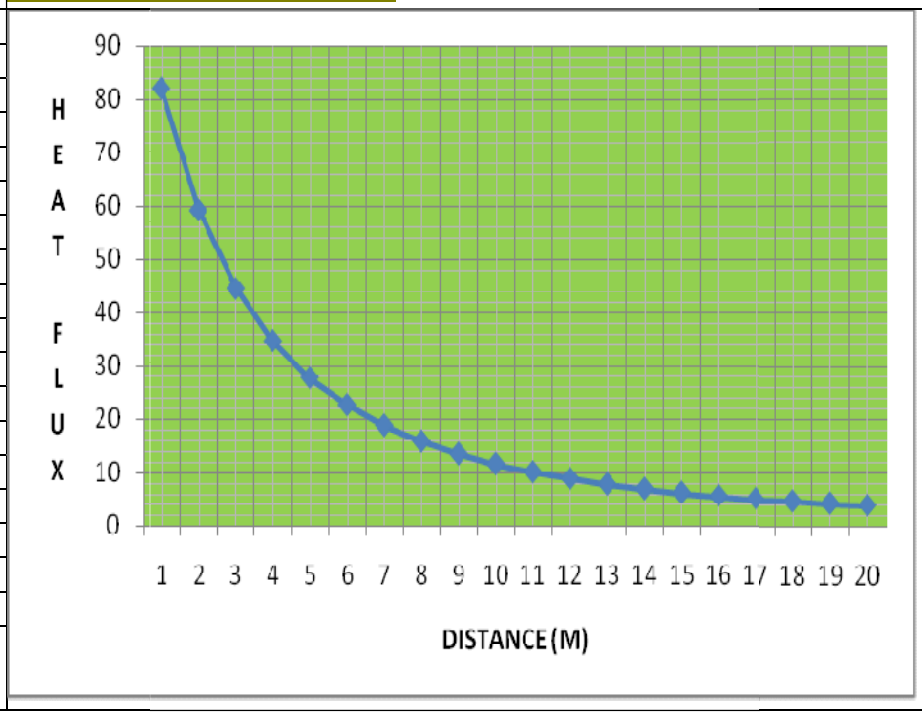
Storage detail			Input data
Storage type	.5MVA Transformer		Fr Summer Season
Capacity	1711L		
Meteorological data	Season		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10km/h	6km/h	2km/h
Average wind direction	NE	NE	34
Humidity (%)	60	92	28-45
Average ambient air temperature (^{0}C)	33	28	22

HEATFLUXDATAFORSUMMERSEASON

Distance (M)	Heat Flux(K W/m^2)
1	82.11
2	59.2
3	44.57
4	34.68
5	27.7
6	22.6
7	18.76
8	15.81
9	13.48
10	11.63
11	10.12
12	8.88
13	7.85
14	6.99
15	6.26
16	5.63
17	5.09
18	4.62
19	4.22
20	3.86

Heat propagation Curve
SOFTWARE-ALOHA

2MVATransformer:SummerSeason:



SIGNIFICANT“HEATLEVEL”EXPERIENCEDATDISTANCE

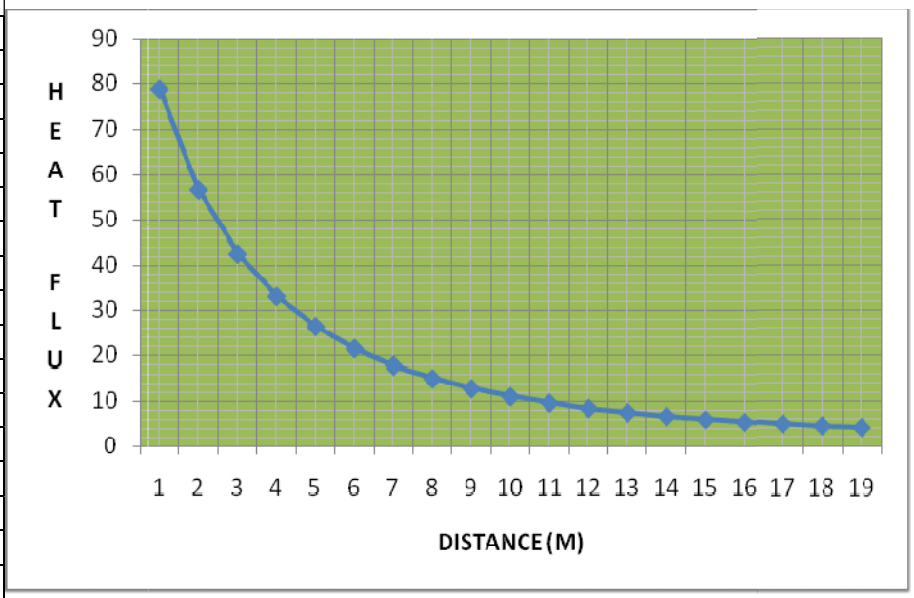
Significant Heat Level Value(KW/M^2)	Distance(M)	Indication
4.5	17.9	Causes pain if unable to cover the body within 20 seconds. However blistering of the skin(2nddegreeburn)is likely caused With no lethality.
12.5	9.8	Minimum energy required for melting of plastic
37.5	3	Sufficient to cause damage to the equipment.

FIREMODELINGFORTRANSFORMEROIL

Storage detail			Input Data for Rainy Season
Storage type	.5MVATransformer		
Capacity	1711L		
Meteorological data	Season		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10km/h	6km/h	2km/h
Average wind direction	NE	NE	SE
Humidity(%)	60	92	34
Average ambient Air temperature(^{0}C)	33	28	22

HEATFLUXDATAFORRAINYSEASON

Distance (M)	Heat Flux(KW /m^2)	Heat propagation Curve for Rainy Season: SOFTWARE-ALOHA
1	78.76	2.5MVATransformer:
2	56.63	
3	42.53	
4	33.01	
5	26.31	
6	21.42	
7	17.75	
8	14.93	
9	12.71	
10	10.94	
11	9.51	
12	8.33	
13	7.36	
14	6.54	
15	5.84	
16	5.25	
17	4.74	
18	4.3	
19	3.92	



SIGNIFICANT"HEATLEVEL"EXPERIENCEDATDISTANCE

Significant Heat Level Value (KW/M^2)	Distance(M)	Indication
4.5	17.2	Causes pain if unable to cover the body within 20 seconds. However blistering of the skin (2nddegreeburn)is likely Caused with no lethality.
12.5	9.5	Minimum energy required for melting of plastic
37.5	3.8	Sufficient to cause damage to the equipment.

FIREMODELINGFORTRANSFORMEROIL

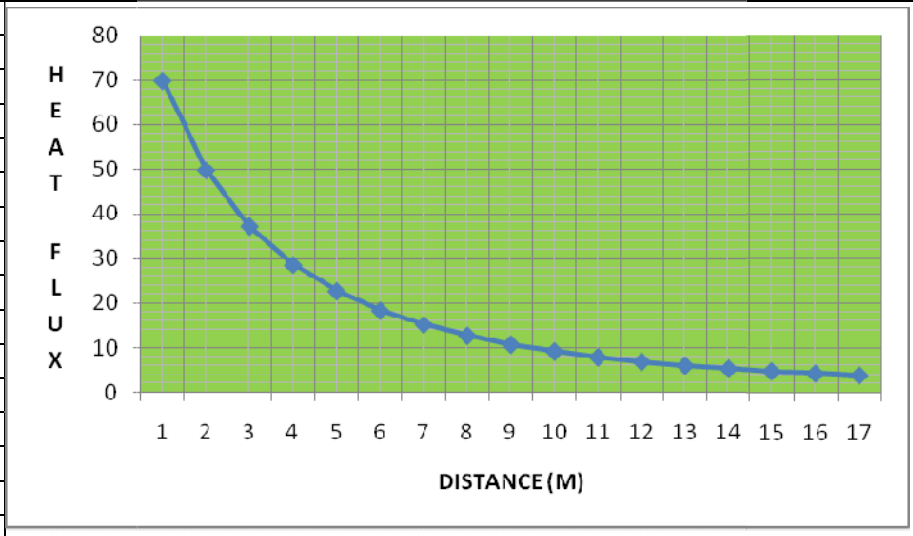
Storage detail			Input dataforWinterSeason
Storage type	.5MVATransformer		
Capacity	1711L		
Meteorological data	Season		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10m/h	6km/h	2km/h
Average wind direction	NE	NE	SE
Humidity (%)	60	92	34
Average ambient air temperature(^{0}C)	33	28	22

HEATFLUXDATAFORWINTERSEASON

Distance (M)	Heat Flux(KW /m^2)
1	69.93
2	49.85
3	37.15
4	28.63
5	22.66
6	18.33
7	15.1
8	12.62
9	10.69
10	9.15
11	7.91
12	6.9
13	6.06
14	5.36
15	4.77
16	4.27
17	3.84

HeatpropagationCurveforWinterSeason: SOFTWARE-ALOHA

2.5MVATransformer:



SIGNIFICANT“HEATLEVEL”EXPERIENCEDATDISTANCE

Significant Heat Level Value (KW/M^2)	Distance(M)	Indication
4.5	15.5	Causes pain if unable to cover the body within 20 seconds. However blistering of the skin(2nd degree burn)is likely Caused with no lethality.
12.5	8.3	Minimum energy required for melting of plastic

CASE–2FIREHAZARDINLDOSTORAGETANK

Fire hazard in LDO storage tank is considered as **most credible scenario** because of the following reasons: -

LDO is a flammable liquid as per class-3 having flash point of .>66^{0}C .. So, it is susceptible to fire hazard. Whenever LDO catches fire it shall manifest in the form of pool fire. In case of fire LDO storage tank the effect distance of significant heat radiation assessed in different season is given in the table given below.

Significant heat flux experienced at distance due to pool fire on LDO in differentseason.

Storage details	Significant heat level. Kw/m2	Experience at distance inMtrs			Indication
		Summer	Rainy	Winter	
LDO 20KL	4.5	5.9	4.5	5	Causes pain if unable cover the body within 20 Sec. However blistering of the skin (2nddegree burn) is likely caused with lethality.
	12.5	2.6	1.9	3.3	Minimum energy required for melting of plastic.
	37.5	1.3	0.8	0.6	Sufficient to cause damage to the equipment.

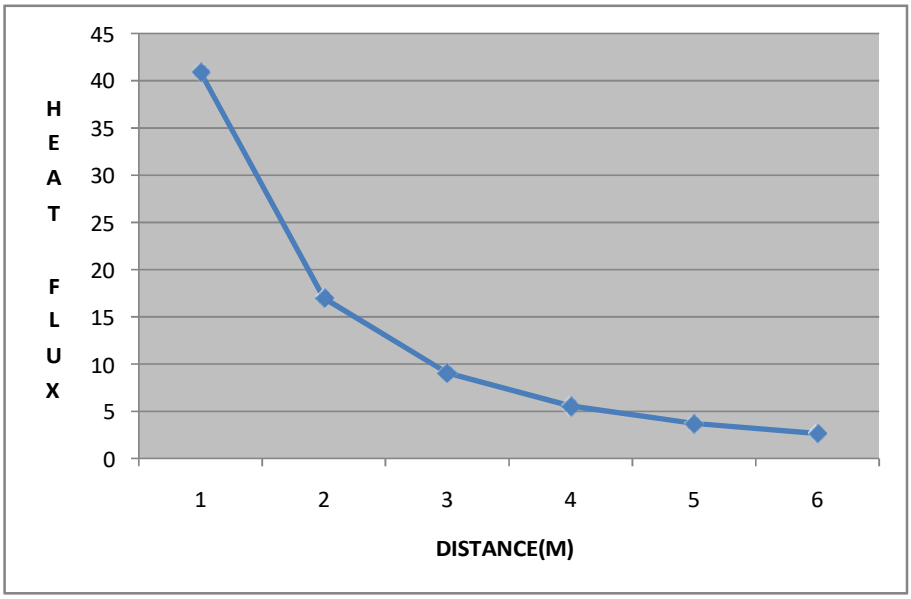
FIREMODELLINGFORLDOINSTORAGETANK

INPUTDATAFORSUMMERSEASON

STORAGEDETAILS		
Type of Storage	:	Aboveground Tank
Capacity	:	20KL

METEOROLOGICALDATA	SEASON(SOURCE-IMD,BBSR)		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10	6	2
Average wind direction	NE	NE	SE
Humidity	60	92	34
Averageambientairtemperature^{0}C	33	28	22

HEAT FLUX DATA FOR WINTER SEASON: Software Used-Aloha



SIGNIFICANT "HEAT LEVEL" EXPERIENCED AT DISTANCE

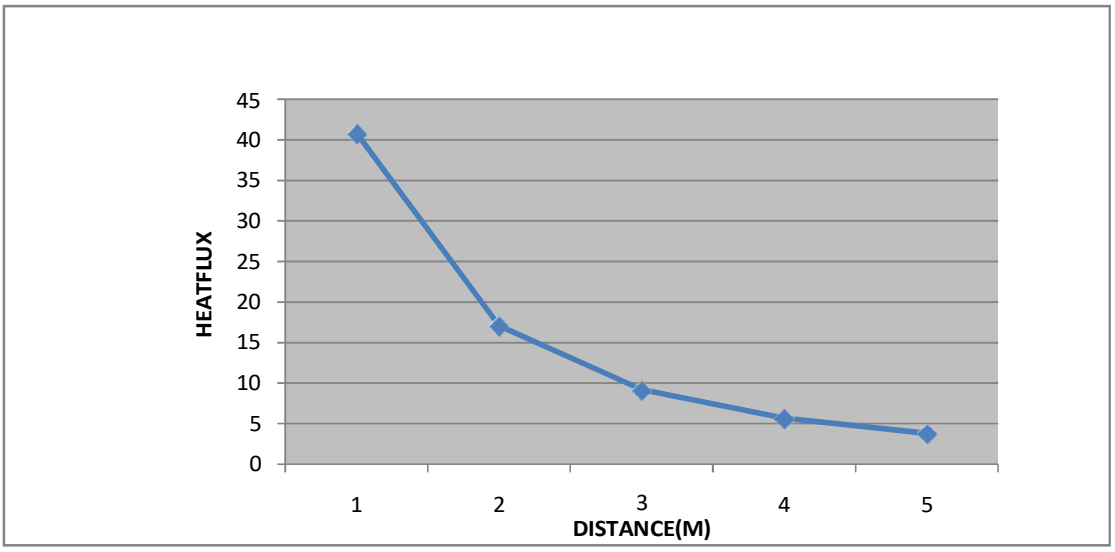
Significant Heat Level Value(KW/M^2)	Distance(M)	Indication
4.5	5.9	Causespainifunabletocoverthebodywithin20seconds. How ever blistering of the skin(2nddegreeburn)is likely caused with no lethality.
12.5	2.6	Minimum energy required for melting
37.5	1.3	Sufficient to cause damage to the equipment.

INPUTDATAFORRAINYSEASON

STORAGEDETAILS		
Type of Storage	:	Above ground Tank
Capacity	:	20 KL

METEOROLOGICALDATA	SEASON (SOURCE-IMD, BBSR)		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10	6	2
Average wind direction	NE	NE	SE
Humidity	60	92	34
Averageambientairtemperature^{0}C	33	28	22

HEAT FLUX DATA FOR RAINY SEASON: SoftwareUsed-Aloha



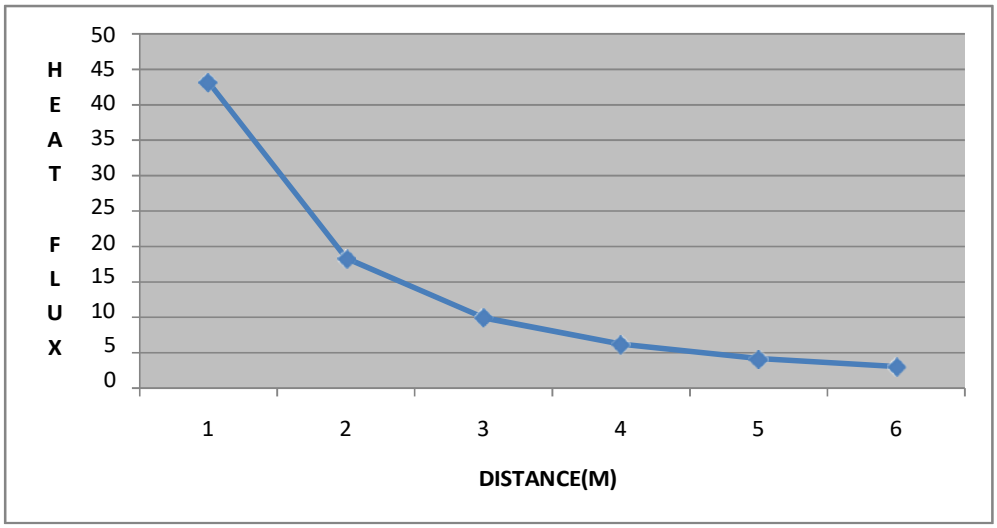
SIGNIFICANT“HEATLEVEL”EXPERIENCEDATDISTANCE

Significant Heat Level Value (KW/M^2)	Distance(M)	Indication
4.5	4.5	Causes pain if unable to cover the body within 20seconds. However blistering of the skin (2nd degree burn) is likely Caused with no lethality.
12.5	1.9	Minimum energy required for melting
37.5	0.8	Sufficient to cause damage to the equipment.

INPUT DATA FOR WINTER SEASON

STORAGE DETAILS		
Type of Storage	:	Above ground Tank
Capacity	:	20 KL

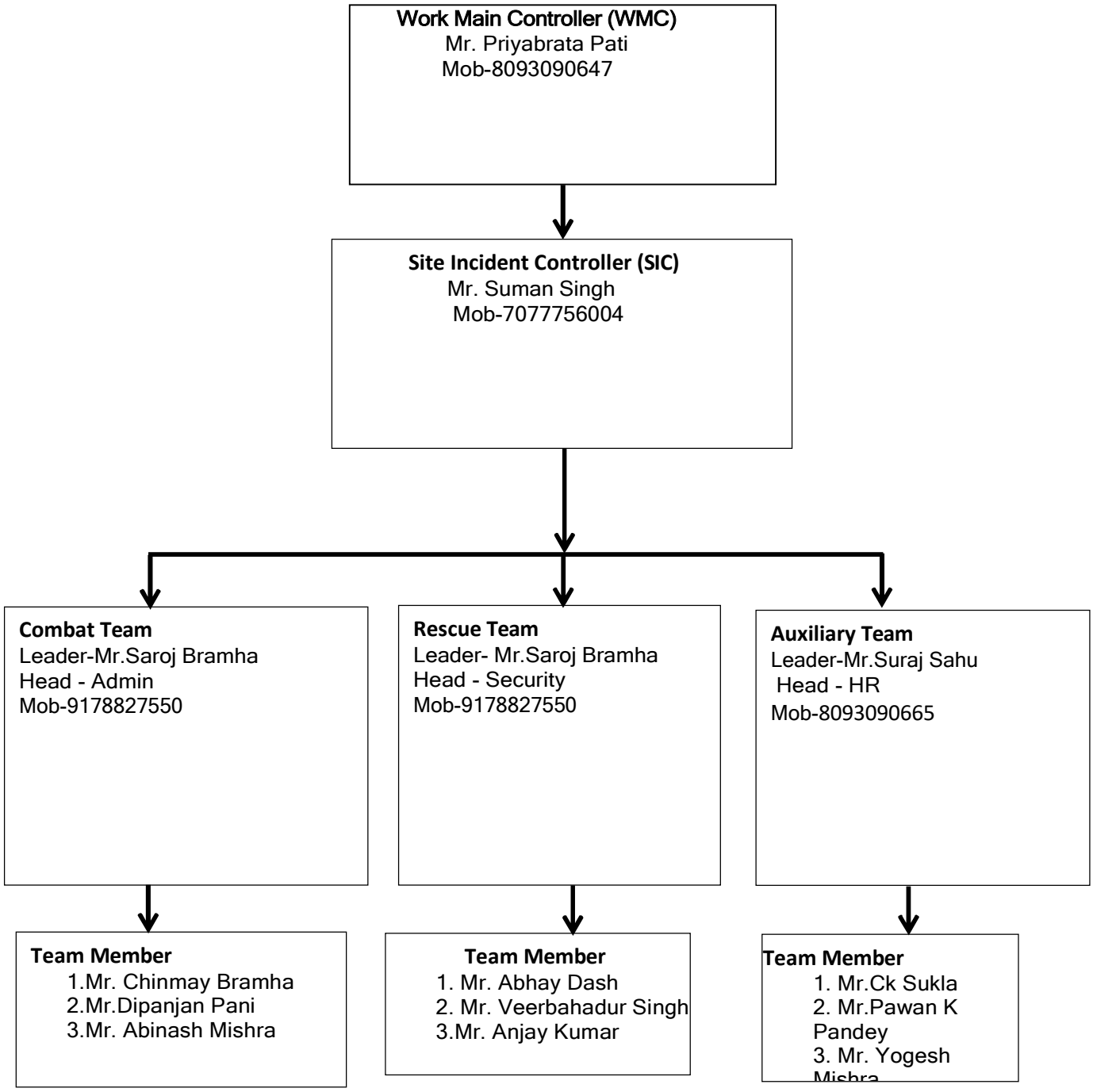
METEOROLOGICALDATA	SEASON(SOURCE-IMD,BBSR)		
Parameter	Summer	Rainy	Winter
Average wind speed m/sec	10	6	2
Average wind direction	NE	NE	SE
Humidity	60	92	34
Averageambientairtemperature^{0}C	33	28	22



SIGNIFICANT“HEATLEVEL”EXPERIENCEDATDISTANCE

Significant Heat Level Value (KW/M^2)	Distance(M)	Indication
4.5	5	Causes pain if unable to cover the body within 20seconds. However blistering of the skin (2nd degree burn) is likely Caused with no lethality.
12.5	3.3	Minimum energy required for melting
37.5	0.6	Sufficient to cause damage to the equipment.

11.EMERGENCY COMMAND STRUCTURE



12.0 ROLE OF KEY PERSONS OF EMERGENCY COMMAND STRUCTURE

WORKS MAIN CONTROLLER (WMC):-

- On being informed, rush to the scene and take overall charges of the situation

- Make quick assessment of the situation and decide declaration of emergency by blowing the siren in appropriate code [**intermittent three times with half minutes interval**]

Direct respective leaders through Site Incident Controller to take control of the situation in the affected area

Make continuous review and assess the possible developments to determine the extent of damage to plant and human beings

Direct shut-down the plant, if necessary

Orders evacuation process by consulting with key persons

Ensure that casualties are receiving adequate attention

Liaise with the fire services, police services and other statutory authorities

Declare closure of the emergency by blowing the siren [only once long siren for 25 seconds]

Issue the authorized statements to the media services

Report all statutory authorities in the prescribed manner

Communicate to employees about the mishap, measures taken and giving confidence to employees for avoiding recurrence of the incident by investigation and ordering preventive measures to be implemented

SITEINCIDENTCONTROLLER:-

On hearing Emergency siren, rush to the scene and report to the Works Main Controller

Carry out the instruction of Works Main Controller

MakequickassessaboutthegravityofthesituationandappraisesWorksMainController

Orders Combat Team Leader, Rescue Team Leader and Auxiliary Team Leader to perform their responsibilities immediately

Extendallsortsofhelpthroughdifferentagenciestominimizethedamagetohumanbeings,plant,propertyandenvironment

ReportthedevelopmentofthesituationtimetotimetoWorksMainController

Providetherequiredinformationtothefirebrigadeteamforfirefighting

Preservetheevidencesforthesubsequentinquiries

COMBATTEAMLEADER:-

On hearing the emergency siren, rush to the scene with firefighting team with sufficient equipment in the minimum possible time and report to Site Incident Controller

Carryout the instruction of Site Incident Controller

Ensure the team members resume their position with appropriate equipment

Monitor the firefighting operation to control the situation

Ensure that the situation is controlled by arresting, spillage, fighting fire, shutting of the valve and equipment by the team in consultation with Site Incident Controller

Assist the Site Incident Controller till the situation is under control

COMBAT TEAM MEMBERS:-

On hearing the emergency siren, rush to the scene with firefighting equipments in the minimum possible of time and report to their team leader

Carry out orders of the team leader

Operate the firefighting equipment for controlling the situation.

