CIN : U27100CT2009PLC021184

SKY ALLOYS AND POWER LIMITED

Date: 08-10-25

To,

Integrated Regional Office,
Aranya Bhavan, North Block,
Sector-19, Nava Raipur – Atal Nagar,
District: Raipur [C.G.] 492002

Sub: Submission of EC Compliance along with Monitoring Reports (Period: **April 2025 - September 2025**) for Integrated Steel Plant at Village Temtema, Tehsil Kharsiya, District Raigarh, State Chhattisgarh.

Ref: EC letter No.F.No. J-11011/380/2009-IA-II (I) dated 15th January 2018.

Respected Sir,

We are submitting herewith copy of the Six Monthly EC Compliance Report and Environmental Status Report with Monitoring Reports of above referred period for Integrated Steel Plant at Village Temtema, Tehsil Kharsiya, District Raigarh, State Chhattisgarh for your perusal and record.

Thanking you.

Yours faithfully

M/s. Sky Alloys and Power Limited

For, Sky Alloys And Power Limited

Director

Regd. Office : "SKY HOUSE" 16, Recreation Road, Choubey Colony, RAIPUR (C.G.) - 492001
Ph.: 0771-4915104, 4046097, | Fax : 0771-4046097 | E-mail : skyalloys@yahoo.in
Works : KHARSIA, TAH.- KHARSIA, Temtema, RAIGARH (C.G.) - 496661

EC COMPLIANCE REPORT

(April - September 2025)

Environmental Clearance vide letter No. F.No. J-11011/380/2009-IA-II (I) dated 15th January 2018

Of

Sponge Iron through DRI Kiln – 1,20,000 TPA, Billets through induction furnace concast – 1,00,000 TPA, Rolled product such as TMT bar/Structural steels through rolling mill – 1,00,000 TPA, Ferro Alloys through Submerged Arch Furnaces (FeSi, SiMn, FeMn) – FeMn (30,000 TPA) FeSi (9600 TPA) SiMn (21700 TPA), Power Plant – 8 MW (WHRB based) & 47 MW (FBC based)

Located At

Village – Temtema,

Tehsil– Kharsiya, District–Raigarh,

State - Chhattisgarh

Project Proponent:

M/s. Sky Alloys and Power Limited

ANNEXURES

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INTRODUCTION

M/s. Sky Alloys and Power Private Limited had been granted environment clearance for the production of Sponge Iron through DRI Kiln – 1,20,000 TPA, Billets through induction furnace concast – 1,00,000 TPA, Rolled product such as TMT bar/Structural steels through rolling mill – 1,00,000 TPA, Ferro Alloys through Submerged Arch Furnaces (FeSi, SiMn, FeMn) – FeMn (30,000 TPA) FeSi (9600 TPA) SiMn (21700 TPA), Power Plant – 8 MW (WHRB based) & 47 MW (FBC based) at Village Temtema, Tehsil Kharsiya, District Raigarh, State Chhattisgarh from Government of India, Minisry of Environment, Forest and Climate Change (Impact Assessment Division) vide their letter No. F.No. J-11011/380/2009-IA-II (I) dated 22nd December 2010.

Further the Amendment in Environment Clearance had obtained for Change in installation capacity of 15 MW FBC based power plant to 12MW FBC based power plant and the stack of 12 MW FBC based power plant to be clubbed with 2x100 TPD DRI Plant stack, instead of clubbing it with 35MW FBC based power plant from Government of India, Minisry of Environment, Forest and Climate Change (Impact Assessment Division) vide their letter No. F.No. J-11011/380/2009-IA-II (I) dated 23rd May 2012.

Further the validity of environmental clearance had been extended form Government of India, Minisry of Environment, Forest and Climate Change (Impact Assessment Division) vide their letter No. F.No. J-11011/380/2009-IA-II (I) dated 15th January 2018.