RESCUE TEAM LEADER:-

On hearing the emergency siren, rush to the scene and report to the Site Incident Controller

Carryout the instruction of the Site Incident Controller

Ensure the arrival of his team members

Keep necessary equipments of first-aid for preliminary treatment

Keep the ambulance ready to carry the injure persons to the hospital

Ensure the proper personal protective equipments lead the team for rescue operation

Inform the Works Main Controller for the developments time to time

Guide the mutual aid partners for their course of action at the site

Guide the non-essential persons to reach assembly point

Search the missing person on the roll call basis

RESCUE TEAM MEMBERS**:-**

On hearing the emergency siren, rush to the scene with appropriate personal protective equipments and report to their team leader

Carry out orders of the team leader

AUXILIARYTEAMLEADER**:-**

- Onhearing the emergency siren rush to the scene and report to the Site Incident Controller
- Carryout the instruction of Site Incident Controller
- Ensure the arrival of his team members
- Intimate statutory authorities over phone
- Intimate nearest Fire Station over phone
- Intimate mutual-aider over phone
- Keeps the first- aid and primary health center staff, equipment ready to take care of immediate medical needs
- Takes care of victims 'family. Make all arrangement like transport, otherneeds, arrange finance
- Ensure all casualties are shifted to hospital for medical treatment
- KeeprecordsofcasualtiesandprovideinformationofthemattertoWorksMainController

AUXILIARYTEAMMEMBERS**:-**

- On hearing emergency siren, rush to the scene and report to the teamleader
- Carryout the orders of the team leader
- Provide immediate first-aid treatment to the victims
- Ensure ambulance vehicle ready
- Coordinate with combat team, rescue team, statutory authorities and mutual-aidpartners

14.0 ACTION PLAN FOR ON-SITEEMERGENCY:

STEPNO.	INITIATOR	ACTIONTOTAKE
1.	The person noticing the emergency	➢ Inform the Security Gate and the concerned Shift-in-Charge who in turn will inform Combat Team Leader immediately regarding the fire hazard.
2.	Combat Team Leader(CTL)	➢ Inform Site Incident Controller (SIC) through common dialing system and rush to spot for combating the situation. Take charge of the situation, arrange for evacuation of people not directly concerned. ➢ To organize for trained personnel equipped with fire fighting appliances and call for fire tender at the place of fire. ➢ To start combating, shutdown equipments and taken steps to extinguish fire with fire fighting facilities. ➢ To find out the root cause of fire and to take necessary action for prevention of fire.

3.	Site Incident Controller(SIC)	➢ Inform Works Main Controller(WMC) and will rush to Site. In case of failure electronic communication system, the stand by available provision for runner with bike, will be there to pass on the command as advised. ➢ Discuss with Combat Team Leader (CTL),assesses the situation and call the Rescue Team Leader(RTL)& Auxiliary Team Leader(ATL). ➢ Inform to the Rescue Team leader and Auxiliary Team leader and send them to site. ➢ Arrange to evacuate the unwanted persons and call for additional help. ➢ Time to time to pass information to the Works Main Controller (WMC) about the situation at site.
4.	Works Main Controller(WMC)	➢ Rush to Emergency Site and observe the ongoing activities. ➢ Takes tock of the situation in consultation with the S IC. ➢ Move to Emergency Control Room. ➢ Take decision on declaration of emergency and ask for emergency wailing siren. ➢ Advise Auxiliary Team Leader to inform the statutory authorities and seek help of mutual aid if required. ➢ Decide on declaration of normalcy of emergency after combating the situation. ➢ Ensure that the emergency operations are recorded chronologically.

5.	Rescue Team Leader (RTL)	➢ Consult with Site Incident Controller (SIC) and Rush to Emergency Site through safer out along with the team members and start the rescuing work. ➢ Shift the injured persons to hospital by ambulance after providing necessary first aid. ➢ To inform the Auxiliary Team Leader for necessary help from Mutual-Aid Partners.
6.	Auxiliary Team Leader (ATL)	➢ On being directed by Works Main Controller (WMC)inform about the emergency to Statutory Authorities depending upon the situation. ➢ Seek help of Mutual Aid Partners and Coordinate with Mutual Aid Partners to render their service if required. ➢ To take role call to find out the missing persons if any. Arrange to inform the relatives of Casualties. ➢ Take care of visit of the authorities to the Emergency Site.
7.	Team Members	➢ Each of the team members should follow the instruction of concerned team leader to mitigate the emergency.

15.0 ACTIVATION AND CLOSING PROCEDURE

FOR ON-SITEEMERGENCY

➢ **Any body** notices FIRE, shouts "FIRE, FIRE", "FIRE" and informs to Shift-in-charge [or Smoke detector indicates fire alarm installed in the emergency control room].

➢ Being informed about fire, the **Shift-in-charge** informs **Works Main Controller** and **Site Incident Controller.**

➢ On hearing about the fire, Works Main Controller and Site Incident Controller rush to the scene and make quick assessment of the situation.

➢ On quick assessment of the situation, the Works Main Controller rush to the emergency control room and declare emergency by blowing appropriate siren code [**intermittent three times with half minutes interval**].

➢ On hearing of Emergency siren the key personnel of Emergency Combat structure perform their duties and responsibilities as per the work sheet.

- During the emergency operation, the Works Main Controller keeps records of activities carried on, supervises overall, maintain liaison with mutual aiders, statutory authorities.
- After being controller the situation, the Works Main Controller declares normalcy by blowing appropriate siren[three minutes continuously].

ANNEXURE-I

DETAILS OF FACILITIES AVAILABLE

Emergency Control Room is the place from where all emergency management operations are directed and coordinated. It is also the place from where all communications will be established, without side agencies and district authorities.

Facilities available**:-**

- Mobilephone-2nos.
- Winddirectionandspeedindicator–1(One)No.
- Windsock–1(One)no.
- Wallboardsforfixingupdrawingsanddrawingpins.Flipcharts,drawingsheetsandsketchpens
- Switch for actuating the siren, drinking water arrangement, tables, chairs,etc.
- Details of address and telephone numbers of key personnel of emergency command structure, statutory authorities and mutual aiders
- Worksheet of key personnel of emergency command structure
- Applicable siren code

Additional information

- Safety manual
- Material safety datasheets of LDO &Transformer Oil
- List of emergency telephone numbers (external and internal)
- Local Police &telephone directories
- List of people working in the installation, location wise
- List of residential addresses of employees/contract workers and casual workers

Equipment:-

- Emergency lights–2(Two)nos.
- Sufficient number of torchlights–7(Seven)nos.
- Personal protective equipment–Helmet-50nos.; Safetyboot-50pairs; Safetygloves-40pairs; Safetygoggles-25nos. ; Nosemask-120nos. ; Weldingglass-5nos.; Welding helmet- 5nos.
- Red/Greenflag–2nos.each.

Assembly Points:-

In an emergency, it will be necessary to evacuate people from the affected zones or the zones likely to be affected, to safe areas. The safe areas are identified and designated as Assembly Points (AP).The location of the assembly point is the vacant space shown in the Plot Plan. Arrangements for taking head count of persons, reconciling the head count with the attendance rolls, temporary shelter and further evacuation if necessary to safer place outside factory campus can be made.

ESCAPE ROUTES AND WINDSOCKS

Escape Routes:-

Escape routes are those that allow reasonably safe passage of persons from the work areas to theAssemblyPoint.Theseroutewouldbedifferentfordifferentwinddirections.Forfireexplosionscenarios, evacuation decisions and escape routes are to be based on the distances at which heat radiation flux reach esa level harmful to human beings(4.5KW/m^2forheat radiation).Escape routes are marked on the drawings that would facilitate site incident controller to precisely announce the routes incase of evacuation.

Windsocks:- During emergencies, the knowledge of exact wind direction helps the factory personnel to decide on the escape route to be taken for safe evacuation of personnel and also the safe assembly point and Emergency Control Centre. Therefore, the windsock is provided at the top-most point of the factory building (at TG Building) for easy identification of the wind direction.

COMMUNICATINGTHEEMERGENCYANDMEDICALAID

For communicating the declaration of emergency and evacuation decision to the plant personnel, it is envisaged that the siren would be utilized.

Declaration of emergency	:-	Intermittent three times with Half-minute interval
Normal factory siren	:-	Continuousfor30secs.
All-clear signal	:-	Continuousfor3mins.

❖ **Emergency Medical arrangement:-**

- The first-aid box is available in each department–15nos.
- First-aid boxes are maintained in each department
- Adequate stock of essential medicines, bandages and other appliances are being maintained.

❖ **Fire Extinguishers**

Required types of fire extinguishers have been provided at different locations of the plant as given below:-

❖ **Fire Hydrant System**

Fire hydrant lines are under project.

❖ Fire Buckets

Fire buckets filled with dry sand are provided in different locations of the plant.

❖ Siren

Company has Siren/hooter arrangement, which can be activated manually during fire related/gas leakage emergency.

❖ Communication

Public address system and EPABX telephone is available for effective communication inside the plant. Telephone directory is available in the entire department.

❖ First Aid Box

Company has provided First Aid boxes with required first aid medicines at different locations inside the plant for any injury. First aid boxes are being checked once in a month and medicines are replaced.

General Safety Precaution to Hazards:

1. Wear only cotton/approved work clothes while on duty in the plant.
2. Don't resort to short cuts.
3. Don't attempt to operate any equipment to which you are not specifically assigned.
4. Don't use the defective equipment of any kind.
5. Use the PPE to work safely.
6. Insist your fellow workers to observe the safety rules.
7. Take instruction from your superior before starting any new works.
8. Report all injuries/dangerous occurrence to your superior.
9. Curing emergency be strictly guided by the emergency action plan.

FIRE ALARM SYSTEM

There is an electric siren, installed at emergency control room, which warns to workers and employees in case of any emergency standby arrangement in case of power failure DG set is available for the fire alarm system.

DETAILS OF TELEPHONE NUMBERS OF

KEY PERSONNEL OF EMERGENCY COMMAND STRUCTURE

Sl.No.	Name of Key Personnel	Designation as per Emergency Command structure	TELEPHONE/CELL NEMBER
1	Mr.Priyabrata Pati	Works main Controller	8093090647
2	Mr. Suman Singh	Site Incidence Controller	7077756004
3	Mr. Saroj Bramha	Combat team	9437000674
4	Mr. Saroj Bramha	Rescue Team	9437000674
5	Mr. Suraj Sahoo	Auxiliary Team	7008416678

DETAILSOFTELEPHONENUMBERSOF STATUTORYAUTHORITY

Sl.No.	AUTHORITY	TELEPHONENUMBER(OFFICE)
1	Collector and District Magistrate, Keonjhar	06766-255401
2	Addl. District Magistrate(General), Keonjhar	06766-255403
3	Sub Collector, Keonjhar	06766-255436
4	Superintendent Police, Keonjhar	06766-254106
5	Deputy. Superintendent Police, Keonjhar	06766-255403
6	Emergency Officer, Keonjhar	06766-255437
7	Fire Service, Keonjhar	06766-255501

8	Chief Medical Officer,Keonjhar	06766-255440
9	Police Station, Raisuan	06766-254106
10	Asst. Director of Factories & Boilers, Keonjhar	06766-253673
11	Director of Factories & Boilers, Odisha, Bhubaneswar	0674-2396070

ANNEXURE-V

MATERIAL SAFETY DATA SHEET

DURA LIFE ®TRANSFORMER OIL-

MSDS Number:12038

1. PRODUCT AND COMPANY IDENTIFICATION

Revision Date: 8/09/2010 Product Name: DURA LIFE®TRANSFORMER OIL-

ALL GRADES

2. HAZARDS IDENTIFICATION:

IMMEDIATE HEAL THE EFFECTS:

EYE: Not expected to cause prolonged or significant eye irritation.

SKIN: Contact with the skin is not expected to cause prolonged or significant irritation.Not expected to be harmful to internal organs if absorbed through the skin.

INGESTION:Notexpectedtobeharmfulifswallowed.

INHALATION:Thisproductisnotexpectedtoposeaninhalationhazardunderconditions of normal use. Thisproduct has a lowvapor pressureand is not expected topresent an inhalation hazard at ambient conditions.Cautionshouldbetakentopreventaerosolizationormistingofthisproduct.Acuteandchronicoverexposuresgeneratedunderunusualconditionsmaybeirritatingtotherespiratorytract.

3. FIRSTAIDINFORMATION:

EYECONTACT:Immediatelyflusheyeswithlargeamountsofwaterandcontinueflushinguntilirritationsubsides.Ifmaterialishot,treatforthermalburnsandseekimmediatemedicalattention.

SKINCONTACT: Notreatment isnecessaryunder ordinarycircumstances. Remove contaminated clothing.Wash contaminatedarea thoroughly with soap and water.If material is hot, submerge injured area in coldwater.Ifvictimisseverelyburned,removetoahospitalimmediately.

INHALATION:Thismaterialhasalowvaporpressureandisnotexpectedtopresentaninhalationexposureat ambient conditions. If vaporor mist is generated whenthe materialisheated, and the victim experiencessignsofrespiratorytractirritation,removetofreshair.

INGESTION:Notreatmentisnecessaryunderordinarycircumstances.Donotinducevomiting.Thismaterialdoesnotpresentanyknowningestionhazard.

4. FIREANDEXPLOSIONINFORMATION:

FlammableProperties:

FlashPoint:>293^{o}F(145^{o}C) TestMethod:ASTMD92 (C.O.C.)FlammableLimitsin Air

UpperPercent:NA LowerPercent:NA

Auto-ignitionTemperature:>270^{o}C

TestMethod:NA

NFPAClassification:Health:0Flammability:

1Reactivity:0ExtinguishingMedia:Usedry chemical, foam, or

carbon dioxide.FireFighting Measures

SpecialFireFightingProceduresandEquipment:Watermaybeineffectivebutcanbeusedtocoolcontainersexposedtoheatorflametopreventvaporpressurebuildupandpossiblecontainer rupture.Cautionshouldbe exercised when using water or foam as frothingmay occur, especially if sprayed intocontainersofhot, burningliquid.

UnusualFireandExplosionConditions:Densesmokemaybegeneratedwhileburning.Carbonmonoxide,carbondioxide, andotheroxidesmaybegeneratedasproductsofcombustion.

HazardousCombustionBy-Products:None

5. ACCIDENTALRELEASEMESURES:

ProtectiveMeasures:Eliminateallsourcesofignitioninvicinityofspilledmaterial.

AccidentalReleaseMeasures:Stopthesourceoftheleakorrelease.Cleanupreleasesas

soonaspossible,observingprecautionsinExposureControls/PersonalProtection.Contain liquidtopreventfurthercontaminationofsoil,surfacewaterorground-water.Cleanupsmall spills using appropriate techniques suchassorbentmaterialsorpumping.Wherefeasibleandappropriate,removecontaminatedsoil.

6. HANDLINGANDSTORAGEINFORMATION:

Handling:Fireextinguishersshouldbekeptreadilyavailable.

STORAGE:Donottransfertounmarkedcontainers.Storeinclosedcontainersawayfromheat,sparks,openflame,oroxidizingmaterials.Seealsoadditionalinformationsectionbelow.

EmptyContainerWarnings

DRUMS:Emptydrumsshouldbecompletelydrained,properlybungedandpromptlyreturnedtoareconditioneddrum,or properlydisposed.Emptycontainersretainproductresidueandcanbedangerous.

PLASTIC:Donotreusethiscontainer.Emptycontainermayretainproductresidues.

7. EXPOSURECONTROLS/PERSONALPROTECTION:

ExposureLimitsandGuidelines:ThisproductdoesnotcontainanycomponentswithOSHAorACGIHexposurelimits.

PersonalProtectiveEquipment

EYE/FACE PROTECTION:Nospecialeyeprotectionisnormallyrequired.Wheresplashingispossible,wearsafetyglasseswithsideshieldsasgoodsafetypractice.

SKINPROTECTION: No skinprotection is required for single, short durationexposures. For prolonged orrepeated exposures, use impervious clothing(boots, gloves, aprons, etc.) over parts of thebody subject toexposure. If handlinghot material, use insulated protective clothing (boots, gloves, aprons, etc.). Laundersoiledclothes.Properlydisposeofcontaminatedleatherarticlesincludingshoes,whichcannotbedecontaminated.

RESPIRATORY PROTECTION: Respiratoryprotectionis not requiredunder conditions of normaluse. Ifvapor or mist isgeneratedwhen thematerial isheated orhandle, usean organicvaporrespiratorwithadustandmistfilter.AllrespiratorsmustbeNIOSHcertified. Do not use compressed oxygen in hydrocarbonatmospheres.

PERSONALHYGIENE:Alwayswashhandsandfacewithsoapandwaterbeforeeating,drinking ,orsmoking.Consumptionoffoodandbeverageshouldbeavoidedinworkareaswherethisproductispresent.

ENGINEERING CONTROL/WORKPRACTICES: Useina well-ventilated area. If user operationsgenerateanoilmist,useprocessenclosures,localexhaustventilation,orother engineering controls to control airbornelevelsbelowtherecommendedmineraloilmistexposurelimits.

8. PHYSICALANDCHEMICALPROPERTIES:

Appearance : BrightYellowPourPoint:<-40^{o}F(-40^{o}C)

Odor : Petroleum–

mildSolubilityinWater:NegligibleinwaterPhysicalState :

LiquidVaporPressure:<0.1mmHg

BoilingPoint : >482^{o}F(250^{o}C)VaporDensity(air=1):NA

MeltingPoint : -59.8^{o}F(-51^{o}C)pH:NA

SpecificGravity : <1Viscosity@40^{o}C:12cStM

9. STABILITYANDREACTIVITYINFORMATION:

ChemicalStability : Stable

ConditiontoAvoid : High heat

andopenflamesIncompatibleMaterialstoAvoid : May react with

strong oxidizing agents10.TOXICOLOGICALINFORMATION:

PrimaryEyeIrritation : NA

PrimarySkinIrritation : NA

AcuteDermalToxicity : NA

SubacuteDermalToxicity : NA

DermalSensitization : NA

InhalationToxicity : NA

OralToxicity : NA

Mulagenicity : NA

11.DISPOSALINFORMATION:

Regulatory
Information:Alldisposalsmustcomplywithfederal,state,andlocalregulations.Thematerial, if spilled or discarded, may be a regulated waste. Refer to state andlocalregulations.DepartmentofTransportation (DOT) regulations may applyfortransportingthismaterialwhenspilled

WasteDisposalMethods:
Wastematerialmaybelandfilledorincineratedatanapprovedfacility.Material sshouldberecycledifpossible.

11.TRANSPORTATIONINFORMATION:

Highway/Rail(Bulk): NotRegulated

Highway/Rail(Non-Bulk) : NotRegulated

TheDOTdescriptionisprovidedtoassistinthepropershippingclassificationofthisproductandmaynotbesuitableforallshippingdescriptions.HealthandEnvironmentalLabelLanguage

CAUTION:ContainsPetroleumLubricant.Repeatedskincontactcancauseskindisorders.

ATTENTION:Usedmotoroilisapossibleskincancerhazardbasedonanimaldata.Repeatedexposuretooilmistinexcessoftheoshalimit (5mg/m3)canresultinaccumulationofoildropletsinpulmonarytissue.

PRECAUTIONARYMEASURES:Avoidexcessive&prolongedskincontact.Washthoroughlyafterhandling.Avoidgeneration andinhalationofoilmists.

INSTRUCTIONS IN CASE OF FIRE OR SPILL: In caseof fire, usewater spray, foam, dry chemicalorcarbondioxide.Waterspraymaybeineffective,butcanbeusedtocoolcontainers. In case of spill, do not use water,soakup with absorbentmaterial.

MSDSOFLIGHTDIESELOIL(LDO)

ChemicalName:LightDieselOil
ChemicalFormula:Complexmixtureofhydrocarbons

HazardsIdentification

PrimaryEntryRoutes:Ingestion,inhalation,skinandeyes

Acute Effects :Inhalationcancausedizziness,headacheandnausea,depresses central nervoussystemand has an anesthetic effect. Breathing of liquid droplets maylead to chemical pneumonia.Ingestion can lead to nausea, diarrhea andaffect central nervoussystem. Skin irritant. Prolonged contact can result in skin dryinganddermatitis.Eyeirritant.

FirstAidMeasures

Eyes: Flush with waterfor15 min.Getmedicalattention. Skin: Washwithwarmwater&soap.
Inhalation :Removetofreshair.Consultaphysicianifirritationpersists. Ingestion: Donotinducevomiting.Donotgiveliquids.Getmedicalhelpatonce.

FireFightingMeasures

Auto ignition Temperature :	230 °Cto250°C(highlyvariable)
LEL:	0.5%
UEL:	5.0%
FlammabilityClassification:	Flammable
ExtinguishingMedia:	Foam,DryChemicalPowder,CO2
Unusual Fire or Explosion :	Heatproducesvapoursandcancauseviolentruptureofcontainers.

HazardousCombustionProducts :Carbondioxide,carbonmonooxide,benzene
Fire-FightingInstructions:Smallfirescanbeextinguishedbyhandheldextinguishers.Majorfiresmay require withdrawalandallowingthetanktoburn.Firefighters should wear self-breathing apparatus while fightingfire

AccidentalReleaseMeasures

SmallSpills:Shutoffleakswithoutrisk.Absorbonsandorearth.
Containment:Preventspillagefromenteringdrainsorwatersources
Cleanup: Afterspillswashareawithsoapandwaterpreventingrunofffrom . enteringdrains

HandlingandStorage

HandlingPrecautions:Donotuse/storenearheat/openflame.Usegumboots,gloveswhilehandlingthe product. Do not inhale. Stay upwind whilehandling the product.Product should neverbeusedtoremoveoilor grease from skin. It should not besiphoned by mouth. Itshould be stored in closed containers away fromheat&sourceof ignition. Avoid contact with skin and eyes. Wash thoroughlyafterhandling

StorageRequirements:Donotuse/storenearheat/openflame/water/acids

ExposureControls/PersonalProtection

Physical State :Liquid AppearanceandOdour:DarkbrownishliquidCharacteristichydrocarbonlikeodourVapor Pressure :0.5mmofHgat38°C (RVP)
SpecificGravity:0.84to0.895gm/cc WaterSolubility:Insoluble
Boiling Point:207-535DegC PourPoint :<21°C
VapourDensity :3to5(Air=1) Sulphurcontent:<1.8%w
Stability:Chemicallystable.
ChemicalIncompatibilities:Incompatiblewithoxidizingagents&chlorine.Reactsvigorouslywithoxidizingmaterials.
HazardousDecompositionProducts:Carbondioxide,carbonmonooxide

EcologicalInformation

Preventspillagefromenteringdrainsorwatersources.Afterspillswashareawithsoapandwaterpreventingrunoff from enteringdrains.Can burn withlotof heatproducingCO2 andCO.

DisposalConsiderations

Disposal:Wastemustbedisposedofinaccordancewithfederal,stateandlocalenvironmentalcontrolregulations

RegulatoryInformation

Non-Toxic/FlammableSubstance.

MSDSofSulfuricAcid

HAZARDSIDENTIFICATION

Health		Physical	Environmental
Acute Toxicity(Inhalation)	– Category2	CorrosivetoMetals– Category1	AquaticToxicity– ShortTerm– Category3
SkinCorrosion	– Category1		
EyeDamage	– Category1		
Specific Target Organ Toxicity	– Category3		
AcuteExposure	– Category2		
ChronicExposure			

Symbols:	SignalWord: DANGER
	
HazardStatementsDANGER! Causessevereskinburnsandseriouseye damage. Maycauserespiratoryirritation. Maycausedamagetoteeththroughprolonged and repeated exposure to sulfuric acid mists. Fatal if inhaled.	PrecautionaryStatements: Wearprotectivegloves,protectiveclothing, eye and face protection. Washexposedskinthoroughlyafter handling. Store and use only in a well-ventilatedarea.Keepcontainers tightlyclosed.

Maybecorrosivetometals. Harmful to aquatic life.	In case of inadequate ventilation wear respiratoryprotection.Donotbreathemist. Avoid release to the environment. Absorb spillage. IF IN EYES:Rinse continuously with water for several minutes.Continue rinsing and immediately call a poison centre/doctor. Specific treatment is urgent. IF ON SKIN:Take off immediately all contaminated clothing.Rinse skin with water or shower.For large area burns, immediately call a poison centre/doctor. Washcontaminatedclothingbeforereuse. IFINHALED:Removepersontofreshair and keep comfortable for breathing. IFSWALLOWED:Rinsemouth.DONOT induce vomiting. Getmedicalattentionifyoufeelunwell. Storeincorrosionresistantcontainerwith a resistant inner liner.

Emergency Overview:A strong mineral acid present as a colourless and odourless oily liquid when pure but may appear yellow to dark brown when impure.Extremely corrosive to all body tissues, causingrapidtissuedestructionandseriouschemicalburns.Skinoreyecontactrequires immediate first aid.Can decompose at high temperatures, forming toxic gases such as sulphur oxides.Non-flammable but reacts violently with water, generating large amounts of heat with potential for spattering of the acid.Can react with combustible materials to generate heat and ignition.Reactswithmostmetals,particularlywhendilutedwithwater,toformflammable hydrogen gaswhich maycreatean explosionhazard.It is highlytoxictoaquaticorganisms and plant life.

PotentialHealthEffects:

Sulfuricacidisnot veryvolatileandworkplaceexposuresarethereforeprimarilyduetoaccidental splashes or to processesor actionsthat generateanacidmist.It is extremelycorrosivetoallbody tissues,causingrapidtissuedestructionandseriouschemicalburns oncontactwiththeskinor eyes. Skinoreyecontact requiresimmediatefirst aid.Inhalationof sulfuricacidmistor fumesmayproduce irritationof thenose,throatandrespiratorytract.Highlevels of acidmist arealso irritatingtotheskin andeyes.Chronicinhalationofacidmistmaycausepittinganderosionoftoothenamel.Sulfuricacid, perse,isnotlistedasacarcinogenbyOSHA,NTP,IARC,ortheACGIH.However,IARC,theACGIH andtheNTPhaveconcludedthereissufficientevidencethatoccupationalexposuretostronginorganic acidmistscontaining sulfuricacidiscarcinogenicor potentially carcinogenic tohumans(see Toxicological Information, Section 11).

PotentialEnvironmentalEffects:

Sulfuricacid ishighlytoxicto aquaticorganismsand terrestrialplant life; however,itdoesnot bioaccumulateorbioconcentratethroughthefoodchain(seeEcologicalInformation,Section12).

COMPOSITION/INFORMATIONONINGREDIENTS

HAZARDOUSCOMPONENTS	CASRegistry No.	CONCENTRATION(% wgt/wgt)
SulfuricAcid	7664-93-9	93%

FIRSTAIDMEASURES

EyeContact:*Symptoms:*Burning,pain,blurring.Avoiddirectcontact.Wearchemicalprotective

gloves, if necessary.Quickly and gently blot excess acid off face.Immediately flush the contaminated eye(s) with lukewarm, gently flowing water, for at least 30 minutes, while holding the eyelid(s) open.If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens.
Neutral saline solution may be used as soon as it is available.DO NOT INTERRUPT FLUSHING.If necessary, continue flushing during transport to emergency care facility.Take care not to rinse contaminated water into the unaffected eye or onto the face.Quickly transport victim to an emergency care facility.

Skin Contact:*Symptoms:*Burning, pain, ulceration.Avoid direct contact.Wear chemical protectiveclothingifnecessary.Asquicklyaspossible,removecontaminatedclothing,shoesandleather goods(e.g.,watchbands,belts),undershowerifpossible.Flushwithlukewarm,gentlyflowing water for at least 30 minutes.DO NOT INTERRUPT FLUSHING.For acid splashes over large areas ofthe body transport quickly to an emergency care facility.If necessary, and if it can be done safely, continue flushing during transport to emergency care facility.Completely decontaminate clothing, shoes and leather goods before reuse or discard.

Inhalation:*Symptoms:*Nose throat and lung irritation, coughing, wheezing.Take precautions to ensure your own safety before attempting rescue (e.g., wear appropriate protective equipment, use the buddy system).Remove source of exposure or move person from exposure area to fresh air and keep comfortable for breathing.Call a Poison Centre/doctor or seek medical attention if you feel unwell.

Ingestion:*Symptoms:*Burning pain in mouth and throat.Have victim rinse mouth thoroughly with water.DO NOT INDUCE VOMITING.If vomiting occurs naturally, have person lie on their side in the recovery position.Have victim rinse mouth with water again.Quickly transport victim to an emergency care facility and bring a copy of this SDS.

FIREFIGHTINGMEASURES

Fire and Explosion Hazards: Sulfuric acid is not flammable or combustible.However, fires may result from the heat generated by contact of concentrated sulfuric acid with combustiblematerials.Sulfuric acid reacts with most metals, especially when diluted with water, to produce hydrogen gas which can accumulate to explosive concentrations inside confined spaces.It reacts violently with water and organic materials evolving a considerable amount of heat and is very hazardous when in contact with carbides, cyanides, and sulfides.

ExtinguishingMedia: Use dry chemical or carbon dioxide extinguisherstoextinguish small firesin surroundingcombustiblematerials.Usewatersprayorfogtocoolfire-exposedcontainers and to knock down large fires.Use water streams only if absolutely necessary and DO NOT USE WATER DIRECTLY ON ACID as a violent reaction may occur resulting in spattering of the acid.Do not release runoff from fire control methods to sewers or waterways.

Fire Fighting: Fire fighters must be fully-trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask.For fires close to a spill or where vapours are present, use acid-resistantpersonal protective equipment.

ACCIDENTALRELEASEMEASURES

ProceduresforCleanup: Controlsourceofreleaseifpossibletodososafely.Containspill, isolate hazard area, and deny entry to unauthorized personnel.Prevent from entering sewage or drainage systemsandbodies of water.Dike area around spillandpump uncontaminated acid back to process if possible.Neutralize spilled material with alkali such as sodium carbonate or sodium bicarbonate, soda ash, lime or limestone granules.If neutralized with lime rock or sodaash, good ventilation is required during neutralization because of the release of carbon dioxidegas.Allow to stand for 1-2 hours to complete neutralization, then absorb any liquid in solid absorbent such as vermiculite or clay absorbents.Place spilled material in suitable (corrosion resistant) labeled containers for final disposal.Treat or dispose of waste spilled material and/or contaminated absorbent material in accordance with alllocal, regional and national regulations.

PersonalPrecautions: Acidresistantprotectiveclothingandgloves.Sleevesandpantlegs shouldbewornoutside,nottuckedintoglovesandrubberboots.Useclose-fittingsafety goggles or a combination of safety goggles and a face shield where splashing is a possibility. Respiratory protection equipment should be worn where exposure to hazardous levels of mist or fume is possible.

Environmental Precautions: This product has the potential to pose ecological risks to organismsin both aquatic and terrestrial environments.Discharge of theproduct tosoil and water should be prevented.Prevent spillage from entering sewers or natural watercourses.

HANDLINGANDSTORAGE

Store in a dry, cool, well-ventilated area away from incompatible substances.Keep in tightly closed containers which are appropriately labeled.Do not allow contact with water.Do not store near alkaline substances.

EXPOSURECONTROLS/PERSONALPROTECTION

OccupationalExposureGuidelines:

Component	ACGIH TLV NIOSHREL	OSHA	PEL
SulfuricAcid Thoracicfraction	0.2mg/m^3	1mg/m^3	1 mg/m

Ventilation: Use adequate local or general ventilation to maintain the concentration of sulfuric acid aerosol mists below recommended occupational exposure limits.

Protective Clothing: Protective clothing and gloves as well as glasses, goggles or face shield. Appropriate protective clothing and gloves should be worn where any possibility exists that skin contact can occur.Use close-fitting safety goggles or a combination of safety goggles and a face shield where any possibility exists that eye contact can occur.An eyewash and quick drench shower should be provided near the work area.Workers should wash immediately wheneverskin becomes contaminated.

Respirators: Where sulfuric acid mists are generated and cannot be controlled to within acceptable levels, use appropriate NIOSH-approved respiratory protection equipment (a combination of a 42CFR84 Class N, R or P-100 particulate filter and an acid gas cartridge).Note: sulfuric acid mist also causes eye irritation at high concentrations and a full face respirator or supplied air respirator may be necessary in some cases.

General Hygiene Considerations: Always practice good personal hygiene.Refrain from eating, drinking, orsmoking in work areas.Thoroughlywashhands before eating, drinking, or smoking.

PHYSICALANDCHEMICALPROPERTIES

Appearance: Clear,colourless,oily liquid (may turn yellowish to amber upon aging)	Odour: Odourlesswhencold; acrid odour upon heating	OdourThreshold: >1mg/m³(Acidmist will irritate the nose and may be sensed asapungentodour)	pH: Concentration dependant <0.1(93%Sol'n), 0.3(5%or1NSol'n)
VapourPressure: <0.04kPa(<0.3mm Hg)@ 25ºC	Vapour Density:3.4 (air=1)	Melting Point/Range: 280°C	Boiling Point/Range:-35°C
Relative Density (Water =1): 1.84(93%H_2SO_4)	Evaporation Rate: Not Applicable	Coefficientof Water/Oil Distribution: NoDataAvailable	Solubility: Completelysolublewith generationofsignificant heat.
Flash Point: NotFlammable	FlammableLimits (LEL/UEL):Not Applicable	Auto-ignition Temperature:None	Decomposition Temperature:Not Applicable

STABILITYANDREACTIVITY

Stability &Reactivity: Sulfuric acid is stable and not considered reactive under normaltemperatures and pressures.Hazardous polymerization or runaway reactions will not occur. Decomposes at 340ºC into sulphur trioxide and water.Extremely reactive with metals, alkalis, reducing agents and many other organic and inorganic chemicals.Hazardous gases such as hydrogen cyanide, hydrogen sulfide and acetylene are evolved on contact with chemicals such as cyanides, sulfides and carbides respectively.Contact with combustible organic matter may cause fire or explosion.Dilution with water generates excessive heat and spattering or boiling mayoccur.Alwaysaddacidtowater,NEVERADDWATERTOACID.Corrosivetomost metals including mild steel, copper, aluminum, zinc, etc., especially when diluted to below 90%.

Incompatibilities: Combustible materials, organic materials, reducing agents, amines, bases, water, excess heat, and metals.

HazardousDecompositionProducts: Sulphurdioxide,sulphurtrioxideandsulfuricacidfumes.

TOXICOLOGICALINFORMATION

General: Concentrated sulfuricacidisadirectactingtoxicant,producinglocaleffectsatthe site(s)ofcontactbutnosystemiceffect.Itexertsastrongcorrosiveactiononalltissuesdueto its severe dehydration action (removing water from tissues).The severity of the chemical burn produced by the concentrated acid is proportional to the strength of the acid and the duration of contact.Burns are deep but typically not severely painful.

Skin/Eye: Splashes can cause severe eye burns and may cause irreversible eye injury and possible blindness.Skin contact results in severe burns and may result in permanent scarring.High levels of sulfuric acid mists and aerosols are also irritating to the eyes and skin.

Inhalation: Inhalation may cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath, laryngeal spasm and delayed lung edema.These symptoms may be aggravated by physical exertion.Asthmatics may be more sensitive to inhaling sulfuric acid mists and asthma may be aggravated by exposure to sulfuric acid.

Ingestion: Ingestion is unlikely in industrial use but would result in severe burns to the mouth, throat, esophagus and stomach which could lead to permanent damage to the digestive tract. Small amounts of acid can also enter the lungs during ingestion or subsequent vomiting and cause serious lung injury.

Chronic: Prolonged exposure to dilute solutions or mists may result in eye irritation (chronic conjunctivitis) and produce skin dermatitis.Exposure to high concentrations of acid mist has caused erosion and discolouration of the anterior teeth.Inhalation of sulfuric acid mist may decreasetheabilityoftherespiratorytracttoremoveothersmallparticleswhichmaybe inhaled.Sulfuric acid, per se, is not listed as a carcinogen by OSHA, the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the ACGIH.IARC has concluded that there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogenic to humans, resulting in an increased incidence of primarilylaryngeal cancers.TheACGIHlistsstronginorganicacid mistscontainingsulfuric acid as a suspected human carcinogen (A2) and the NTP have classified strong inorganic acid mists containing sulfuric acid as a known human carcinogen.OSHA does not list sulfuric acid mist as a carcinogen.

AnimalToxicity:

Hazardous Ingredient:	AcuteDermalToxicity AcuteOralTox :	AcuteInhalationToxicity:
SulfuricAcid† ‡	2140mg/kg†	255mg/m^3/4Hr‡

LD_{50}, Rat,Oral,LC_{50},Rat, Inhalation,4hour

ECOLOGICALINFORMATION

Sulfuric acid is highly toxic to aquatic organisms and terrestrial plant life; however, it does not bioaccumulate or bioconcentrate through the food chain.

DISPOSALCONSIDERATIONS

Donotwashdowndrainorallowtoreachnaturalwatercourses.Disposeofneutralizedwasteconsistent withregulatoryrequirements.If neutralizedwith limerock orsoda ash,goodventilationisrequired during neutralization because of the release of carbon dioxide gas.

MSDSofHydrochloric Acid

Synonyms: Muriaticacid;Hydrogenchloride,aqueous;Chlorohydricacid

EmergencyOverview: DANGER!Corrosive.Causessevereskin,eye,anddigestivetract burns.Harmfulifswallowed.Mistorvaporextremely irritating to eyes and respiratory tract.

SafetyRatings: Health:3,SevereReactivity:1, SlightFlammability:0,

OSHARegulatoryStatus: Thisproductisconsidereda"HazardousChemical"asdefinedbythe OSHAHazardCommunicationStandard,29CFR1910.1200.
PotentialAcuteHealthEffects:

Routes of Exposure: Inhalation,ingestion,skincontact,eyecontact

Inhalation: Corrosive.Maycausedamagetomucousmembranesinnose, throat, lungs and bronchial system.

Ingestion: Corrosive.Harmfulifswallowed.Mayproduceburnstothelips, oral cavity, upper airway, esophagus and digestive tract.

SkinContact: Corrosive.Causesseverereburns.

Eye Contact: Corrosive.Causesseverereburns.Vapororspraymaycauseeye damage, impaired sight or blindness.

TargetOrgans: Skin,respiratorysystem,eyes,lungs

ChronicHealth Effects: Corrosive.Prolongedcontactcausesserioustissuedamage.

Aggravationof: Repeatedorprolongedexposuretothesubstancecan producetargetorgansdamage.
Medical Conditions: Personswithpre-existingskindisordersoreyeproblemsmay be more susceptible to the effects of the substance.

Potential Environmental Effects: Mayaffecttheacidity(pH)inwaterwithriskofharmfuleffects to aquatic organisms.

COMPOSITIONANDINFORMATIONONINGREDIENTS

Components	Formula	Weight	Hazardous	Weight
HydrochloricAcid	HCl	36.46	Yes	36.5-38.0
Water	H_2O	18.02	No	62.0-63.5

FIRSTAIDMEASURES

First Aid Procedures:

Inhalation: Ingestion: Removetofreshair.Ifbreathingisdifficult,administeroxygen.If thevictimisnotbreathing,performmouth-to-mouthresuscitation. Get medical attention immediately.

SkinContact: Donotinducevomiting.Ifvomitingoccurs,keepheadlowsothat vomit does not enter lungs.Never give anything by mouth toan unconscious person.GET MEDICAL ATTENTION IMMEDIATELY.

EyeContact: Flush affected area with plenty of water for at least 15 minutes. Removecontaminatedclothingandshoes.Washclothingbefore reuse.Get medical attention immediately.

GeneralAdvice: Checkforandremovecontactlenses.Immediatelyflusheyeswithgentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally.Get medical attention immediately.

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).Ensure that medical personnelareawareofthematerial(s)involvedandtakeprecautionsto protect themselves.Show this safety data sheet to the doctor in attendance.

NotestoPhysician:Treatsymptomatically.Keepvictimunderobservation.

FIREFIGHTINGMEASURES

NFPA Ratings: Health:3 Flammability: 0 Reactivity:1

Flammable Properties: The material is not flammable.

Flash Point: Notapplicable

Auto-ignitionTemp: Notapplicable

FlammableLimitsinNotapplicable Air (% by volume):

SuitableExtinguishingMedia:Water,drypowder,foam,carbondioxide Unsuitable

Extinguishing Media: No information found

Hazardous Combustion Products: Hydrogenchloride.Chlorine.Maydecomposeuponheatingto produce corrosive and/or toxicfumes.

Specific Hazards: Fire may produce irritating, corrosive, and/or toxic gases. Special

Protective Asinanyfire,wearMSHA/NIOSHapproved(orequivalent)self-

Equipment ForFirefighters:	containedpositivepressure orpressure-demandbreathingapparatusandfullprotectivegear.
SpecificMethods:	Usewaterspraytocoolunopenedcontainers.Coolcontainers exposedtoflameswithfloodingquantitiesofwateruntilwellafter thefireisout.Intheeventoffireand/orexplosiondonotbreathe fumes.

ACCIDENTALRELEASEMEASURES

Ventilateareaofleakorspill.Isolatehazardareaandkeepunnecessaryand

PersonalPrecautions:	unprotectedpersonnelawayfromtheareaoftheleakorspill.Keepupwind.Keep outoflowareas.Wearappropriatepersonalprotectiveequipmentasspecifiedin theExposureControlandPersonalProtectionSection 8.Avoid contactwitheyes, skin, and clothing.
EnvironmentalPrecautions:	Preventfurtherleakageorspillageifsafetodoso.Donotcontaminatewater. Avoiddischargeintodrains,watercoursesorontotheground.Incaseoflarge spill, dike if needed.
Methodsfor Containment:	Stoptheflowofmaterial,ifthisiswithoutrisk.Prevententryintowaterways, sewer, basements or confined areas.Dike the spilled material, where this is possible.
MethodsforCleaningUp:	Absorbspill withaninert material(e.g.vermiculite,drysand,earth,cloth,fleece), andplaceinasuitablenon-combustiblecontainerforreclamationordisposal.Do not use combustible materials, such as sawdust.Clean contaminated surface thoroughly.Neutralizespillareaandwashingswithsodaashorlime.Neverreturn spills in original containers for re-use.Clean up in accordance with all applicable regulations.

HANDLINGANDSTORAGE

Handling:	Wear personal protective equipment (see section 8).Use only in well-ventilated areas.Provide sufficient air exchange and/or exhaust in work rooms.Avoid contact with skin, eyes and clothing.Do not breathe vapors or spray mist.Do not ingest.When using, do not eat, smoke, or drink. Keep away from incompatible materials.Handle in accordance with good industrial hygiene and safety practice.Wash thoroughly after handling. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).Observe all warnings and precautions listed for the productUse caution when combining with water.DO NOTadd water to acid.ALWAYS add acid to water while stirring to prevent release of heat, steam, and fumes.
Storage:	Store in a cool, dry, ventilated area away from incompatible materials. Store in original container.Keep containers tightly closed and upright. Keep away from food, drink and animal feedingstuffs.Keep out of the reach of children.

PersonalProtectiveEquipment:

Eye/FaceProtection: Wearsafetyglasseswithsideshieldsorgogglesandafaceshield.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.Respirator type: Chemical respirator withacid gas cartridge.Use apositive-pressureair-suppliedrespirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General Hygiene Considerations: Avoid contact with skin, eyes and clothing.When using, do not eat, drink or smoke.Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.Routinely wash work clothing and protective equipment to remove contaminants.Provide eyewash station and safety shower.

PHYSICALANDCHEMICALPROPERTIES

PhysicalState:
Appearance: Liquid
Transparent
Color: Colorless
Odor: Pungent,irritating

MolecularFormula: HCl

MolecularWeight: 36.46
pH: 0.1(1.0NSolution)
SpecificGravity: 1.18
Freezing/Melting Point: -25°C(-13°F)
BoilingPoint: 50.5°C(123°F)

FlashPoint: Notapplicable

Auto Ignition Temperature: Notapplicable
Flammable Limits in Air (% by Volume):
Upper: Notapplicable
Lower:
Solubility: Miscible with water
VaporPressure: 25kPaat25°C(estimate)
VaporDensity: 1.3(estimate)
Odorthreshold (ppm): 0.25-10ppm
EvaporationRate: Noinformationfound
PartitionCoefficient (n-octanol/water): Noinformationfound

STABILITYANDREACTIVITY

Stability: Stableundernormalconditions.

ConditionstoAvoid: Incompatibles

Incompatible Materials: Bases, metals, oxidizing agents, acids, amines, reducing agents, organic materials

Hazardous Decomposition Products: Hydrogen chloride, chlorine.May decompose upon heating to product corrosive and/or toxicfumes.

Possibilityof Hazardous Reactions: Can react vigorously, violently or explosively with incompatible materials listed above.

Hazardous Polymerization:
Willnotoccur.

TOXICOLOGICALINFORMATION

ToxicologicalData:
Oral Rat LD50:240 mg/kg (estimate) Oral Rabbit LD50: 900 mg/kg Inhalation Rat LC50: 3124 mg/L 1 H

AcuteEffects: Stronglycorrosive.Maycausedeeptissuedamage.Harmfulif swallowed.

LocalEffects: Causes severe burns.Mist or vapor extremely irritating to eyes and respiratory tract.

Sensitization:
Notaskinsensitizer.

ChronicEffects: Corrosive.Prolongedorrepeatedskincontactcausesserioustissue damage.

CarcinogenicEffects: ThisproductisnotconsideredtobeacarcinogenbyIARC,ACGIH,NTP, orOSHA.

ACGIH:A4–Notclassifiableasahumancarcinogen

IARC: 3 – Not classifiable as to carcinogenicity of humans

Corrosivetoskinandeyes.

Skin Corrosion/Irritation:

Epidemiology: Noepidemiologicaldataisavailableforthisproduct.

Mutagenicity: Nodataavailabletoindicateproductoranycomponentspresentat greater than 0.1% are mutagenic or genotoxic. No information found.

NeurologicalEffects:

ReproductiveEffects: Containsnoingredientlistedastoxictoreproduction.

TeratogenicEffects: Nodataavailabletoindicateproductoranycomponentspresentat greaterthan0.1%maycausebirthdefects.

Target Organs and Symptoms: Corrosiveeffects.Mucusmembranes,skin,eyes,kidneys,liver, respiratorytract

DISPOSALINFORMATION

Disposeofthismaterialanditscontainertohazardousorspecialwaste

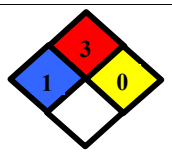
DisposalInstructions: collection point.Incinerate the material under controlled conditions in an approved incinerator.All wastes must behandled in accordance withlocal, state and federal regulations.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.Offer rinsed packaging material to local recycling facilities.

WasteCodes: D002:Wastecorrosivematerial(pH≤2orpH≥12.5,orcorrosivetosteel)

MSDSOFMOTORSPIRIT

Section1–ChemicalProductandCompanyIdentification	
ChemicalName :ChemicalFormula:	MotorSpirit Complexmixtureofhydrocarbons
Synonyms :GeneralUse:	Gasoline,Petrol,Gas MotorFuel



NFPA704(Sec16)

Composition:	GasolineBenz	>97%v
	eneM	<1%v
	TBE	<15%v
	Ethanol	<5%v
HazardousComponents:	Benzene,MTBE	
ACIGHTLVTWA:	Gasoline–300ppm	,Benzene–0.5ppm,MTBE–50ppm

Section3–HazardsIdentification

Section2–Composition/InformationonIngredients

PrimaryEntryRoutes:A	Ingestion,inhalation,skinandeyes
cute Effects:	Inhalationcancausedizziness,headacheandnausea,depresses centralnervoussystemandhasananestheticeffect.Breathingof liquid droplets may lead to chemical pneumonia.Ingestioncanleadtonausea,diarrheaandaffectcentralnervoussystem. Skin irritant. Prolonged contact can result in skin dryinganddermatitis.Eyeirritant.
Carcinogenicity:	BenzenecomponentislistedascarcinogenicNo
ChronicEffects:	dataavailable

Section4–FirstAidMeasures

Eyes:Skin	Flushwith waterfor15
:Inhalation	min.Getmedicalattention.Washwithwarmwater&soap.
:Ingestion:	Removetofreshair.Consultaphysicianifirritationpersists. Donotinducevomiting.Donotgiveliquids.Getmedicalhelpatonce.

Section5–FireFightingMeasures

LEL:	1.4%
UEL:	7.6
FlammabilityClassification	%Flamma ble
:ExtinguishingMedia	Foam,DryChemicalPowder,CO2
:UnusualFireorExplosion	Heat produces vapours and can cause violent rupture
:Hazards : HazardousCombustion Products :	ofcontainers.Vapoursmaytravellongdistanceandcanflash
Fire-FightingInstructions:	Smallfires canbeextinguishedbyhandheldextinguishers.Major fires may require withdrawal and allowing the tank to burn.Fire fighters should wear self breathing apparatus while fightingfire

Section6–AccidentalReleaseMeasures

Small	Shut off leakswithoutrisk.Absorbonsandor
Spills:Containment:Cleanup	earth.Preventspillagefromenteringdrainsorwatersources Afterspillswashareawithsoapandwaterpreventingrunoff

Section7–HandlingandStorage

HandlingPrecautions:	Donotuse/storenearheat/openflame.Avoidcontactwithliquidorvapors.Usegumboots,gloveswhilehandlingtheproduct.Do not inhale. Stay upwindwhile handling the product. Productshould never be used to remove oil or grease from skin. Itshouldnotbesiphonedbymouth.Tanksanddispensingequipments houldbegroundedtoreducestaticchargefires.It

Section8–ExposureControls/PersonalProtection

Engineering Controls:RespiratoryProtection:Protective Clothing /Equipment:	Provide proper ventilation for environment to be below TWAUserespiratoryprotectionifventilationisimproper. Usefaceshield,PVCgloves,safetybootswhilehandling.Contaminatedclothingtobeimmediatelyremoved.

Section9–ProtectionPhysicalandChemicalProperties

Physical State:AppearanceandO dour:		Liquid Waterwhiteliquid,dyedorangeorredfor detection.Characteristichydrocarbonlikeodour
VaporPressure:	SpecificGravity:	5.0to8.7psiat38°C(RVP)
WaterSolubility:	BoilingPoint:Freezing Point	0.71to0.77gm/ccInsoluble 35°Cto215°C
		Datanotavailable3 to4(Air =1)

Section10–StabilityandReactivity

Stability: ChemicalIncompatibilities:	Chemicallystable. Incompatiblewithoxidizingagents&chlorine.Reactsvigorouslywithoxidisingmaterials.
ConditionstoAvoid:	Canundergoauto-oxidationinair&generateheatwhichcanbuild up inaconfinedspacetocausespontaneouscombustionCarbondi oxide,carbonmono oxide.
HazardousDecomposition Products:	

Section11–ToxicologicalInformation

ACIGHTLVTWA:	Gasoline–300ppm,Benzene–0.5ppm,MTBE–50ppmLD50(Oral-Rat)18.75 ml/kg
ToxicityData : AcuteInhalationEffects:	Benzenecomponentiscarcinogenic.

Section12–EcologicalInformation

Preventspillagefromenteringdrainsorwatersources.Afterspillswashareawithsoapandwaterpreventingrunoff from enteringdrains.Can burn withlotof heatproducingCO_2 andCO.

Section13–DisposalConsiderations

Disposal:Wastemustbedisposedofinaccordancewithfederal,stateandlocalenvironmentalcontrolregulations

Section14–TransportInformation

ShippingName:	MotorSpirit,Gasoline

Section15–RegulatoryInformation

Non-Toxic/FlammableSubstance

Section16–OtherInformation

Motorspritishighlyinflammableandshouldbeusedonlyasfuel.Theproductisdyedorangeorredcolourdepending onits grade.

MutualAidAgreement

- **UnderProgress**

ANNEXURE-5

Status of Plantation programme of Various Industries/ Mines in the State of Odisha									
1	2	3	4	5	6	7	8	9	10
Sl no	Name of Industries/ Mine	Total area in Hectare	Total green belt covered till date	Plantation of Seedling Taken during 2024-2025 as per target			Proposed Plantation of Seedling Taken during 2025-2026		
				Name of the Site	Area in Ha/RKM*	Number of seedling Planted	Name of the proposed Site	Area in Ha/RKM*	No. of seedling to be Planted
1	ORISSA SPONGE IRON & STEEL LTD	150.37	30.074	TIME OFFICE ROAD	0.250 RKM	275	132 MRSS to Main Gate	0.400 RKM	400
2				SILO ROAD	0.075 RKM	100	PSB to SMS-1	0.450 RKM	450
3				WTP	0.250 Ha	50	TIME OFFICE-COOLING TOWER ROAD	0.075 RKM	75
4				ADMIN BUILDING ROAD	0.300 RKM	300	IN FRONT OF MAINGATE	0.150 RKM	150
5				CENTRAL STORE	0.020 Ha	20	MAIN GATE ROAD INSIDE PLANT	0.350 RKM	350
					TOTAL	745			1425

FACTORY MANAGER
ORISSA SPONGE IRON & STEEL LTD.

Factory Manager Orissa Sponge Iron and steel limited

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ANNEXURE-6

FORM No.31-A

Health Record

(Pre-employment / Periodical)

(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSIL
2. Name of the Employee : Abhinash Mishra
3. Employee Distinguishing No. : OSL2097
4. Age of the employee : 31/m
   Identification mark : Mole mole over chest
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health
   Height : 165 Cms
   Weight : 65 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 106
    Expiration 104
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 72 bPm
    B.P 127/80 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A

Health Record

(Pre-employment / Periodical)

(Prescribed under Rule 62-I)

1. Name of the Factory : OSIC ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Hemanta Kumar Mohanta
3. Employee Distinguishing No. : MTSL00605
4. Age of the employee : 50 Yrs
   Identification mark : Black mole on back
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health
   Height : 172 Cms
   Weight : 95 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 110
    Expiration 108
    Respiration rate/ min 16/mt
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 94 bpm
    B.P 148/94 mmhg
    Heart Sound $S_1 S_2$ – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A

Health Record

(Pre-employment / Periodical)

(Prescribed under Rule 62-I)

1. Name of the Factory : OSIL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Himanshu Sekhar Mahanta
3. Employee Distinguishing No. : MTSL00638
4. Age of the employee : 24/M
   Identification mark : Black mole on right hand,
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ✓Good/ Fair / Poor
   Height : 159 Cms
   Weight : 57 Kg
8. Blood Group : otve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 84
    Expiration 82
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 80 bpm
    B.P 142/87 mmhg
    Heart Sound S1S2 – Ø
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

Cont...P/2

FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Priyabrata Pati
3. Employee Distinguishing No. : OSL2084
4. Age of the employee : 38/M
   Identification mark : Black mole on left toe
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 167 Cms
   Weight : 85 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 102 bpm
    B.P 141/94 mmHg
    Heart Sound S1S2 – N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSIL
2. Name of the Employee : Allam nwo
3. Employee Distinguishing No. : OSL 2092
4. Age of the employee : 36/M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health :
   Height : 166 Cms
   Weight : 74 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 104
    Expiration 102
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 82 bpm
    B.P 152/86 mmhg
    Heart Sound S1S2 — N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Surendra Sharma (Sainivas)
3. Employee Distinguishing No. :
4. Age of the employee : 40 /M
   Identification mark : Black mole on forehead.
   Nature of Job :
5. Date of Employment : 01/06/2025
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health :
   Height : 170 Cms
   Weight : 55 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 15/mtn
    Remarks, if any NAD
12. Cardiovascular system 85 bpm
    Pulse rate
    B.P 94/67 mmhg
    Heart Sound S1 S2 – N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Kedar Mallick (Srinivasan)
3. Employee Distinguishing No. :
4. Age of the employee : 54/M
   Identification mark : Black mole on forehead,
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 154 Cms
   Weight : 60 Kg
8. Blood Group : AB +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 94
    Expiration 92
    Respiration rate/ min 16/ min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 70 bpm
    B.P 172/92 mmhg
    Heart Sound S1 S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL
2. Name of the Employee : Trupti Ranjan Pallai (Srinivas)
3. Employee Distinguishing No. :
4. Age of the employee : 40/M
   Identification mark : Black mole on neck.
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 178 Cms
   Weight : 65 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 97
    Expiration 95
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 83 BPm
    B.P 129/81 mmHg
    Heart Sound S1S2 – N
    Remarks, if any
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Niranjan Barik (Srinivash)
3. Employee Distinguishing No. :
4. Age of the employee : 25/M
   Identification mark : Black mole on left side of neck
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health
   Height : 166 Cms
   Weight : 73 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 102
    Expiration 100
    Respiration rate/ min 15/min
    Remarks, if any N AD
12. Cardiovascular system
    Pulse rate 89 bpm
    B.P 98/56 mmhg
    Heart Sound S1S2 (N)
    Remarks, if any N AD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Deepak Kumar Jena (Srinivas)
3. Employee Distinguishing No. :
4. Age of the employee : 30/M
   Identification mark : Black mole on bone heard.
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 162 Cms
   Weight : 50 Kg
8. Blood Group : otre
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 84
    Expiration 82
    Respiration rate/ min 15/mt
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate : 90 bpm
    B.P 115/69 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Ramani Ranjan Padhi
3. Employee Distinguishing No. :
4. Age of the employee : 30/M
   Identification mark : Black mole on forehead.
   Nature of Job :
5. Date of Employment : 01/01/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 171 Cms
   Weight : 75 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 102
    Expiration 100
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 88 bpm
    B.P 111/66 mmhg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Pritam Kumar Barik
3. Employee Distinguishing No. : MTSL00855
4. Age of the employee : 40/M
   Identification mark : Black mole on Right hand.
   Nature of Job :
5. Date of Employment : 01/05/2025
6. Length of service in years :
7. General Survey : ✓Good/ Fair / Poor
   Health :
   Height : Cms
   Weight : Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 105
    Expiration 103
    Respiration rate/ min 18/min
    Remarks, if any N A D
12. Cardiovascular system
    Pulse rate 114 bpm
    B.P 120/78 mmHg
    Heart Sound S1 S2 — (N)
    Remarks, if any N A D
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Ranjit Singh (Sonowal)
3. Employee Distinguishing No. :
4. Age of the employee : 42/M
   Identification mark : Black mole over chest
   Nature of Job :
5. Date of Employment : 01/05/2025
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health :
   Height : 166 Cms
   Weight : 50 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 81
    Expiration 79
    Respiration rate/ min 16/ min
    Remarks, if any N AD
12. Cardiovascular system
    Pulse rate 87 bpm
    B.P 93/60 mmhg
    Heart Sound S_1S_2 — (N)
    Remarks, if any N AD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Bharat Chandra Barik
3. Employee Distinguishing No. : MTSL00679
4. Age of the employee : 42/M
   Identification mark : Black mole on ~~Right~~ chest.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health :
   Height : 171 Cms
   Weight : 82 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 103 bpm
    B.P 134/86 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : MTSL/OSISL · ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Sanjib Patra
3. Employee Distinguishing No. : OSL00595
4. Age of the employee : 40 yrs / M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 01.05.2024
6. Length of service in years : 1 yrs
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 165 Cms
   Weight : 65 Kg
8. Blood Group : A +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration : 91
    Expiration : 89
    Respiration rate/ min : 16/min
    Remarks, if any : NAD
12. Cardiovascular system
    Pulse rate : 64 bpm
    B.P : 135/79 mmhg
    Heart Sound : S_1S_2 — (N)
    Remarks, if any : NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : MTSL/OSISL
2. Name of the Employee : Ranjan Kumar Yadav.
3. Employee Distinguishing No. : OSL00624
4. Age of the employee : 30 Yrs. M
   Identification mark : Left hand index & middle finger cut.
   Nature of Job :
5. Date of Employment : 01/05/2024.
6. Length of service in years : 1 Yrs.
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 175 Cms
   Weight : 90 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 108
    Expiration 106
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 94 bpm
    B.P 133/88 mmHg
    Heart Sound S_1S_2 – (N)
    Remarks, if any N AD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : MTSL/OSISL
2. Name of the Employee : Dibakara Hruk
3. Employee Distinguishing No. : OSL00271
4. Age of the employee : 56 Yrs.
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 1/03/24
6. Length of service in years : 1 year
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : Cms
   Weight : Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 15/min
    Remarks, if any ~~NAD~~
12. Cardiovascular system
    Pulse rate 77 bpm
    B.P 149/84 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any N A D
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : MTSL/OSIL
2. Name of the Employee : Subrat Ku Mahanta.
3. Employee Distinguishing No. : OSL00580
4. Age of the employee : 26 yem
   Identification mark : one mole in right side thread.
   Nature of Job :
5. Date of Employment : 01/05/2024
6. Length of service in years : 1 yem
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 168 Cms
   Weight : 78 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 16/ miy
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 99 bPM
    B.P 139/89 mmhg
    Heart Sound $S_1 S_2$ – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL

1. Name of the Factory : MJSL/OS/SL
2. Name of the Employee : Sudam charan Maharana.
3. Employee Distinguishing No. : OSL00597
4. Age of the employee : 35 Years
   Identification mark : one mole in Right years
   Nature of Job :
5. Date of Employment : 01/05/2024
6. Length of service in years : 1 year
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 172 Cms
   Weight : 72 Kg
8. Blood Group : AB +ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 97 bpm
    B.P 124/89 mmHg
    Heart Sound S_1S_2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL
2. Name of the Employee : Bhimasen Mohanta
3. Employee Distinguishing No. : MTSL0579
4. Age of the employee : 50/M
   Identification mark : Black mole on left side of neck
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health :
   Height : 171 Cms
   Weight : 70 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 102
    Expiration 100
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 91 bpm
    B.P 121/82 mmhg
    Heart Sound S_1S_2 - (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Anil kumar Dehuri
3. Employee Distinguishing No. : OSL00274.
4. Age of the employee : 55 Yrs /M
   Identification mark : A Black Mole right hand.
   Nature of Job : House keeping.
5. Date of Employment : March'24'
6. Length of service in years : 1 Yr 4 Month.
7. General Survey : Good/ Fair / Poor
   Health :
   Height : 158 Cms
   Weight : 48 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 88
    Expiration 86
    Respiration rate/ min 15/ min
    Remarks, if any WNAD
12. Cardiovascular system
    Pulse rate 76 bpm
    B.P 145/96 mmhg
    Heart Sound S_1S_2 – N
    Remarks, if any
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Boundabanga Munda.
3. Employee Distinguishing No. : OSL00266.
4. Age of the employee : 57 Yrs /M
   Identification mark : Left side hand A Black Mole.
   Nature of Job : House keeping.
5. Date of Employment : 01/04/24.
6. Length of service in years : 1 Yrs 4 month.
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 158 Cms
   Weight : 55 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 71 bpm
    B.P 131/70 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Pyari Mahan Naik
3. Employee Distinguishing No. : MTSL00576
4. Age of the employee : 31 /M
   Identification mark : Black mole on nose.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health
   Height : 157 Cms
   Weight : 58 Kg
8. Blood Group : AB+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 66 bpm
    B.P 126/68 mmHg
    Heart Sound S_1S_2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Dihu Brahma
3. Employee Distinguishing No. : OSL 1816
4. Age of the employee : 56/m
   Identification mark : Black mole over R/cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 164 Cms
   Weight : 64 Kg
8. Blood Group : AB+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration : 100
    Expiration : 95
    Respiration rate/ min : 15/ min
    Remarks, if any : NAD
12. Cardiovascular system
    Pulse rate : 72 bpm
    B.P : 120/66 mmHg
    Heart Sound : S_1S_2 – (N)
    Remarks, if any : NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL
2. Name of the Employee : Ardhendu Parida
3. Employee Distinguishing No. : OSL/878
4. Age of the employee : 54/M
   Identification mark : Black mole on right back
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 161 Cms
   Weight : 88 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 107
    Expiration 105
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 96
    B.P 165/90
    Heart Sound S_1S_2 – ND
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL
2. Name of the Employee : Binod Kumar Sahu
3. Employee Distinguishing No. : OSL/765
4. Age of the employee : 54/M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 160 Cms
   Weight : 70 Kg
8. Blood Group : B +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 100
    Expiration 98
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 91 bpm
    B.P 142/88 mmHg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISC ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : pratap Pradhan (Srinivash) Authorised Sign
3. Employee Distinguishing No. :
4. Age of the employee : 27 / M
   Identification mark : Black mole over chin
   Nature of Job :
5. Date of Employment : 01/05/2025
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 165 Cms
   Weight : 62 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 95
    Expiration 93
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 116 bpm
    B.P 135/86 mmhg
    Heart Sound S1 S2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISC ORISSA SPONGE IRON & STEEL LTD. Authorised
2. Name of the Employee : Ramani Kishan (Srinivash)
3. Employee Distinguishing No. :
4. Age of the employee : 24 / M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 160 Cms
   Weight : 60 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 16/min
    Remarks, if any WNL
12. Cardiovascular system
    Pulse rate 90 bpm
    B.P 104/56 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL
2. Name of the Employee : Pabitra Sethy. (Srinivash)
3. Employee Distinguishing No. :
4. Age of the employee : 35 / M
   Identification mark : Black mole on left hand
   Nature of Job :
5. Date of Employment : 01/05/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 168 Cms
   Weight : 63 Kg
8. Blood Group : O +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 86
    Expiration 84
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 71 bpm
    B.P 86/95 mmhg
    Heart Sound S1S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Rajv prasad yadav (Srinivas)
3. Employee Distinguishing No. :
4. Age of the employee : 39/M
   Identification mark : Black mole on right cheek
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 175 Cms
   Weight : 83 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 104
    Expiration 102
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 74 bpm
    B.P 122/80 mmHg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSIBL
2. Name of the Employee : Dilip Kumar Naik (Srinivas)
3. Employee Distinguishing No. :
4. Age of the employee : 32/M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 186 Cms
   Weight : 60 Kg
8. Blood Group : o+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 15 m/m
    Remarks, if any NAD
12. Cardiovascular system 62 bpm
    Pulse rate
    B.P 109/64 mmHg
    Heart Sound S1 S2 (+)
    Remarks, if any NAD
13. Abdomen Tenderness NAD : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISC ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Manoj Kumar Naik (Srinivasan)
3. Employee Distinguishing No. :
4. Age of the employee : 40 / M
   Identification mark : Black mole on right hand
   Nature of Job :
5. Date of Employment : 01/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 156 Cms
   Weight : 50 Kg
8. Blood Group : AB+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 16/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 92 bpm
    B.P 122/78 mmHg
    Heart Sound S1 S2 ✓
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Ghanashyam Murda (Rajgal)
3. Employee Distinguishing No. :
4. Age of the employee : 45/M
   Identification mark : Black mole on neck.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health
   Height : 164 Cms
   Weight : 55 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 94
    Expiration 92
    Respiration rate/ min 17/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 72 bpm
    B.P 106/66 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Mantosh Paswan (Srinivasa)
3. Employee Distinguishing No. :
4. Age of the employee : 22 /M
   Identification mark : Black mole left cheek
   Nature of Job :
5. Date of Employment : @ 11/07/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 154 Cms
   Weight : 45 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 86
    Expiration 84
    Respiration rate/ min 15/m
    Remarks, if any WNL
12. Cardiovascular system
    Pulse rate 102 bpm
    B.P 139/64 mmHg
    Heart Sound S1 S2 (N)
    Remarks, if any WNL
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Bidyashi Mahakud (Royal Enf)
3. Employee Distinguishing No. :
4. Age of the employee : 50 / M
   Identification mark : Black mole on right cheek
   Nature of Job :
5. Date of Employment : 01/09/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 173 Cms
   Weight : 65 Kg
8. Blood Group : O +ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 17/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 73 bpm
    B.P 118/76 mmhg
    Heart Sound S1 S2 (+)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Bhakta Bandhu Behera (Royal)
3. Employee Distinguishing No. :
4. Age of the employee : 41/M
   Identification mark : Black mole on right hand.
   Nature of Job :
5. Date of Employment : 01/01/2025
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health
   Height : 159 Cms
   Weight : 66 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 102 bpm
    B.P 128/70 mmhg
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL (Royal Eng)
2. Name of the Employee : Ramesh Mahakud
3. Employee Distinguishing No. :
4. Age of the employee : 50/M
   Identification mark : Black mole on Right chest
   Nature of Job :
5. Date of Employment : 01/10/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 163 Cms
   Weight : 65 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 97 bpm
    B.P 128/71 mmHg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL (Royal Engineering)
2. Name of the Employee : Asish Mahanta
3. Employee Distinguishing No. :
4. Age of the employee : 20/M
   Identification mark : Black mole on right hand
   Nature of Job :
5. Date of Employment : 01.04.2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health :
   Height : 164 Cms
   Weight : 55 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 96
    Expiration 94
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system 63 bpm
    Pulse rate
    B.P 124/79 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : ~~OSL~~ OSISL (MTSL)
2. Name of the Employee : Sudhanshu Sekhar Mahanta
3. Employee Distinguishing No. : MTSL608
4. Age of the employee : 31/M
   Identification mark : Black mole on right chest
   Nature of Job :
5. Date of Employment : 01.05.2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 166 Cms
   Weight : 69 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 95
    Expiration 96
    Respiration rate/ min 16/mtn
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 113 bpm
    B.P 124/82 mmHg
    Heart Sound S1 S2 - (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL (Royal Engineering)
2. Name of the Employee : Abhinash Naik
3. Employee Distinguishing No. :
4. Age of the employee : 21 IM
   Identification mark :
   Nature of Job : Black mole on back
5. Date of Employment : 01.04.2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 164 Cms
   Weight : 65 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 15/ min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 68 bpm
    B.P 149/106 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL (Royal Engineering)
2. Name of the Employee : Niranjan Mahanta
3. Employee Distinguishing No. :
4. Age of the employee : 23/M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 10.12.2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 171 Cms
   Weight : 60 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 60 bpm
    B.P 102/64 mmHg
    Heart Sound S1 S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL (ORISSA SPONGE IRON & STEEL LTD.) (Royal Engineering)
2. Name of the Employee : Krushna Padria
3. Employee Distinguishing No. :
4. Age of the employee : 32 /M
   Identification mark : Black mole on forehead
   Nature of Job :
5. Date of Employment : 20.01.2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 158 Cms
   Weight : 60 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 85
    Expiration 83
    Respiration rate/ min 15/ min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 78 bpm
    B.P 110/78 mmhg
    Heart Sound S1 S2 (normal)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL (Royal Engineering)
2. Name of the Employee : Prafulla Patra
3. Employee Distinguishing No. :
4. Age of the employee : 52 /M
   Identification mark : Black mole on left cheek
   Nature of Job :
5. Date of Employment : 05. 02. 2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 122 ~~Cms~~
   Weight : 50 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 87
    Expiration 85
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 68 bpm
    B.P 91/57 mmHg
    Heart Sound S_1S_2 ✓
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL (MTSL) ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Simal Munda
3. Employee Distinguishing No. : ~~OS~~ MTSL 566
4. Age of the employee : 42 / M
   Identification mark : Black mole under Right eye
   Nature of Job :
5. Date of Employment : 01.04.2024
6. Length of service in years :
7. General Survey : ✓ Good/ Fair / Poor
   Health
   Height : 152 Cms
   Weight : 53 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No ✓
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 83
    Expiration 81
    Respiration rate/ min 16/min
    Remarks, if any (WNL)
12. Cardiovascular system
    Pulse rate 68/bpm
    B.P 116/64 mmHg
    Heart Sound S1S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~ ✓

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL (Srinivas Chaudhary)
2. Name of the Employee : Akhnish Sharma
3. Employee Distinguishing No. :
4. Age of the employee : 30/M
   Identification mark : Black mole over left chest
   Nature of Job :
5. Date of Employment : 15.06.2025
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health
   Height : 170 Cms
   Weight : 81 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 100 bpm
    B.P 110/68 mmhg
    Heart Sound S1S2 – N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL Ltd. Srinivas Choudhary
2. Name of the Employee : Gouda Naik
3. Employee Distinguishing No. :
4. Age of the employee : 19 /M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 10.06.2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 163 Cms
   Weight : 60 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration a/
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 77 bpm
    B.P 117/70 mmhg
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL (MTSL)
2. Name of the Employee : Abhilash ch. Brahma
3. Employee Distinguishing No. : MTSL665
4. Age of the employee : 31/M
   Identification mark : Black mole under left eye.
   Nature of Job :
5. Date of Employment : 01.05.2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health :
   Height : 164 Cms
   Weight : 81 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 103
    Expiration 101
    Respiration rate/ min 18/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 83 bpm
    B.P 136/81 mmhg
    Heart Sound S1S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL CMT.SL
2. Name of the Employee : Malaya Ranjan Panda
3. Employee Distinguishing No. : OSL00
4. Age of the employee : 30 / M
   Identification mark : Blackmole on under left eye
   Nature of Job :
5. Date of Employment : 22/4/2025
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health :
   Height : 162 Cms
   Weight : 72 Kg
8. Blood Group : AB+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration : 100
    Expiration : 98
    Respiration rate/ min : 17 / min
    Remarks, if any : NAD
12. Cardiovascular system
    Pulse rate : 84 bpm
    B.P : 129/84 mmHg
    Heart Sound : $S_1 S_2$ — (N)
    Remarks, if any : NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Prabin Bhakta Behera
3. Employee Distinguishing No. : ~~AAFST~~ OSL00601
4. Age of the employee : 31/M
   Identification mark : Black mole on left cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 164 Cms
   Weight : 65 Kg
8. Blood Group : B +ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement

Inspiration	98
Expiration	96
Respiration rate/ min	16/min
Remarks, if any	NAD

12. Cardiovascular system

Pulse rate	66 bpm
B.P	129/86 mm Hg
Heart Sound	S1S2 – (N)
Remarks, if any	NAD

13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Jyoti Ranjan Mohanta
3. Employee Distinguishing No. : MTSL00341
4. Age of the employee : 29/M
   Identification mark : Black mole under left eye
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : Good/ Fair / Poor
   Health
   Height : 173 Cms
   Weight : 81 Kg
8. Blood Group : AB+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    - Inspiration : 107
    - Expiration : 105
    - Respiration rate/ min : 18/ min
    - Remarks, if any : NAD
12. Cardiovascular system
    - Pulse rate : 90
    - B.P : 127/102
    - Heart Sound : NAD
    - Remarks, if any
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Subhadra Pradhan.
3. Employee Distinguishing No. : MTSL00627
4. Age of the employee : 48/F
   Identification mark : Black mole under upper lips
   Nature of Job :
5. Date of Employment : 01/04/24
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 152 Cms
   Weight : 45 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 100
    Expiration 98
    Respiration rate/ min 16/ min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 81
    B.P 131/82
    Heart Sound $S_1 S_2$ — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Ranjan Kumar Nayak
3. Employee Distinguishing No. : MTSL00881
4. Age of the employee : 37/M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 4/06/2025
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health :
   Height : 169 Cms
   Weight : 81 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 107
    Expiration 105
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system 93 bpm
    Pulse rate
    B.P 153/98 mmhg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Rajesh Kumar Mahakud
3. Employee Distinguishing No. : MTSLod/23
4. Age of the employee : 35 /M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 165 Cms
   Weight : 71 Kg
8. Blood Group :
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 96
    Expiration 94
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 72 bpm
    B.P 142/79 mmhg
    Heart Sound S1 S2 – N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Manashi Mahakud
3. Employee Distinguishing No. : MTSL005503
4. Age of the employee : 30/F
   Identification mark :
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ~~Good~~/ Fair / Poor
   Health
   Height : 154 Cms
   Weight : 50 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 92
    Expiration 90
    Respiration rate/ min 15/min
    Remarks, if any WNAD
12. Cardiovascular system 95 bpm
    Pulse rate
    B.P 125/82 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any WNAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD

1. Name of the Factory : OSISL (~~MTSL~~) (Royal Eng)
2. Name of the Employee : Jagdish Prasad Ghana
3. Employee Distinguishing No. :
4. Age of the employee : 27/M
   Identification mark : Black mole on left hand
   Nature of Job :
5. Date of Employment : Aug/22/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 161 Cms
   Weight : 74 Kg
8. Blood Group : O +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration : 102
    Expiration : 100
    Respiration rate/ min : 16/min
    Remarks, if any : NAD
12. Cardiovascular system
    Pulse rate : 80 bpm
    B.P : 132/80 mmhg
    Heart Sound : S1 S2 NAD
    Remarks, if any :
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSIL MTS ~~L~~ ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Purandra Pradhan
3. Employee Distinguishing No. : OSISL 00 676
4. Age of the employee : 31 year 10 M
   Identification mark : Black mole on neck.
   Nature of Job :
5. Date of Employment : 01/4/24
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 172 Cms
   Weight : 60 Kg
8. Blood Group : O +ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 95
    Expiration 93
    Respiration rate/ min 16/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 78 bpm
    B.P 121/70 mmhg
    Heart Sound S1 S2 (+)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Kuna Pradhan
3. Employee Distinguishing No. : MTSL00677
4. Age of the employee : 31/M
   Identification mark : Black mole on forehead
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 172 Cms
   Weight : 50 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 84
    Expiration 82
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 105 bpm
    B.P 114/75 mmHg
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Bhanja Munda
3. Employee Distinguishing No. : ~~MTSL00~~ OSL1743
4. Age of the employee : 53/M
   Identification mark : Black mole on right cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 162 Cms
   Weight : 86 Kg
8. Blood Group : AB +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 90
    Expiration 88
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 90 bpm
    B.P ~~112~~/90 mmHg 112/80
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Laxman Patra
3. Employee Distinguishing No. : MTSL00591
4. Age of the employee : 48/M
   Identification mark : Black mole on right cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 163 Cms
   Weight : 55 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 92
    Expiration 90
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 115 bpm
    B.P 161/91 mmhg
    Heart Sound S1 S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : DSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Rudra Narayan Naik
3. Employee Distinguishing No. : MTSL00515
4. Age of the employee : 41/M
   Identification mark : Black mole on right cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 163 Cms
   Weight : 55 Kg
8. Blood Group : O +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : /Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 89 bpm
    B.P 139/99 mmHg
    Heart Sound S_1S_2 — N
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Ghanashyam Mohanta
3. Employee Distinguishing No. : MTSL00585
4. Age of the employee : 57/04
   Identification mark : Black mole on Right hand.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 167 Cms
   Weight : 65 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 90 cm
    Expiration
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 70 bpm
    B.P 170/107 mmhg
    Heart Sound S1S2 (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Manas Ranjan Patra
3. Employee Distinguishing No. : MTSL00632
4. Age of the employee : 23/M
   Identification mark : Black mole on left hand
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey : ✓Good/ Fair / Poor
   Health :
   Height : 162 Cms
   Weight : 60 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 85
    Expiration 83
    Respiration rate/ min 15/min
    Remarks, if any ~~No~~
12. Cardiovascular system
    Pulse rate 84 bpm
    B.P 122/82 mmHg
    Heart Sound S_1S_2 (N)
    Remarks, if any ~~No~~
13. Abdomen Tenderness : Yes / ~~No~~

Cont...P/2

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Nishikanta Mahakud
3. Employee Distinguishing No. : MTSL00612
4. Age of the employee : 27/M
   Identification mark : Black mole on left cheek
   Nature of Job :
5. Date of Employment : 01/05/2024
6. Length of service in years :
7. General Survey :
   Health : ~~G~~Good/ Fair / Poor
   Height : 176 Cms
   Weight : 84 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 106
    Expiration 104
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 85 bpm
    B.P 134/73 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

Cont...P/2

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Jitendra Kumar Mahakud
3. Employee Distinguishing No. : MTSL00635
4. Age of the employee : 33 / M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 170 Cms
   Weight : ~~51~~ Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 107
    Expiration 105
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 67 bpm
    B.P 109/76 mmHg
    Heart Sound S_1S_2 – ND
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Ashok Kumar Mahanta
3. Employee Distinguishing No. : MTSL00442
4. Age of the employee : 36/M
   Identification mark : Black mole Left cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 170 Cms
   Weight : 70 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 100
    Expiration 98
    Respiration rate/ min 18/M
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 80 bpm
    B.P —, 118/82
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Ashok Kumar Mahanta
3. Employee Distinguishing No. : MTSL00442
4. Age of the employee : 36/M
   Identification mark : Black mole Left cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 170 Cms
   Weight : 70 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 100
    Expiration 88
    Respiration rate/ min 18/m
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 70 bpm
    B.P —, 119/82
    Heart Sound S1 S2
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Debasis Pradhan
3. Employee Distinguishing No. : MTSL08521
4. Age of the employee : 31 /M
   Identification mark : Black mole on left cheek
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 173 Cms
   Weight : ~~60~~ Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 98
    Expiration 96
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 96 bpm
    B.P 120/83 mmhg
    Heart Sound S_1S_2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

Cont...P/2

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Pramod Kumar Sahoo
3. Employee Distinguishing No. : MTSL00683
4. Age of the employee : 36/M
   Identification mark : Black mole on abdomen.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 175 Cms
   Weight : 60 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 101 bpm
    B.P 120/80 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / No

Cont...P/2

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Kshirod Kumar Mohanta
3. Employee Distinguishing No. : MTSL00875
4. Age of the employee : 38/M
   Identification mark : Black mole on right shoulder
   Nature of Job :
5. Date of Employment : 22/05/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 163 Cms
   Weight : 69 Kg
8. Blood Group : A +ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 92
    Expiration 90
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 89 bpm
    B.P 124/82 mmhg
    Heart Sound S1S2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Dambarudhar Majhi
3. Employee Distinguishing No. : MTSL00535
4. Age of the employee : 23/M
   Identification mark : Black mole over forehead
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : Cms
   Weight : Kg
8. Blood Group : AB+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 88
    Expiration 86
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 62 bpm
    B.P 146/69 in mmHg
    Heart Sound S_1S_2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Banamali Mahanta
3. Employee Distinguishing No. : MTSL00847
4. Age of the employee : 42 /M
   Identification mark : Black mole on chest
   Nature of Job :
5. Date of Employment : 01/03/2025
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 162 Cms
   Weight : 65 Kg
8. Blood Group : A+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 92
    Expiration 90
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 83 bpm
    B.P 126/80 mmHg
    Heart Sound S1S2 – (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Sujit Kumar Giri (Barik)
3. Employee Distinguishing No. : ~~NFSL00~~
4. Age of the employee : 24/M
   Identification mark : Black mole on left cheek.
   Nature of Job :
5. Date of Employment : 01/07/202~~4~~
6. Length of service in years :
7. General Survey : ✓ Good/ Fair / Poor
   Health :
   Height : 161 Cms
   Weight : 51 Kg
8. Blood Group : O+ve
9. Eye Vision : ✓
   Normal / Abnormal
   Use of glass : Yes / ~~No~~ ✓
10. Hearing : ✓ Normal / Abnormal
11. Respiratory system and Chest Measurement
    - Inspiration : 84
    - Expiration : 82
    - Respiration rate/ min : 17/m
    - Remarks, if any : NAD
12. Cardiovascular system
    - Pulse rate : 76 bpm
    - B.P : 107/83 mmHg
    - Heart Sound : S1 S2 (+)
    - Remarks, if any : NAD
13. Abdomen Tenderness : Yes / ~~No~~ ✓

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Bhubaneswar Mohanta (Basic)
3. Employee Distinguishing No. : NA
4. Age of the employee : 45 / M
   Identification mark : Black mole under right eye
   Nature of Job :
5. Date of Employment : 04/07/2024
6. Length of service in years :
7. General Survey : ✓ Good/ Fair / Poor
   Health
   Height : 161 Cms
   Weight : 60 Kg
8. Blood Group : B+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 83
    Expiration 81
    Respiration rate/ min 16/min
    Remarks, if any WNAD
12. Cardiovascular system 62 bpm
    Pulse rate
    B.P 130/84 mmhg
    Heart Sound S_1S_2 — (N)
    Remarks, if any WNAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD
2. Name of the Employee : Ashish Kumar Giri
3. Employee Distinguishing No. : MTSL00165
4. Age of the employee : 22/M
   Identification mark : Black mole near right eye
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 176 Cms
   Weight : 65 Kg
8. Blood Group : O+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration : 89
    Expiration : 87
    Respiration rate/ min : 16/min
    Remarks, if any : NAD
12. Cardiovascular system
    Pulse rate : 73 bpm
    B.P : 152/88 mmHg
    Heart Sound : S1 S2
    Remarks, if any : NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Chhatish Kumar Pradhan
3. Employee Distinguishing No. : MTSC00298
4. Age of the employee : 22/M
   Identification mark : Black mole on right hand
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 171 Cms
   Weight : 75 Kg
8. Blood Group : A+ve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 96
    Expiration 94
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 68 bpm
    B.P 129/97 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any N AD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

ORISSA SPONGE IRON & STEEL LTD.

1. Name of the Factory : OSISL
2. Name of the Employee : Kishan Loguri (Royal)
3. Employee Distinguishing No. : ~~MTSL00039~~
4. Age of the employee : 39 /M
   Identification mark : Black mole on left chest
   Nature of Job :
5. Date of Employment : 01/09/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 162 Cms
   Weight : 56 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 87
    Expiration 85
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 64 bpm
    B.P 150/111 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Hrushikesh Sahu
3. Employee Distinguishing No. : MTSL00736
4. Age of the employee : 23 M
   Identification mark : Black mole on neck
   Nature of Job :
5. Date of Employment : 01/05/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 178 Cms
   Weight : 95 Kg
8. Blood Group : O+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / No
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 115
    Expiration 113
    Respiration rate/ min 18/min
    Remarks, if any NAD
12. Cardiovascular system 121 bpm
    Pulse rate
    B.P 153/87 mmhg
    Heart Sound S_1S_2 – N
    Remarks, if any ~~N~~ NAD
13. Abdomen Tenderness : Yes / No

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Satyabrata Aruk
3. Employee Distinguishing No. : MTSL00871
4. Age of the employee : 42 IM
   Identification mark : Black mole on bone head
   Nature of Job :
5. Date of Employment : 14/5/25
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 165 Cms
   Weight : 76 Kg
8. Blood Group :
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 104
    Expiration 102
    Respiration rate/ min 16/min
    Remarks, if any NAD
12. Cardiovascular system
    Pulse rate 83 bpm
    B.P 133/82 mmHg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Muralidhar Naik
3. Employee Distinguishing No. : MTSL00482
4. Age of the employee : 40/M
   Identification mark : Black mole on Right cheek.
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : ~~Good~~/ Fair / Poor
   Height : 156 Cms
   Weight : 65 Kg
8. Blood Group : B+ve
9. Eye Vision :
   ~~Normal~~ / Abnormal
   Use of glass : Yes / ~~No~~
10. Hearing : ~~Normal~~ / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 93
    Expiration 91
    Respiration rate/ min 15/min
    Remarks, if any NAD
12. Cardiovascular system 74 bpm
    Pulse rate
    B.P 112/71 mmhg
    Heart Sound S1S2 — (N)
    Remarks, if any NAD
13. Abdomen Tenderness : Yes / ~~No~~

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FORM No.31-A
Health Record
(Pre-employment / Periodical)
(Prescribed under Rule 62-I)

1. Name of the Factory : OSISL ORISSA SPONGE IRON & STEEL LTD.
2. Name of the Employee : Laxmidhar Sahu
3. Employee Distinguishing No. : MTSL00029
4. Age of the employee : 35/M
   Identification mark : Black mole on nose
   Nature of Job :
5. Date of Employment : 01/04/2024
6. Length of service in years :
7. General Survey :
   Health : Good/ Fair / Poor
   Height : 175 Cms
   Weight : 82 Kg
8. Blood Group : otve
9. Eye Vision :
   Normal / Abnormal
   Use of glass : Yes / No
10. Hearing : Normal / Abnormal
11. Respiratory system and Chest Measurement
    Inspiration 104
    Expiration 102
    Respiration rate/ min 16/m
    Remarks, if any Nil
12. Cardiovascular system
    Pulse rate 105 bpm
    B.P 139/90 mmHg
    Heart Sound S1 S2
    Remarks, if any Nil
13. Abdomen Tenderness : Yes / No

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ANNEXURE-7

CORPORATE OFFICE :FLAT NO. 1203,1204,
12th FLOOR, CHIRANJIV TOWER,
NEHRU PLACE, NEW DELHI-110019

ORISSA SPONGE IRON & STEEL LIMITED

(Formerly Orissa Sponge Iron Limited)
(An ISO 9001 & 14001 Certified Company)

TEL : 011-43742000
CIN NO. : L271020R1979PLC000819
E-MAIL : corporate@orissasponge.com
WEBSITE : www.orissasponge.com

ENVIROMENTAL POLICY

Our company recognizes that effective management of environment impacts during our mineral processing and metallurgical operating is a fundamental part of our business. We shall strive to integrate sound environmental practices in the company management governance systems to minimize environmental impacts.

M/s Orissa Sponge Iron and Steel limited shall endeavour to:

1. Comply with Environmental Legislation, Regulation and show respect for public concerns.

2. Minimize Pollution and its impact on Air, Water & land.

3. Conserve Energy, Water and other resources through Judicious and optimum utilization. Identify and exploit opportunities for waste reduction through Recovery, Recycling, Reuse and Safe Disposal of Unavoidable Waste.

5. Strive for Continual Improvement in Environmental Performance.

6. Increase greenery in and around our Plant.

7. Inculcate & enhance Environmental awareness amongst employees and to disseminate our environmental policy to the interested public.

Our Company shall sign up to this policy or develop an equivalent that shall be implemented throughout its operations.

We are totally committed to sustainable development and shall review this policy periodically to achieve this objective.

Date:04/05/2024

Occupier

ORISSA SPONGE IRON & STEEL LTD New Delhi

ANNEXURE-8

Environmental Expenditure For Fy 2024-2025

i. Annual maintenance of all Pollution control systems (ESP, Bag filters, etc) including power consumption and transportation is Rs 35 lakhs (Approx)
ii. Annual maintenance of dry fog and sprinkler systems including power consumption is Rs 7 lakhs (Approx.).
iii. Misc. Contractual jobs for maintaining environmental management system was Rs 10 lakhs (approx.).
iv. We have installed a 30 KLD Sewage treatment plant of Rs. 1070000 /- (Ten lakh seventy thousand)
v. We have installed a wheel washing system for washing the wheels of heavy vehicles, so that no hazardous material will go out of the plant premises of Rs. 750000/- (Seven lakh fifty thousand only)

So the total annual expenditure incurred towards environmental protection
= Rs 70.2 Lakhs (approx.)

ANNEXURE-9

Compliance of CTO Special Conditions issued vide No-4513/IND-I-CON-89, Dtd.30.03.2024		
Sl.No	Conditions	Compliance
F. SPECIAL CONDITIONS: AIR POLLUTION CONTROL AIR POLLUTION CONTROL		
1.	All the air pollution control devices like ESPs / Bag filters installed at various process units shall be maintained, operated efficiently and continuously so that particulate matter emission from the stack shall meet the prescribed standard of the Board as indicated in Table-C'. The industry shall ensure continuous and effective operation of all the APC devices through preventive maintenance.	ESP/ Bag Filter scheduled maintenance is being carried out to meet the prescribed norms of the Board.
2.	There shall be no leakage of flue gas through the emergency caps, slip rings and any other process areas of DRI kilns except during exigencies.	Proper leakage arrester is being provided to maintain no leakage of flue gas through the emergency caps and sip rings of DRI Kilns.
3.	All the online continuous stack emission monitoring systems (CEMS) for measurement of particulate matter and gaseous pollutants shall be operated effectively & uninterruptedly and real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local Poor server.	Four Nos online continuous stack emission monitoring systems (CEMS) have been installed and out of this one CEMS is being commissioned.
4.	The Pneumatic Dust Handling system installed at the hoppers of all the ESPs and bag filters shall be operated continuously and effectively so that no fugitive dust nuisance is created.	Noted
5.	The rain guns shall be installed at the raw material stock yard to control fugitive emission.	The rain guns has been installed at the raw material stockyard to control fugitive emission.
6.	Telescopic chute shall be installed at the bottom of hoppers/silo wherever applicable to prevent emission of fugitive dust during material transfer/unloading.	The work has been completed.
7.	Adequate dust suppression/ extraction system shall be installed at feed hopper, transfer points, discharge chutes and other potential dust generating points of iron ore crusher and screening plants to control fugitive emission.	Adequate dust suppression/ extraction system has been installed at feed hopper, transfer points, discharge chutes and other potential dust generating points of iron ore crusher and screening plants to control fugitive emission.
8.	Iron ore and coal used in the plant shall be stored under covered shed. Material storage of the plant, approach roads shall be covered with adequate sprinkling facility. The water sprinkling system shall be kept operational all the time to avoid any fugitive dust nuisance.	The coal used in the plant is being stored in covered shed. However the iron ore is being kept in open at present but we will soon provide the shed in the iron ore storage area. The water sprinkler system is also being order and is under installation.

9.	Steps shall be taken for regular monitoring of Mercury (Hg) in the stack of AFBC boilers and submit data to the Board.	The AFBC boilers have not yet been operational. Once it is commissioned we will submit the data to Board.
10.	The unit shall provide low NOx burners to reduce NOx emission to keep the level within the prescribed standard by MOEF & CC vide Notification dtd. 07.12.2015.	We have provided Nox burners as prescribed standard by MOEF & CC.
11.	Steps shall be taken for installation of Flue Gas Desulpurisation (FGD) system in future if required to keep the SO2 level within 600mg/Nm to confirm the MOEF & CC Notification dtd. 07.12.2015. This shall also include management and disposal of effluent / solid waste to be generated from FGD system.	We will provide Flue Gas De sulpurisation (FGD) system to confirm the MOEF & CC notification.
12.	The industry shall strictly follow the guidelines of CPCB dated July, 2018 for Online Continuous Effluent Monitoring Systems (OCEMS) and Guidelines for continuous Emission Monitoring Systems dtd. August, 2018 for PM and other gaseous pollutants.	We are strictly following the guidelines of CPCB for Online Continuous Effluent Monitoring Systems (OCEMS).
13.	The industry shall ensure tampered proof real time transmission of online monitoring data to the server of CPCB and SPCB and maintain the health of the analyzers and data connectivity through valid AMC.	The unit has installed real time transmission of online monitoring data to the server of CPCB and SPCB
14.	Dust suppression facilities by provision of adequate water sprinkling shall be made at the active dumping area and roads to prevent dust nuisance in the area.	We are regularly sprinkling adequate water on the roads and RMHS area to prevent all fugitive emission.
15.	The industry shall comply with all the stipulations contained in the Gazette Notification of Govt. of India vide No. 155, dtd. 31.03.2012 (copy enclosed). For emission standard, the details of 'Table-C' of this order is applicable.	We undertake to comply all the stipulations contained in the Gazette Notification of Govt. of India vide No. 155, dtd. 31.03.2012 for emission standards.
16.	Accumulation of dust and other solid waste in the work zone and non-dumping areas inside the factory premises shall be avoided. The work zone shall be properly cleaned either manually or mechanically every day and the dust so collected shall be disposed off in the designated dump site.	The work zone is being cleaned regularly and we are not allowing any accumulation of dust and other solid waste in the work zone.

17.	The approach roads and all the internal roads shall be fully concreted / blacktopped. All the roads shall be cleaned periodically to avoid accumulation of dust. Adequate sprinkling facility, preferably by fixed water sprinklers shall be provided alongside all the internal roads to prevent generation of fugitive dust during vehicular movement.	Most of the roads in the plant are black topped. However work is going on for the remaining roads for black topping. The fixed water sprinklers has been installed alongside all the internal roads to prevent generation of fugitive dust during vehicular movement.
18.	The unit shall comply to the provisions of revised fly ash Notification No. SO.5481(E),dt. 31.12.2021 of MOEF & CC, Govt. of India.	The unit will comply to the provisions of revised fly ash Notification No. SO.5481(E),dt. 31.12.2021 of MOEF & CC, Govt. of India.
19.	The performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, AAQMS &	M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar has been
	surveillance cameras shall conducted by a 3rd party expert agency and annual	appointed for performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, AAQMS & surveillance cameras
20.	The digital display board installed at the main gate shall be of minimum size of 6ft x 4ft as stipulated by CPCB with provision of display of real time data online analysers (CEMS, CAAQMS & CEQMS), so that the public can visualize the actual emission and the values of parameters displayed at the gate. Outdoor LED video screens should be preferred for digital display of environmental parameters, CTO and authorization conditions and awareness clippings on environment at the main gate, colony area and process area.	The digital display board has been installed at the main gate as per the board specification.
21.	The installed HD IP camera shall be operated continuously so that video streaming shows in server of the Board on interruptedly.	We have installed HD IP camera and which is operating continuously and linked server of the Board.
22.	Online analysers for measuring flow, temperature and velocity of flue gas shall be installed at the stacks and integrated with online CEMS data.	It has been installed.
23.	Online CO / Ammonia/ Chlorine and such other gas monitoring system shall be installed in every process area where such toxic gas are expected to be generated and in the plant premises along with alarm system to avoid accidental hazards due to gas leakage.	It has been installed.
24.	Green belt shall be properly designed and developed with plantation of suitable local species and species prescribed by CPCB.	The green belt has been provided extensively at periphery of the boundary wall and within the plant premises.

25.	D.G. sets should be acoustically enclosed with anti- vibration measures and equipped with A.M.F. (Auto Mains Failure Device) for auto changeover of power supply from grid to D.G. in the event of power failure. The AMF Panel should preferably be PLC (Programmable Logic Control) based. Dedicated D.G. sets of adequate capacity shall be installed to ensure adequate standby power supply to run all pollution control devices of the plant in the event of power failure.	Noted and it has been provided as per the specification of Board.
26.	The industry shall put up sign Boards at appropriate places with nomenclature of the stacks in consultation with Regional Officer of the Board. It shall install electronic display Board in front of main gate to display the monitoring data, prescribed standard for public information.	A display Board is provided at main gate to display monitoring data for Public domain.
27.	The ambient air quality shall confirm to the National Ambient Air Quality standard as per the notification of MOEF dated 16 Nov 2009 (Annexed).	Agreed
WATER POLLUTION CONTROL		
1.	Specific water consumption shall be limited within 3.5m^3/MWh as per MOEF & CC vide Notification dtd. 07.12.2015.	
2.	Under no circumstances there shall be discharge of any effluent to outside the factory premises. Wastewater generated from the producer gas plant shall be suitably treated and reused. Water used for cooling purposes shall be fully recycled.	Zero liquid discharge concept is adopted
3.	Wastewater generated from raw water treatment system and back wash of filtration plant shall be properly treated and reused.	Noted
4.	Blow down from WHRB boiler / AFBC boilers and all the cooling towers shall meet the following standards before it is discharged to the common monitoring basin and shall be used for dust suppression; a) For boiler blow down: SS-100mg/l,O&G-20mg /l,Cu (Total)-1.0mg/ l,Fe(Total)-1.0mg/l b) For cooling tower blow down: Free available chlorine-0.5mg/l, Zn-1.0mg/l, Cr (Total)-2.0mg/l, Phosphate-2.0mg/l.	We are maintaining all the specified standards before the water is discharge and is being used for dust suppression.

5.	The proponent shall adopt zero liquid discharge (ZLD) concept. Under no circumstances there shall be discharge of any effluent to outside the factory premises.	We are adopting zero liquid discharge (ZLD) concept and under no circumstances there is any discharge of any effluent to outside the factory premises
6.	The domestic effluents shall be suitably treated in STPs/septic tanks followed by soak pits so as to meet the prescribed standard of the Board before discharge/ reused.	The work for the installation of STP for treatment of Domestic waste water generated from the colony and the guest house/canteen is going on and shall be completed by end of Jan 2025.
7.	The performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter shall conducted by a 3rd party expert agency and annual report shall be submitted to the Board by end of June for previous financial year.	M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar will be appointed for the performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter.
8.	Flow meter and level sensors with telemetry system should be installed in the bore wells as stipulated by Central Ground Water Authority/Water Resources Department.	We are using water from the Ardei river duly stored in our two nos water reservoirs.
9.	The industry shall conduct surface run off management study and develop rain water harvesting structures and surface runoff treatment systems inside the premises.	The surface runoff management study is presently going on and based on the outcomes of the study we will install the adequate capacity of Surface runoff system.
10.	Dumping of solid waste shall be made at designated locations in a systematic manner with proper engineering applications by providing proper slope, angle, berms, height, toe wall, retaining wall and road network. The active dumping area shall be kept at minimum. The exhausted dump area shall be technically reclaimed by spreading a layer of soil with proper compaction and consolidation. Biological reclamation of the same shall be made by planting saplings of appropriate species. Adequate provision for watering of plants and protection of trees shall be made.	The dumping of solid water is being done at designated location in a systematic manner and as per the specification prescribed by Board.
11.	The industry shall have adequate space at point of time for waste disposal at least for a period of one year. Before using any new patch of land / site for solid waste dumping, the industry shall obtain prior consent to establish of the Board.	Noted.
12.	Consent to operate is subject to availability of all other statutory clearances required under relevant Acts/Rules	Noted

	and fulfillment of required procedural formalities.	
G) Additional Conditions		
01	The unit shall install Sensor mechanical wheel washing system with treatment facilities at the exit gate within 03 Months.	The sensor based mechanical wheel washing system with treatment facilities has been installed and operational at the main exit gate of the plant.
02	The unit shall connect the HD IP Camera to the server of the Board for transmission of uninterrupted video streaming to the sensor to the server of the board within 01 Month.	We have installed HD IP camera and which is operating continuously and linked server of the Board.
03	The unit shall made concreting/black topping of 1.25 KM of balance internal road within 06 month.	The work for the same is continuing and shall be completed soon.
04	The unit shall provide STP for treatment of domestic waste water generated from the colony & canteen within 3 Months.	The work for the installation of STP for treatment of Domestic waste water generated from the colony and the guest house/canteen is going on and shall be completed by end of Jan 2025.
05	The unit shall provide fog cannons at all dust prone areas, loading/unloading area for effective control of fugitive dust emission in order to maintain ambient air quality within 03 months	The unit has installed fog cannons at all dust prone areas, loading/unloading area for effective control of fugitive dust emission .
06	The unit shall provide telescopic chute at product discharges hopper of DRI Plant.	The unit has installed telescopic chute at product discharges hopper of DRI Plant.
07	The unit shall procure road sweeping, machine to maintain the road dust free	The unit is manually sweeping the road regularly and also using 02 water sprinkling tankers to control the ground dust emission.
08	The unit shall provide adequate capacity of truck parking area to avoid traffic congestion in public road	The unit has already provided 50,000 sq ft of area for truck parking to avoid the traffic congestion.
09	The unit shall submit bank guarantee @ 15% of total cost of the jobs such as installation of STP, sensor-based wheel washing system and concreting of balance internal road of 1.2 km with affidavit in prescribed format to this office within 15 days from issue of the Consent Order	The unit has already submitted the required bank guarantee for completion of the stipulated job and have successfully Installed wheel washing system, and the work for the STP is progressing and shall be completed by end of Jan-2025.Also work for the concreting of internal roads is in process and will be completed soon.

For ORISSA SPONGE IRON & STEEL LTD.

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ANNEXURE-10

CORPORATE OFFICE :FLAT NO. 12
12th FLOOR, CHIRANJIV TOWER,
NEHRU PLACE, NEW DELHI-110019

ORISSA SPONGE IRON & STEEL LIMITED

(Formerly Orissa Sponge Iron Limited)
(An ISO 9001 & 14001 Certified Company)

TEL : 011-43742000
CIN NO. : L271020R1979PLC00081
E-MAIL : corporate@orissasponge.
WEBSITE : www.orissasponge.com

NO: OSISL/SITE/ENV/25/05/01

28/05/2025

To,
The Member Secretary
State Pollution Control Board
A-118, Nilakanth Nagar
Unit-VIII, Bhubaneswar
Odisha-751012

Sub: Submission of Environmental Statement (Form-V) for the financial year 2024-2025

Respected Sir,

Inviting reference to the subject mentioned above, we are enclosing herewith the Environmental Statement (Form-V) for the financial year 2024-2025, under rule 14 of Environment protection act 1986.

Kindly find the same.

Thanking You

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

Ashish Saxena
Occupier
Orissa Sponge Iron & Steels Ltd.

No.....Dt.....
RECEIVED
07 JUL 2025
S.P.C. BOARD
BHUBANESWAR

Attachments: Environmental Statement (Form-V) for the financial year 2024-2025.

C.C. Regional Office, State Pollution Control Board, Keonjhar, Odisha

Thus, the plant is incurring an additional expenditure of Rs 44 /MT of finished product towards pollution control measures.

PART – H

Additional measures/investment proposal for environment protection including abatement of pollution prevention of pollution.

The following measures have been planned to execute in the current year for environment protection and abatement of pollution.

- We have installed tractor mounted water sprinklers and a truck water tanker for areas where sprinkler not present for now.
- Plantation of around 1500 seedlings inside the plant premises for green belt development.
- We have installed a water sprinkling system through the piping which covers around 2.5 km road in side plant. Also we have planned to install water sprinkling system in remaining roads of the plant.
- We have installed rain-gun and dry fug system in raw material area.
- We have installed dry fog system in all conveyors for dust suppression.

PART – I

Any other particular for improving the quality of the environment.

- We have installed a water sprinkling system through the piping which covers around 2.5 km road in side plant. Also we have planned to install water sprinkling system in remaining roads of the plant.
- We have installed rain-gun and dry fug system in raw material area.
- We have installed dry fog system in all conveyors for dust suppression.
- We have planned to provide Pneumatic chutes for extraction of ash, dust and dolochar from the silo discharge.
- We are reusing Fly ash in our flyash brick unit and giving to authorised vendors for making of bricks.

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

- We are disposing the remaining bed ash & fly ash in earmarked site inside the plant premises.
- We have provided adequate measures for proper handling of hazardous waste in accordance with the provisions of Rules.
- We are maintaining good housekeeping throughout the plant.
- We have adopted different energy conservation measures for conserving thermal & electrical energy.
- Energy auditing done to find out the losses and to take preventive measures.
- We have developed adequate green cover inside the plant & also carried out plantation drive in the periphery villages.
- Community awareness development programmes on environmental protection and plantation drives are also undertaken through celebration of World Environment Day.
- We have undertaken extensive CSR activities.
- **Orissa Sponge iron and Steel Limited follows the "4 RS" principle i.e. Reduce, Reuse, Recycle and Restore of waste to minimize impact on environment.**

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

Disposal Practice:

Ash from Silo

The ash collected in the ESP is first discharged into a hopper. From the hopper, the ash is conveyed to the silo using a mechanical conveying system such as a pneumatic conveyor. The ash is stored in the silo until it is ready to be transported. A truck is positioned beneath the silo, and a discharge chute is attached to the silo's discharge outlet. The discharge chute is typically equipped with a dust collector to prevent the escape of ash dust during loading. Water spraying system running during ash loading to prevent the escape of ash. The ash is loaded into the truck using a mechanical conveying system. The truck transports the ash to our fly ash brick making plant or dump yard inside the plant premises. The upper layer of the ash should be thoroughly wet so it will not get to air during the jerking of truck. At the Brick Plant site or Dump Yard, the truck is positioned over the Storage/Dump area and the tailgate is opened to allow the ash to fall out. Water sprinkler system must be available at there to mitigate the environmental effects of fly ash.

Waste oil:

The waste oil generated at various sources is collected in leak proof barrels and then are kept on a concrete floor with oil catch pit. It is also ensured that the caps of the barrels remain intact and in upright position. The storage area is properly fenced and caution board displayed. During transfer of waste oil to barrels, a trough is placed underneath in order to prevent land contamination due to oil spillage then at a fixed interval, these barrels are returned to stores for final disposal through authorized reprocessor.

Waste batteries:

Waste Batteries are generated in Electrical and IT section .These batteries with diluted acid and caps intact are kept under a shed having concrete floor. Then at a fixed interval, these batteries are returned to stores for final disposal. The UPS generated is kept inside the IT room and during purchase of new UPS it is handed over to the party under buy back policy.

Dolochar/Charcoal

Dolochar is by-product of Sponge iron plants and is used as fuel in AFBC Boiler along with Coal. The dolochar is mixed with coal in a ratio of 40% dolochar and 60 % coal which are used in our AFBC boiler. The dolochar mixture is used to generate electricity in AFBC Boiler. Dolochar is stored in separate bins and then sent to power plant through conveyors for use in AFBC boiler. Pollution control measures dry fog systems are installed in both sides of conveyors to reduce the impact on environment i.e. generated from it.

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

Steel Slag

Steel Slag is a by-product of Steel melting process and can be utilised in different process. The steel slag can be used as a filling material for construction sites. It can be used in construction of roads. It is also used in cement making plants. It can be also used as railway Ballast. It can also be used as brick manufacturing. It can also be used in Tiles manufacturing. It can also be used as abrasive blasting material.

SMS shop Dust

SMS shop dust is a by product generated from FES system of SMS shop contains high percentage of Fe>40% and it can be reused in sinter making.

Lime Dolomite plant Dust

Due to high content of CaO & MgO, these dusts can be used for sinter making

PART - G

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

M/s **ORISSA SPONGE IRON AND STEEL LIMITED** has spearheaded the pursuit for Environmental Protection by implementing an effective environmental management system. To this effect, the Plant has undertaken the following measures:-

i. Annual maintenance of all Pollution control systems (ESP, Bag filters, etc) including power consumption and transportation is Rs 35 lakhs (Approx)
ii. Annual maintenance of dry fog and sprinkler systems including power consumption is Rs 7 lakhs (Approx.).
iii. Misc. Contractual jobs for maintaining environmental management system was Rs 10 lakhs (approx.).
iv. We have installed a 30 KLD Sewage treatment plant of Rs. 1070000 /- (Ten lakh seventy thousand)
v. We have installed a wheel washing system for washing the wheels of heavy vehicles, so that no hazardous material will go out of the plant premises of Rs. 750000/- (Seven lakh fifty thousand only)

So the total annual expenditure incurred towards environmental protection = Rs 70.2 Lakhs (approx.)

Annual production of the plant during the year =160336.93 MT

So, the impact of the pollution abatement measures on the cost of production shall be = Rs. 70.2 Lakhs/160336.93 MT = Rs. 44/MT

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

PART - E
SOLID WASTES

Sources	Total quantity	
	During the current financial year (2023-2024)	During the current financial year (2024- 2025)
a. From Process		
i) Dolochar	17271 MT	32093.68 MT
b. From Pollution Control Facility.		
i) Fly ash & Bed Ash	41000 MT	65000 MT
c. (1) Quantity recycled or reutilized within the unit	20305 MT (Dolochar)	30261.28 MT (Dolochar)
(2) Quantity sold	3804 MT (Dolochar) 11000 MT (fly ash)	1832.40 MT (Dolochar) 11000 MT (fly ash)
(3) Quantity disposed		

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

PART - F

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

Characteristics of Dolochar	Characteristics of Fly Ash	Characteristics of Bed Ash
SiO2 = 42 % to 44 % CaO = 17 % to 19 % Al2O3 = 15% to 17% Fe2O3 = 14 % to 15 % MgO = 05% to 7 % LOI =3% to 6%	SiO2 = 38% to 63% Al2O3 = 27% to 44 % Fe2O3 = 03% to 06% CaO = 0.2% to 08% Mgo = 0.01% to 0.5% So3 = 03% to 04% LOI = 4%	SiO2 = 38% to 63% Al2O3 = 27% to 44 % Fe2O3 = 03% to 06% TiO2 = 0.2% to 0.42% CaO = 0.2% to 08% Mgo = 0.01% to 0.5% So3 = 03% to 04% K2O = 0.2 % to 0.91% Na2O = 0.2% to 0.7% LOI = 11.30%

Characteristics of Slag	Characteristics of Sludge
Cao = 40.30 % to 45.37 % Fe2O3 = 7.66% to 12.73 % SiO2 = 8.74 % to 15.38 % Al2O3 = 1.04% to 3.29 % MgO = 7.98 % to 10.29% MnO = 1.88 % to 3.03% FeO = 14.06 % to 21.58% P2O5 = 0.72 % to 1.66 %	Cao = 35.25% to 42.4 % Fe2O3= 68.6 % to 71.9 % SiO2 =3.5% to 4.13 % Al2O3=0.32% to 0.53% MgO = 2.24% to 3.59% MnO =0.33% to 0.67% Na2O= 4.15% to 6.16%

*LOI = Loss on ignition

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

* F.C=Fixed Carbon
Polluting Industry may use codes if disclosing details of raw material would violate Contractual obligations, otherwise all industries have to name the raw material used.

PART - C

Discharged to environment / unit of output specified if the consent issued.

Pollutants	Quantity of pollutants Discharged (mass/day)	Concentration of pollutions in discharges (mass / volume)	Percentage of variation from prescribed standards with reasons
a) Water	NIL	NIL	NA
b) Air			
Stack emission of WHRB-1. Particulate Matter (PM) in mg/NM^3	-	*49.1 mg/NM^3	Within the prescribes standard
Stack emission of AFBC-1. Particulate Matter (PM) in mg/NM^3	-	*0 mg/NM^3 (Not in Use throughout the year)	Within the prescribes standard
Stack emission of WHRB-2. Particulate Matter (PM) in mg/NM^3		45.3 mg/NM^3	Within the prescribes standard
Stack emission of AFBC-2. Particulate Matter (PM) in mg/NM^3		43.21 mg/NM^3	Within the prescribes standard

***Annual average data**

1. Prescribed standard for Particulate matter emission from stack attached to WHRB-1 & 2 is **100 mg/NM^3** and AFBC-1 & AFBC-2 is 50 **mg/NM^3**

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

PART - D
HAZARDOUS WASTES

(As specified under the hazardous wastes/management & handling rules, 1989)

Hazardous wastes	Total quantity (Kg)	
	During the Past financial year (2023-2024)	**During the current financial year (2024-2025)**
a) FROM PROCESS		
i) USED TRANSFORMER OIL	0 Ltrs	0 Ltrs
ii) WASTE OIL	500 Ltr	450 Ltr
iii) Waste Containing Oil	3951 Kg (Oil contaminated cotton waste)	3460 Kg (Oil contaminated cotton waste)
b) FROM POLLUTION CONTROL FACILITY	41000MT Fly Ash and Bed Ash	65000 MT Fly Ash and Bed Ash

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

ENVIRONMENTAL STATEMENTS
FORM-V

(See Rule 14)

The Ministry of Environment & Forest vide its notification dated March, 1992 directed all industries which need to have consent under Water (Prevention & Control of Pollution) 1974 and Air (Prevention &Control of Pollution) 1981 to file the Environmental statement every year. This is to be filed for the period ending March by September every year. The format for the same is as follows:

Environmental Statement for the financial year ending the **31st March 2025**.

PART – A

(i)	Name and address of the Owner/occupier of the Industry Operation or Process	: Mr .Ashish Saxsena (Occupier) **Orissa Sponge Iron And Steel Ltd.** **(Formerly Orissa Sponge Iron Limited)** **Corporate Office:**Flat No:1203, 1204, 12th Floor, Chiranjiv Tower, Nehru Place, New Delhi- 110019 **Regd. Office**. Osil House, Gangadhar Meher Marg, Bhubaneswar, Odisha-751024 **Site:** P.O. Palaspanga, Dist.- Keonjhar, Odisha-758031
(ii)	Industry Category Primary – (STC code) Secondary – (SIC code)	: Large
(iii)	Production Capacity-Units	: Sponge Iron 2,50,000 MT/year : Steel Billets 1,00,000 MT/year
(iv)	Year of establishment	: 1979.
(v)	Date of the last submission	: 08.01.2025

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

PART - B
Water and Raw Material Consumption

(i) Water consumption m^3/d

Water consumption heads	**Water consumption quantity in m^3/day**	**Approval Quantity from Central Ground Water Authority, Ministry of Water Resources, Govt. of India**
Cooling Tower:	1200.23	The approved quantity for surface water withdrawal from river Ardei is **1 cusec (2448m^3/day).** The approval is accorded vide Agreement No 837 Dtd.18.02.2025 with Government of Odisha Represented by Superintending Engineer, Baitarani Division, Keonjhar.
DM plant	414.23	
WTP	50.76	
DRI	400.87	
Steel melting Shop	108.24	
Dust Suppression	96.35	
Domestic	65	
Total Consumption/day	**2341.68**	

Name of product	**Process water consumption per unit of product output (M^3/T).**		
	During the previous financial year (2023-2024)	**During the current financial year (2024-2025)**	
1	**2**	**3**	
DRI.			
Steel billets			
(ii)	**Raw material consumption**		
Name of raw material	**Name of products**	**Consumption of raw material for unit of output.** (For production of 1 MT of DRI).	
	DRI	**During the previous financial year (2023-2024)**	**During the current financial year (2024-2025)**
Iron Ore		1850 Kgs	1846 Kgs
Dolomite		64 Kgs	62 Kgs
Coal		1737 Kgs	1694 Kgs
Electricity		40.68 KW	46.85 KW

For ORISSA SPONGE IRON & STEEL LTD.

OCCUPIER

Ref: Envlab/25-26/R-14881 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry **: M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location **: AAQMS-1: Near Main Gate**

Date	PARAMETERS				
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	CO (mg/m^3)
Apr-25	86.7	41.9	31.2	35.4	0.78
May-25	89.2	38.2	29.5	31.2	0.81
Jun-25	81.8	39.1	30.1	33.6	0.83
Jul-25	69.7	32.7	24.5	26.8	0.61
Aug-25	72.6	35.6	29.3	30.7	0.65
Sep-25	70.4	36.1	26.5	31.2	0.59
AVERAGE	**78.4**	**37.3**	**28.5**	**31.5**	**0.71**
NAAQ Standard	**100**	**60**	**80**	**80**	**4**
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012	NDIR Spectroscopy ISO 5182(Part 10) RA2009
Note : BDL Value SO_2 <4 $\mu g/m^3$, NO_2 <9 $\mu g/m^3$, CO <0.1 mg/m^3					

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

Ref: Envlab/25-26/R-14882 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **AAQMS-2: Nuagaon Village**

Date	PARAMETERS				
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	CO (mg/m^3)
Apr-25	53.9	26.5	15.4	17.4	0.51
May-25	50.1	23.9	16.3	18.2	0.43
Jun-25	50.7	25.4	16.1	16.9	0.49
Jul-25	43.5	22.1	14.2	14.7	0.42
Aug-25	41.7	20.9	15.6	18.2	0.38
Sep-25	43.4	23.2	13.9	14.3	0.41
AVERAGE	47.2	23.7	15.3	16.6	0.44
NAAQ Standard	100	60	80	80	4
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012	NDIR Spectroscopy ISO 5182(Part 10) RA2009

Note : BDL Value SO_2 <4 $\mu g/m^3$, NO_2 <9 $\mu g/m^3$, CO <0.1 mg/m^3

Reviewed by

Approved by

Ref: Envlab/25-26/R-14883 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **AAQMS-3: Sarasakela Village**

Date	PARAMETERS				
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	CO (mg/m^3)
Apr-25	58.2	30.2	14.2	15.9	0.53
May-25	51.5	24.5	13.5	16.1	0.49
Jun-25	53.7	26.7	12.9	14.7	0.51
Jul-25	55.2	25.1	14.5	16.3	0.46
Aug-25	46.1	23.2	12.7	15.2	0.42
Sep-25	43.8	20.7	13.2	14.7	0.45
AVERAGE	**51.4**	**25.1**	**13.5**	**15.5**	**0.48**
NAAQ Standard	**100**	**60**	**80**	**80**	**4**
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012	NDIR Spectroscopy ISO 5182(Part 10) RA2009
Note : BDL Value SO_2 <4 $\mu g/m^3$, NO_2 <9 $\mu g/m^3$, CO <0.1 mg/m^3					

Reviewed by

Approved by

Ref: Envlab/25-26/R-14884 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
AMBIENT AIR QUALITY MONITORING REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **AAQMS-4: Near Anand Memorial play ground**

Date	PARAMETERS				
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	CO (mg/m^3)
Apr-25	64.2	39.6	20.1	22.4	0.69
May-25	70.5	35.1	16.7	19.6	0.52
Jun-25	67.2	32.8	19.5	24.1	0.68
Jul-25	61.8	27.6	21.4	20.3	0.63
Aug-25	58.9	30.3	21.6	23.2	0.54
Sep-25	57.5	29.5	18.5	21.7	0.52
AVERAGE	**63.4**	**32.5**	**19.6**	**21.9**	**0.60**
NAAQ Standard	**100**	**60**	**80**	**80**	**4**
Testing method	**Gravimetric ISO 5182 (Part-23) RA2019**	**Gravimetric ISO 5182 (Part-24) RA2019**	**Improved West and Geake method ISO 5182 (Part-2) RA 2017**	**Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part-6) RA 2012**	**NDIR Spectroscopy ISO 5182(Part 10) RA2009**

Note : BDL Value SO_2 <4 $\mu g/m^3$, NO_2 <9 $\mu g/m^3$, CO <0.1 mg/m^3

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

Ref: Envlab/25-26/R-14885 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
NOISE QUALITY MONITORING REPORT

1. Name of Industry **: M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sample Type **: Noise quality monitoring**

SL. No.	LOCATION	Noise Level in dB(A)						
		Day Times (dBA)	Day Times (dBA)	Day Times (dBA)	Day Times (dBA)	Day Times (dBA)	Day Times (dBA)	Average
		APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
1	Near Main Gate	70.6	73.4	68.5	65.2	70.4	66.8	69.2
2	Nuagaon Village	48.5	42.3	45.1	36.9	45.2	44.1	43.7
3	Sarasakela Village	43.8	49.3	50.1	48.8	45.6	46.7	47.4
4	Near Anand memorial play ground	46.1	40.2	43.2	35.6	39.8	40.1	40.8
AMBIENT NOISE STANDARDS		Day time (in dBA)						
i	Industrial	75.0						
ii	Commercial	65.0						
iii	Residential	55.0						
iv	Sensitive	50.0						

SL. No.	LOCATION	Noise Level in dB(A)						
		Night Times (dBA)	Night Times (dBA)	Night Times (dBA)	Night Times (dBA)	Night Times (dBA)	Night Times (dBA)	Average
		APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
1	Near Main Gate	59.2	51.8	57.6	48.5	52.2	50.1	53.2
2	Nuagaon Village	33.6	31.9	35.4	32.6	30.8	36.7	33.5
3	Sarasakela Village	40.4	41.3	35.6	36.9	40.1	42.5	39.5
4	Near Anand memorial play ground	39.6	40.1	35.2	38.9	33.2	31.9	36.5
AMBIENT NOISE STANDARDS		Night time (in dBA)						
i	Industrial	70.0						
ii	Commercial	55.0						
iii	Residential	45.0						
iv	Sensitive	40.0						

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Approved by

Ref: Envlab/25-26/R-14886 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
SURFACE WATER QUALITY ANALYSIS REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **SW1: Aradei River Upstream**

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class – 'C'	Analysis Results						Average
					APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
					SW-1	SW-1	SW-1	SW-1	SW-1	SW-1	
1	Colour	APHA 23RD Ed,2017: 2120 B, C	Hazen	300	<10	<10	10	<20	15	20	15
2	Odour	APHA 23RD Ed,2017 :2150 B	--	--	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
3	Total Suspended Solids as TSS	APHA 23RD Ed,2017 :2540 D	mg/l	--	41.6	39.4	37.2	55.8	59.7	61.2	49.2
4	Temperature	APHA 23RD Ed,2017 :2550 B	0C	--	26.3	28.1	24.2	23.9	25.6	23.8	25.3
5	pH at 250C	APHA 23RD Ed,2017 4500H+ B	--	6.0-9.0	7.01	7.25	7.19	7.03	6.98	7.02	7.1
6	Dissolved Oxygen (min)	APHA 23RD Ed,2017: 4500 O- C	mg/l	4.0	4.8	5.5	5.2	4.6	6.1	5.6	5.3
7	Turbidity	APHA 23RD Ed,2017: 2130 B	NTU	--	9.6	8.2	8.5	11.2	13.8	12.7	10.7
8	Chloride (max)	APHA 23RD Ed,2017: 4500Cl- B	mg/l	600	31.6	30.8	25.9	29.4	30.2	33.5	30.2
9	Total Dissolved Solids	APHA 23RD Ed,2017: 2540 C	mg/l	1500	364	309	320	348	297	348	331
10	Oil & Grease (max)	APHA 23RD Ed,2017:5520-B	mg/l	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11	Total Residual Chlorine as RFC	APHA 23RD Ed,2017: 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND	ND	ND
12	Ammonical Nitrogen	APHA 23RD Ed,2017 : 4500 NH3F	mg/l	--	0.015	0.023	0.019	0.017	0.023	0.021	0.020
13	Total Kjeldahl Nitrogen	APHA 23RD Ed,2017: 4500 NORG B	mg/l	--	1.03	1.15	1.2	1.06	1.2	1.3	1.16
14	Free Ammonia	By Calculation	mg/l	--	0.015	0.018	0.012	0.017	0.021	0.015	0.016
15	Total Hardness	APHA 23RD Ed,2017: 2340 C	mg/l	--	138	142	126	120	135	148	134.8
16	Calcium as Ca	APHA 23RD Ed,2017 : 3500Ca B	mg/l	--	35.6	37.1	34.2	36.5	39.5	35.2	36.4
17	Magnesium as Mg	APHA 23RD Ed,2017: 3500Mg B	mg/l	--	11.93	11.99	9.87	7.01	8.84	14.61	10.7
18	Anionic Detergents as MBAS	APHA 23rdEdition 5540 C , 2017	mg/l	1	ND	ND	ND	ND	ND	ND	ND
19	BOD (3) days at 270C (max)	IS 3025(P-44) : 1993 RA 2003	mg/l	3.0	2.8	2.2	2.6	2.4	2.2	2.4	2.43
20	Chemical Oxygen Demand (COD)	APHA 23RD Ed,2017: 5220 C	mg/l	--	12.1	10.9	11.5	12.6	9.2	10.4	11.12
21	Arsenic as As	APHA 23RD Ed,2017: 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
22	Lead as Pb	APHA 23RD Ed,2017 3111 B	mg/l	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
23	Cadmium as Cd (max)	APHA 23RD Ed,2017: 3111 B	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Hexa Chromium as Cr+6	APHA 23RD Ed,2017: 3500Cr B	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Copper as Cu (max)	APHA 23RD Ed,2017: 3111 B	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
26	Zinc as Zn(max)	APHA 23RD Ed,2017: 3111 B	mg/l	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Selenium as Se (max)	APHA 23RD Ed,2017: 3500 Se C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
28	Cyanide as CN (max)	APHA 23RD Ed,2017: 4500 CN- C,D	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29	Fluoride as F (max)	APHA 23RD Ed,2017: 4500F- C	mg/l	1.5	0.12	0.09	0.12	0.11	0.15	0.12	0.12
30	Sulphates (SO4) (max)	APHA 23RD Ed,2017: 4500 SO42- E	mg/l	400	3.4	4.6	5.2	4.8	5.1	5.9	4.83
31	Phenolic Compounds as C6H5OH (max)	APHA 23RD Ed,2017: 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
32	Iron as Fe (max)	APHA 23RD Ed,2017: 3111 B	mg/l	50	3.15	1.26	2.41	1.66	3.1	2.54	2.35

33	Nitrate as NO3 (max)	APHA 23RD Ed,2017: 4500 NO3- E	mg/l	50	3.6	2.2	2.8	2.1	1.95	1.82	2.41
34	Alkalinity	APHA 23RD Ed,2017:2320 B	mg/l	-	120	96	102	86	92	98	99
35	Total Coli form	APHA 23RD Ed,2017: 9221 B	MPN/ 100 ml	5000	240	210	260	220	240	260	238
36	Dissolved Phosphate as PO4	APHA 23RD Ed,2017:4500 P D	mg/l	--	0.26	0.21	0.18	0.23	0.21	0.28	0.23
37	Sulphide as S2-	APHA 23rdEdition 4500 –S2- .D; 2017	mg/l	--	ND	ND	ND	ND	ND	ND	ND
38	Bioassay Test	APHA 23rdEdition 6582 (P-2) 2001	%	--	89%	90%	91%	90%	92%	93%	91%
39	Mercury as Hg	APHA 23RD Ed,2017 3500 Hg	mg/l	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
40	Total Chromium as Cr-Total	APHA 23RD Ed,2017 3111 B	mg/l	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

BDL- Below Detection Limit,
BDL Values: Cr^{+6}-<0.01mg/l, Manganese-<0.05 mg/l, Mercury-<0.002 mg/l, Aluminium – <0.01 mg/l, Cyanide-<0.01 mg/l, Total Cr-<0.05, Nickel <0.02, Oil & Grease <5.0, Copper <0.02, Cadmium <0.01, Selenium <0.001, Arsenic <0.004, Lead <0.04, Zinc <0.005

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

Ref: Envlab/25-26/R-14887 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
SURFACE WATER QUALITY ANALYSIS REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **SW2: Aradei River Downstream**

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class – 'C'	Analysis Results						Average
					APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
					SW-2	SW-2	SW-2	SW-2	SW-2	SW-2	
1	Colour	APHA 23RD Ed,2017: 2120 B, C	Hazen	300	15	15	<20	<15	25	<20	18
2	Odour	APHA 23RD Ed,2017 :2150 B	--	--	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
3	Total Suspended Solids as TSS	APHA 23RD Ed,2017 :2540 D	mg/l	--	51.6	48.3	49.5	58.2	61.5	69.7	56.5
4	Temperature	APHA 23RD Ed,2017 :2550 B	^{0}C	--	30.6	29.8	28.6	31.3	26.5	27.4	29.0
5	pH at 25^{0}C	APHA 23RD Ed,2017 4500H+ B	--	6.0-9.0	7.16	7.22	7.18	7.24	7.31	7.16	7.2
6	Dissolved Oxygen (min)	APHA 23RD Ed,2017: 4500 O- C	mg/l	4.0	5.2	5.6	5.1	4.9	6.3	6.8	5.7
7	Turbidity	APHA 23RD Ed,2017: 2130 B	NTU	--	10.7	8.5	9.1	12.9	12.1	15.1	11.4
8	Chloride (max)	APHA 23RD Ed,2017: 4500Cl- B	mg/l	600	26.7	29.5	30.1	28.7	31.2	25.6	28.6
9	Total Dissolved Solids	APHA 23RD Ed,2017: 2540 C	mg/l	1500	381	402	365	376	361	392	380
10	Oil & Grease (max)	APHA 23RD Ed,2017:5520-B	mg/l	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11	Total Residual Chlorine as RFC	APHA 23RD Ed,2017: 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND	ND	ND
12	Ammonical Nitrogen	APHA 23RD Ed,2017 : 4500 NH3F	mg/l	--	0.023	0.021	0.019	0.025	0.021	0.026	0.023
13	Total Kjeldahl Nitrogen	APHA 23RD Ed,2017: 4500 NORG B	mg/l	--	1.4	1.06	1.18	1.11	1.06	1.27	1.18
14	Free Ammonia	By Calculation	mg/l	--	0.019	0.017	0.015	0.021	0.015	0.016	0.017
15	Total Hardness	APHA 23RD Ed,2017: 2340 C	mg/l	--	142	129	138	132	126	172	139.8
16	Calcium as Ca	APHA 23RD Ed,2017 : 3500Ca B	mg/l	--	35.6	40.1	36.8	35.9	43.2	40.2	38.6
17	Magnesium as Mg	APHA 23RD Ed,2017: 3500Mg B	mg/l	--	12.90	7.02	11.20	10.29	4.41	17.40	10.5
18	Anionic Detergents as MBAS	APHA 23rdEdition 5540 C , 2017	mg/l	1	ND	ND	ND	ND	ND	ND	ND
19	BOD (3) days at 27^{0}C (max)	IS 3025(P-44) : 1993 RA 2003	mg/l	3.0	2.5	2.1	2.4	2.3	2.5	2.1	2.32
20	Chemical Oxygen Demand (COD)	APHA 23RD Ed,2017: 5220 C	mg/l	--	10.2	9.6	10.1	11.2	8.6	10.6	10.05
21	Arsenic as As	APHA 23RD Ed,2017: 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
22	Lead as Pb	APHA 23RD Ed,2017 3111 B	mg/l	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
23	Cadmium as Cd (max)	APHA 23RD Ed,2017: 3111 B	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Hexa Chromium as Cr^{+6}	APHA 23RD Ed,2017: 3500Cr B	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Copper as Cu (max)	APHA 23RD Ed,2017: 3111 B	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
26	Zinc as Zn(max)	APHA 23RD Ed,2017: 3111 B	mg/l	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Selenium as Se (max)	APHA 23RD Ed,2017: 3500 Se C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
28	Cyanide as CN (max)	APHA 23RD Ed,2017: 4500 CN-C,D	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29	Fluoride as F (max)	APHA 23RD Ed,2017: 4500F- C	mg/l	1.5	0.24	0.16	0.18	0.15	0.23	0.21	0.20
30	Sulphates (SO_4) (max)	APHA 23RD Ed,2017: 4500 SO42-E	mg/l	400	5.6	4.1	4.9	6	6.2	7.7	5.75
31	Phenolic Compounds as C_6H_5OH (max)	APHA 23RD Ed,2017: 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
32	Iron as Fe (max)	APHA 23RD Ed,2017: 3111 B	mg/l	50	5.24	3.34	2.96	4.65	4.12	6.21	4.42

33	**Nitrate as NO_3 (max)**	**APHA 23RD Ed,2017: 4500 NO3- E**	mg/l	**50**	**6.1**	**4.4**	**3.9**	**2.8**	**3.62**	**3.24**	**4.01**
34	**Alkalinity**	**APHA 23RD Ed,2017:2320 B**	mg/l	**-**	**118**	**98**	**102**	**110**	**124**	**106**	**110**
35	**Total Coli form**	**APHA 23RD Ed,2017: 9221 B**	MPN/ 100 ml	**5000**	**340**	**260**	**280**	**240**	**320**	**340**	**297**
36	**Dissolved Phosphate as PO_4**	**APHA 23RD Ed,2017:4500 P D**	mg/l	**--**	**0.35**	**0.29**	**0.31**	**0.33**	**0.26**	**0.39**	**0.32**
37	**Sulphide as S^{2-}**	**APHA 23rdEdition 4500 –S2-.D; 2017**	mg/l	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
38	**Bioassay Test**	**APHA 23rdEdition 6582 (P-2) 2001**	%	**--**	**91%**	**86%**	**93%**	**92%**	**90%**	**91%**	**91%**
39	**Mercury as Hg**	**APHA 23RD Ed,2017 3500 Hg**	mg/l	**--**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**
40	**Total Chromium as Cr-Total**	**APHA 23RD Ed,2017 3111 B**	mg/l	**--**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**

BDL- Below Detection Limit,
BDL Values: Cr^{+6}-<0.01mg/l, Manganese-<0.05 mg/l, Mercury-<0.002 mg/l, Aluminium – <0.01 mg/l, Cyanide-<0.01 mg/l, Total Cr-<0.05, Nickel <0.02, Oil & Grease <5.0, Copper <0.02, Cadmium <0.01, Selenium <0.001, Arsenic <0.004, Lead <0.04, Zinc <0.005

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Visiontek Consultancy Services Pvt. Ltd.
(Committed For Better Environment)

Ref: Envlab/25-26/R-14888 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
SURFACE WATER QUALITY ANALYSIS REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location **: SW3: Pond Near Plant Site**

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class – 'C'	Analysis Results						Average
					APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
					SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	
1	Colour	APHA 23RD Ed,2017: 2120 B, C	Hazen	300	<20	25	<15	<20	20	<30	23
2	Odour	APHA 23RD Ed,2017 :2150 B	--	--	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
3	Total Suspended Solids as TSS	APHA 23RD Ed,2017 :2540 D	mg/l	--	46.9	50.2	53.8	54.7	63.6	65.8	55.8
4	Temperature	APHA 23RD Ed,2017 :2550 B	^{0}C	--	30.2	25.6	29.8	30.7	27.4	26.3	28.3
5	pH at 25^{0}C	APHA 23RD Ed,2017 4500H+ B	--	6.0-9.0	6.59	6.91	7.01	6.82	6.93	7.11	6.9
6	Dissolved Oxygen (min)	APHA 23RD Ed,2017: 4500 O- C	mg/l	4.0	5.9	6.2	6.8	4.6	5.2	7.2	6.0
7	Turbidity	APHA 23RD Ed,2017: 2130 B	NTU	--	15.3	13.2	14.6	16.8	20.1	19.5	16.6
8	Chloride (max)	APHA 23RD Ed,2017: 4500Cl- B	mg/l	600	34.6	32	29.6	30.8	35.6	32.1	32.5
9	Total Dissolved Solids	APHA 23RD Ed,2017: 2540 C	mg/l	1500	463	428	467	472	463	451	457
10	Oil & Grease (max)	APHA 23RD Ed,2017:5520-B	mg/l	--	5.3	5.1	<5.0	5.3	5.2	5.5	<5.0
11	Total Residual Chlorine as RFC	APHA 23RD Ed,2017: 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND	ND	ND
12	Ammonical Nitrogen	APHA 23RD Ed,2017 : 4500 NH3F	mg/l	--	0.035	0.029	0.033	0.026	0.031	0.032	0.031
13	Total Kjeldahl Nitrogen	APHA 23RD Ed,2017: 4500 NORG B	mg/l	--	1.38	2.03	2.16	1.96	2.04	2.15	1.95
14	Free Ammonia	By Calculation	mg/l	--	0.023	0.028	0.025	0.016	0.019	0.023	0.022
15	Total Hardness	APHA 23RD Ed,2017: 2340 C	mg/l	--	176	158	163	184	163	179	170.5
16	Calcium as Ca	APHA 23RD Ed,2017 : 3500Ca B	mg/l	--	40.2	35.6	36.1	35.9	42.1	40.9	38.5
17	Magnesium as Mg	APHA 23RD Ed,2017: 3500Mg B	mg/l	--	18.38	16.79	17.70	22.93	14.06	18.68	18.1
18	Anionic Detergents as MBAS	APHA 23rdEdition 5540 C , 2017	mg/l	1	ND	ND	ND	ND	ND	ND	ND
19	BOD (3) days at 27^{0}C (max)	IS 3025(P-44) : 1993 RA 2003	mg/l	3.0	2.3	2.5	2.4	2.1	2.2	2.4	2.32
20	Chemical Oxygen Demand (COD)	APHA 23RD Ed,2017: 5220 C	mg/l	--	8.6	10.2	9.2	8.4	10.1	10.3	9.47
21	Arsenic as As	APHA 23RD Ed,2017: 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
22	Lead as Pb	APHA 23RD Ed,2017 3111 B	mg/l	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
23	Cadmium as Cd (max)	APHA 23RD Ed,2017: 3111 B	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Hexa Chromium as Cr^{+6}	APHA 23RD Ed,2017: 3500Cr B	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Copper as Cu (max)	APHA 23RD Ed,2017: 3111 B	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
26	Zinc as Zn(max)	APHA 23RD Ed,2017: 3111 B	mg/l	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Selenium as Se (max)	APHA 23RD Ed,2017: 3500 Se C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
28	Cyanide as CN (max)	APHA 23RD Ed,2017: 4500 CN-C,D	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29	Fluoride as F (max)	APHA 23RD Ed,2017: 4500F- C	mg/l	1.5	0.35	0.41	0.44	0.46	0.43	0.58	0.45
30	Sulphates (SO_4) (max)	APHA 23RD Ed,2017: 4500 SO42-E	mg/l	400	10.7	13.5	10.9	9.8	15.2	14.8	12.48
31	Phenolic Compounds as C_6H_5OH (max)	APHA 23RD Ed,2017: 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
32	Iron as Fe (max)	APHA 23RD Ed,2017: 3111 B	mg/l	50	6.3	4.27	4.91	5.12	3.58	5.06	4.87

33	**Nitrate as NO_3 (max)**	**APHA 23RD Ed,2017: 4500 NO3- E**	mg/l	**50**	**5.3**	**5.16**	**4.68**	**4.92**	**5.17**	**3.96**	**4.87**
34	**Alkalinity**	**APHA 23RD Ed,2017:2320 B**	mg/l	**-**	**128**	**120**	**116**	**107**	**112**	**118**	**117**
35	**Total Coli form**	**APHA 23RD Ed,2017: 9221 B**	MPN/ 100 ml	**5000**	**540**	**480**	**460**	**560**	**610**	**540**	**532**
36	**Dissolved Phosphate as PO_4**	**APHA 23RD Ed,2017:4500 P D**	mg/l	**--**	**0.46**	**0.32**	**0.39**	**0.42**	**0.41**	**0.35**	**0.39**
37	**Sulphide as S^{2-}**	**APHA 23rdEdition 4500 –S2-.D; 2017**	mg/l	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
38	**Bioassay Test**	**APHA 23rdEdition 6582 (P-2) 2001**	%	**--**	**96%**	**92%**	**94%**	**95%**	**93%**	**92%**	**94%**
39	**Mercury as Hg**	**APHA 23RD Ed,2017 3500 Hg**	mg/l	**--**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**
40	**Total Chromium as Cr-Total**	**APHA 23RD Ed,2017 3111 B**	mg/l	**--**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**

BDL- Below Detection Limit,
BDL Values: Cr^{+6}-<0.01mg/l, Manganese-<0.05 mg/l, Mercury-<0.002 mg/l, Aluminium – <0.01 mg/l, Cyanide-<0.01 mg/l, Total Cr-<0.05, Nickel <0.02, Oil & Grease <5.0, Copper <0.02, Cadmium <0.01, Selenium <0.001, Arsenic <0.004, Lead <0.04, Zinc <0.005

Reviewed by

Approved by

Ref: Envlab/25-26/R-14889 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
SURFACE WATER QUALITY ANALYSIS REPORT

1. Name of Industry : **M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. Sampling Location : **SW4: Pond Near Jhumpura**

Sl. No.	Parameter	Testing Methods	Unit	Standards as per IS-2296:1992 Class – 'C'	Analysis Results						Average
					APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	
					SW-4	SW-4	SW-4	SW-4	SW-4	SW-4	
1	Colour	APHA 23RD Ed,2017: 2120 B, C	Hazen	300	10	<10	15	10	15	<20	13
2	Odour	APHA 23RD Ed,2017 :2150 B	--	--	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless	Odorless
3	Total Suspended Solids as TSS	APHA 23RD Ed,2017 :2540 D	mg/l	--	54.2	46.9	50.2	53.6	58.6	56.4	53.3
4	Temperature	APHA 23RD Ed,2017 :2550 B	^{0}C	--	24.6	23.8	25.2	24.6	26.9	25.1	25.0
5	pH at 25^{0}C	APHA 23RD Ed,2017 4500H+ B	--	6.0-9.0	7.03	7.28	7.16	6.83	7.21	6.89	7.07
6	Dissolved Oxygen (min)	APHA 23RD Ed,2017: 4500 O- C	mg/l	4.0	4.6	5.1	5.9	4.8	5.5	5.2	5.18
7	Turbidity	APHA 23RD Ed,2017: 2130 B	NTU	--	10.4	6.9	9.2	8.5	7.2	7.9	8.4
8	Chloride (max)	APHA 23RD Ed,2017: 4500Cl- B	mg/l	600	30.6	28.9	34.1	31.5	28.6	32.1	31.0
9	Total Dissolved Solids	APHA 23RD Ed,2017: 2540 C	mg/l	1500	286	344	312	286	306	310	307
10	Oil & Grease (max)	APHA 23RD Ed,2017:5520-B	mg/l	--	5.2	5.1	5.5	<5.0	5.3	5.1	<5.0
11	Total Residual Chlorine as RFC	APHA 23RD Ed,2017: 4500Cl, B	mg/l	--	ND	ND	ND	ND	ND	ND	ND
12	Ammonical Nitrogen	APHA 23RD Ed,2017 : 4500 NH3F	mg/l	--	0.016	0.024	0.018	0.023	0.021	0.025	0.021
13	Total Kjeldahl Nitrogen	APHA 23RD Ed,2017: 4500 NORG B	mg/l	--	0.52	0.43	0.59	0.51	0.32	0.57	0.49
14	Free Ammonia	By Calculation	mg/l	--	0.015	0.023	0.021	0.022	0.016	0.018	0.019
15	Total Hardness	APHA 23RD Ed,2017: 2340 C	mg/l	--	132	150	128	143	136	128	136
16	Calcium as Ca	APHA 23RD Ed,2017 : 3500Ca B	mg/l	--	32.5	34.6	30.9	35.2	34.1	33.6	33.5
17	Magnesium as Mg	APHA 23RD Ed,2017: 3500Mg B	mg/l	--	12.36	15.46	12.35	13.39	12.36	10.72	12.77
18	Anionic Detergents as MBAS	APHA 23rdEdition 5540 C , 2017	mg/l	1	ND	ND	ND	ND	ND	ND	ND
19	BOD (3) days at 27^{0}C (max)	IS 3025(P-44) : 1993 RA 2003	mg/l	3.0	2.4	2.2	2.5	2.3	2.1	2.3	2.30
20	Chemical Oxygen Demand (COD)	APHA 23RD Ed,2017: 5220 C	mg/l	--	10.2	9.0	9.6	11.5	8.6	9.5	9.73
21	Arsenic as As	APHA 23RD Ed,2017: 3114 B	mg/l	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
22	Lead as Pb	APHA 23RD Ed,2017 3111 B	mg/l	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
23	Cadmium as Cd (max)	APHA 23RD Ed,2017: 3111 B	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Hexa Chromium as Cr^{+6}	APHA 23RD Ed,2017: 3500Cr B	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Copper as Cu (max)	APHA 23RD Ed,2017: 3111 B	mg/l	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
26	Zinc as Zn(max)	APHA 23RD Ed,2017: 3111 B	mg/l	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Selenium as Se (max)	APHA 23RD Ed,2017: 3500 Se C	mg/l	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
28	Cyanide as CN (max)	APHA 23RD Ed,2017: 4500 CN- C,D	mg/l	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
29	Fluoride as F (max)	APHA 23RD Ed,2017: 4500F- C	mg/l	1.5	0.21	0.16	0.19	0.22	0.21	0.2	0.20
30	Sulphates (SO_4) (max)	APHA 23RD Ed,2017: 4500 SO42- E	mg/l	400	4.3	3.8	4	4.2	3.6	3.8	3.95
31	Phenolic Compounds as C_6H_5OH (max)	APHA 23RD Ed,2017: 5530 B,D	mg/l	0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
32	Iron as Fe (max)	APHA 23RD Ed,2017: 3111 B	mg/l	50	3.16	2.05	1.98	2.14	2.65	2.23	2.37

33	**Nitrate as NO_3 (max)**	**APHA 23RD Ed,2017: 4500 NO3- E**	mg/l	**50**	**2.64**	**1.98**	**4.23**	**3.54**	**3.26**	**3.11**	**3.13**
34	**Alkalinity**	**APHA 23RD Ed,2017:2320 B**	mg/l	**-**	**126**	**106**	**98**	**125**	**113**	**135**	**117**
35	**Total Coli form**	**APHA 23RD Ed,2017: 9221 B**	MPN/ 100 ml	**5000**	**340**	**380**	**320**	**280**	**340**	**320**	**330**
36	**Dissolved Phosphate as PO_4**	**APHA 23RD Ed,2017:4500 P D**	mg/l	**--**	**0.25**	**0.19**	**0.23**	**0.25**	**0.21**	**0.34**	**0.25**
37	**Sulphide as S^{2-}**	**APHA 23rdEdition 4500 –S2- .D; 2017**	mg/l	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
38	**Bioassay Test**	**APHA 23rdEdition 6582 (P-2) 2001**	%	**--**	**91%**	**95%**	**92%**	**96%**	**94%**	**95%**	**94%**
39	**Mercury as Hg**	**APHA 23RD Ed,2017 3500 Hg**	mg/l	**--**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**	**<0.002**
40	**Total Chromium as Cr-Total**	**APHA 23RD Ed,2017 3111 B**	mg/l	**--**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**

BDL- Below Detection Limit,
BDL Values: Cr^{+6}-<0.01mg/l, Manganese-<0.05 mg/l, Mercury-<0.002 mg/l, Aluminium – <0.01 mg/l, Cyanide-<0.01 mg/l, Total Cr-<0.05, Nickel <0.02, Oil & Grease <5.0, Copper <0.02, Cadmium <0.01, Selenium <0.001, Arsenic <0.004, Lead <0.04, Zinc <0.005

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Ref: Envlab/25-26/R-14890 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
FUGITIVE EMISSION MONITORING

1. Name of Industry **: M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**

2. Sampling Location **: FE-1: Raw Material Handling Area**

Sampling Location	Parameter						
	Particulate Matter (µg/m^3)						
	APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	AVERAGE
Raw Material Handling Area	865	1008	920	706	680	740	820
MoEF & CC Notification GSR 414 (E) dated 13.05.2008	3000 µg/m^3						
Testing Method	Gravimetric Method						

Reviewed by

Approved by

Ref: Envlab/25-26/R-14891 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
FUGITIVE EMISSION MONITORING

1. Name of Industry **: M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**

2. Sampling Location **: FE-2: Coal Handling Plant**

Sampling Location	Parameter						
	Particulate Matter (µg/m^3)						
	APR-25	MAY-25	JUN-25	JUL-25	AUG-25	SEP-25	AVERAGE
Coal Handling Plant	620	711	590	592	674	628	636
MoEF & CC Notification GSR 414 (E) dated 13.05.2008	3000 µg/m^3						
Testing Method	Gravimetric Method						

Reviewed by

Approved by

Report. No: Envlab/25-26/TR-14892 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
STACK EMISSION MONITORING REPORT

1. Name of Industry : M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031
2. Sampling Description : Stack Emission Monitoring

Stack Details		
A.	**General Information:**	
1.	Stack connected to	**Stack Attached to DRI Kiln-I & WHRB**
2.	Material of Construction of Stack	MS
3.	Shape of stack	Circular
4.	Whether stack is provided with permanent platform & Ladder	Yes
B.	**Physical Characteristics of Stack:**	
1.	Height of stack from ground level (m)	43 m
2.	Height above roof in (m)	5 m
3.	Inner Dimension in (m)	2 m
C.	**Analysis/Characteristic of Stack:**	
1.	Fuel used	NA
2.	Fuel Consumption	NA
D.	**Pollution:**	
1.	Details of pollution control devices attached with the stack	Electrostatic Precipitator

Sl. No	**Parameters**	**Test Method**	**Unit of Measurement**	**Results**						
				APR-25	**MAY-25**	**JUNE-25**	**JULY-25**	**AUG-25**	**SEPT-25**	**AVG**
1	**Stack Temperature(^{0}C)**	**IS 11255: Part-3, (2008) RA 2019**	**^{0}C**	**92**	**86**	**88**	**90**	**98**	**95**	**92**
2	**Velocity**	**IS 11255: Part-3, (2008) RA 2019**	**m/sec**	**10.5**	**10.3**	**11.2**	**10.29**	**10.5**	**11.08**	**10.7**
3	**Particulate Matter as PM**	**IS 11255: Part-I (1985), RA 2019**	**mg/Nm3**	**31.2**	**35.6**	**30.7**	**26.9**	**35.6**	**32.1**	**32.0**
4	**Sulphur Dioxide as SO2**	**IS 11255: Part-2, 2019**	**mg/Nm3**	**32.9**	**26.8**	**30.2**	**36.2**	**23.2**	**24.8**	**29.0**
5	**Oxides of Nitrogen as NOx**	**IS 11255: Part-7, 2017**	**mg/Nm3**	**26.3**	**21.8**	**25.4**	**20.5**	**20.8**	**22.4**	**22.9**

Reviewed by VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR **Approved by**

Report. No: Envlab/25-26/TR-14893 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
STACK EMISSION MONITORING REPORT

1. Name of Industry : M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031
2. Sampling Description : Stack Emission Monitoring

Stack Details		
A.	**General Information:**	
1.	Stack connected to	**Stack Attached to DRI Kiln-II & WHRB**
2.	Material of Construction of Stack	MS
3.	Shape of stack	Round
4.	Whether stack is provided with permanent platform & Ladder	Yes
B.	**Physical Characteristics of Stack:**	
1.	Height of stack from ground level (m)	60 m
2.	Height above roof in (m)	10 m
3.	Inner Dimension in (m)	3.0 m
C.	**Analysis/Characteristic of Stack:**	
1.	Fuel used	NA
2.	Fuel Consumption	NA
D.	**Pollution:**	
1.	Details of pollution control devices attached with the stack	Electrostatic Precipitator

SI. No	**Parameters**	**Test Method**	**Unit of Measurement**	**Results**						
				APR-25	**MAY-25**	**JUNE-25**	**JULY-25**	**AUG-25**	**SEPT-25**	**AVG**
1	**Stack Temperature(^{0}C)**	**IS 11255: Part-3, (2008) RA 2019**	**^{0}C**	**94**	**90**	**86**	**89**	**92**	**91**	**90**
2	**Velocity**	**IS 11255: Part-3, (2008) RA 2019**	**m/sec**	**10.2**	**9.7**	**10.5**	**10.26**	**10.3**	**10.06**	**10.2**
3	**Particulate Matter as PM**	**IS 11255: Part-I (1985), RA 2019**	**mg/Nm3**	**33.2**	**34.5**	**30.9**	**35.2**	**31.2**	**36.2**	**33.5**
4	**Sulphur Dioxide as SO2**	**IS 11255: Part-2, 2019**	**mg/Nm3**	**21.9**	**19.8**	**20.2**	**18.6**	**19.2**	**20.2**	**20.0**
5	**Oxides of Nitrogen as NOx**	**IS 11255: Part-7, 2017**	**mg/Nm3**	**18.2**	**20.5**	**21.6**	**16.9**	**20.8**	**21.4**	**19.9**

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

Report. No: Envlab/25-26/TR-14894 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
STACK EMISSION MONITORING REPORT

1. Name of Industry : M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031
2. Sampling Description : Stack Emission Monitoring

Stack Details		
A.	**General Information:**	
1.	Stack connected to	**Stack Attached to ESP of AFBC Boiler (7.2 MW)**
2.	Material of Construction of Stack	MS
3.	Shape of stack	Conical
4.	Whether stack is provided with permanent platform & Ladder	Yes
B.	**Physical Characteristics of Stack:**	
1.	Height of stack from ground level (m)	48.8 m
2.	Upper Dimension in (m)	1.59 m
3.	Inner Dimension in (m)	2.53 m
C.	**Analysis/Characteristic of Stack:**	
1.	Fuel used	NA
2.	Fuel Consumption	NA
D.	**Pollution:**	
1.	Details of pollution control devices attached with the stack	Bag Filter

Sl. No	**Parameters**	**Test Method**	**Unit of Measurement**	**Results**					
				APR-25	**MAY-25**	**JUNE-25**	**JULY-25**	**AUG-25**	**AVG**
1	**Stack Temperature(^{0}C)**	**IS 11255: Part-3, (2008) RA 2019**	**^{0}C**	**102**	**108**	**92**	**110**	**104**	**92**
2	**Velocity**	**IS 11255: Part-3, (2008) RA 2019**	**m/sec**	**12.9**	**12.41**	**11.68**	**10.96**	**11.0**	**11.79**
3	**Particulate Matter as PM**	**IS 11255: Part-I (1985), RA 2019**	**mg/Nm3**	**32.9**	**30.5**	**31.6**	**35.2**	**34.6**	**33.0**
4	**Sulphur Dioxide as SO2**	**IS 11255: Part-2, 2019**	**mg/Nm3**	**49.2**	**51.5**	**50.6**	**53.2**	**47.8**	**50.46**
5	**Oxides of Nitrogen as NOx**	**IS 11255: Part-7, 2017**	**mg/Nm3**	**32.9**	**42.5**	**50.1**	**44.6**	**43.2**	**42.7**

Reviewed by

Approved by

Report. No: Envlab/25-26/TR-14895 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
STACK EMISSION MONITORING REPORT

1. Name of Industry : M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031
2. Sampling Description : Stack Emission Monitoring

Stack Details		
E.	**General Information:**	
1.	Stack connected to	**Stack Attached to ESP of AFBC Boiler (12 MW)**
2.	Material of Construction of Stack	Concrete
3.	Shape of stack	Conical
4.	Whether stack is provided with permanent platform & Ladder	Yes
F.	**Physical Characteristics of Stack:**	
1.	Height of stack from ground level (m)	60.3 m
2.	Upper Dimension in (m)	2.90 m
3.	Inner Dimension in (m)	3.35 m
G.	**Analysis/Characteristic of Stack:**	
1.	Fuel used	NA
2.	Fuel Consumption	NA
H.	**Pollution:**	
1.	Details of pollution control devices attached with the stack	Bag Filter

Sl. No	**Parameters**	**Test Method**	**Unit of Measurement**	**Results**					
				APR-25	**MAY-25**	**JUNE-25**	**JULY-25**	**AUG-25**	**AVG**
1	**Stack Temperature(^{0}C)**	**IS 11255: Part-3, (2008) RA 2019**	**^{0}C**	**110**	**106**	**92**	**112**	**108**	**90**
2	**Velocity**	**IS 11255: Part-3, (2008) RA 2019**	**m/sec**	**13.24**	**12.65**	**12.08**	**11.36**	**11.6**	**12.18**
3	**Particulate Matter as PM**	**IS 11255: Part-I (1985), RA 2019**	**mg/Nm3**	**37.5**	**34.2**	**36.5**	**32.9**	**38.6**	**35.9**
4	**Sulphur Dioxide as SO2**	**IS 11255: Part-2, 2019**	**mg/Nm3**	**50.6**	**53**	**48.6**	**56.8**	**51.2**	**52.04**
5	**Oxides of Nitrogen as NOx**	**IS 11255: Part-7, 2017**	**mg/Nm3**	**46.7**	**44.6**	**50.2**	**48.6**	**46.7**	**47.4**

Reviewed by VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR **Approved by**

Report. No: Envlab/25-26/TR-14896 **Date: 06.10.2025**

SIX MONTHLY COMPLIANCE REPORT (APRIL-2025 TO SEPT-2025)
EFFLUENT WATER QYALITY ANALYSIS REPORT

1. **Name of Industry : M/s- Orissa Sponge Iron & Steel Ltd, Keonjhar, Odisha-758031**
2. **Sampling Description : Waste Water**

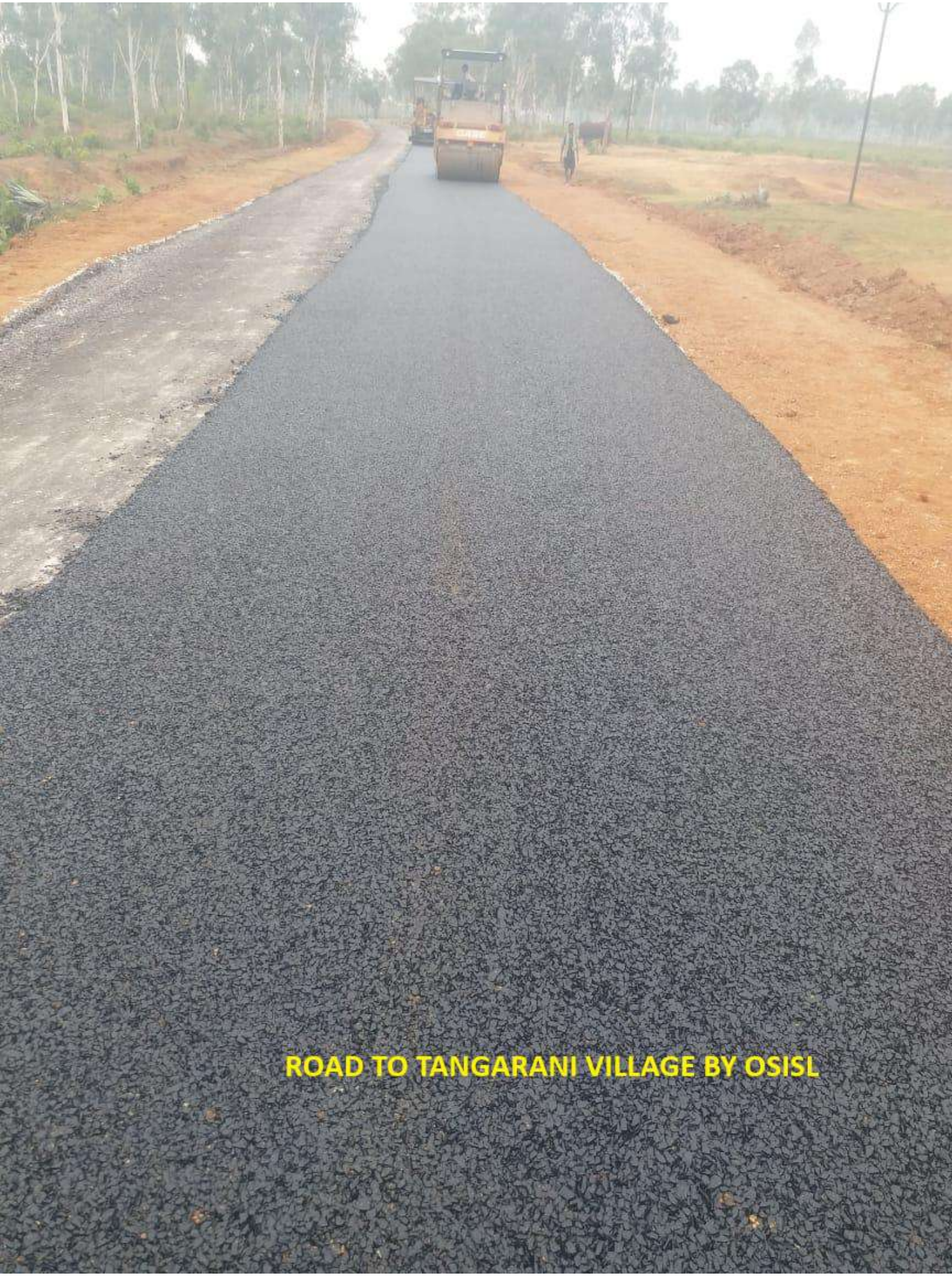
S-1: STP Outlet										
Sl. No.	Parameters	Unit of Measurement	Method of Testing	Results						
				APR-25	MAY-25	JUNE-25	JULY-25	AUG-25	SEPT-25	AVG
1	pH at 25^0C	-	APHA 4500-H^+ B	7.52	7.16	7.38	7.69	7.24	7.35	7.39
2	Suspended Solids	mg/l	APHA 2540 D	186	202	213	198	242	210	209
3	Oil & Grease	mg/l	IS 3025 (Part 39)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4	Biochemical Oxygen Demand as BOD at 27^0C For 3 Days	mg/l	IS 3025 (P-44)	<1	<1	<1	<1	<1	<1	<1
5	Chemical Oxygen Demand as COD	mg/l	APHA 5220 B	<2	<2	<2	<2	<2	<2	<2
8	Fecal Coliform	MPN/100 ml	APHA 9221 B	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Reviewed by

VISIONTEK CONSULTANCY SERVICES PVT. LTD. BBSR

Approved by

ANNEXURE 12

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PULSES

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