Further Transfer of Environment Clearance has been obtained (EC) of M/s Sky Alloys & Power Private Limited to M/s Sky Alloys & Power Limited from Government of India, Minisry of Environment, Forest and Climate Change (Impact Assessment Division) vide their letter No. F.No. J-11011/380/2009-IA-II (I) dated 5th June 2025.

Further Amendment in Environment Clearance has been obtained for Reduction in Plant area from proposed 30.35 ha (75 acres) to of existing 17.67 ha. (43.66 acres) and the Capacity as existing and implemented by **M/s. Sky Alloys & Power Limited**, from Government of India, Minisry of Environment, Forest and

Climate Change (Impact Assessment Division) vide their letter No. F.No. J-11011/380/2009-IA-II (I) dated 14th August 2025.

Accordingly EC Conditions compliance status and Environmental monitoring reports implemented by **M/s. Sky Alloys & Power Limited** for the period of **April - September 2025** given below:

COMPLIANCE STATUS

Sr. No.	EC Conditions	Action Taken
A. Specific Conditions:		
i.	Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), gas cleaning plant, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm^3 by installing energy efficient technology.	Complied Following efforts have been made to reduce RSPM levels in the ambient air in the plant; We have provided air pollution control devices in the plant. ESP has been installed to sinter plant, WHRB, AFBC, DRI plants and dust catcher to control SPM level. Induction furnaces have been equipped with fume extraction system followed by Bag filter. This suction hood bag filter has been designed to achieve Particulate Matter emission level below 50 mg/ Nm^3. Water sprinklers has been installed at dust processor to control fugitive emission. Raw materials, finished goods and solid wastes are being transported through properly covered vehicles having pollution under control (PUC). Conveyor belts & transfer points have been covered with GI sheets to control the fugitive emission.

		We are maintaining good greenery all around the plant premises. We have installed continuous ambient air quality monitoring and continuous emission monitoring system in the plan which is connected to online server. Monitoring of stack emission and ambient air quality are also being carried out through NABL accredited laboratory. As per the online and manual monitoring data, result found within prescribed standards. CEMS and CAAQMS details, Stack emission and ambient air quality monitoring reports with photograph of water sprinkling, Internal roads, covered conveyors and green belts are attached as **Annexure-I**.
ii.	As proposed, Electrostatic precipitator (ESP) shall be provided to sinter plant, WHRB, AFBC, DRI plants; and dust catcher to control SPM levels within 50 mg/NM^3. Fume extraction system shall be provided to induction furnace to control the emissions within the prescribed standards.	Complied We have installed ESP to sinter plant, WHRB, AFBC, DRI plants and dust catcher to control SPM level. Induction furnaces have been equipped with fume extraction system followed by Bag filter. This suction hood bag filter has been designed to achieve Particulate Matter emission level below 50 mg/ Nm^3.
iii.	The National Ambient Air Quality	Being Complied

	Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.	We have installed continuous ambient air quality monitoring system in the plan which is connected to online server. Manual monitoring of ambient air quality is also being carried out through NABL accredited laboratory. As per the online and manual monitoring data, result found within prescribed standards. CAAQMS details and ambient air quality monitoring reports are attached as **Annexure-I**.
iv.	Gaseous emission level including secondary fugitive emissions from the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414 (E) dated 30th May, 2008 should be followed.	Being Complied We have installed continuous emission monitoring system in the plan which is connected to online server. Monitoring of stack emission is also being carried out through NABL accredited laboratory. As per the online and manual monitoring data, result found within prescribed standards. Water sprinklers has been installed at dust processor to control fugitive emission. Raw materials, finished goods and solid wastes are being transported through properly covered vehicles having pollution under control (PUC). Conveyor belts & transfer points have been covered with GI sheets to control the fugitive emission. We are maintaining good

		greenery all around the plant premises. CEMS details and Stack emission monitoring reports with photograph of water sprinkling, Internal roads, covered conveyors and green belts are attached as **Annexure-I**.
v.	Hot gases from the DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before leaving out the atmosphere through ID fan and stack.	Complied Hot gases from the DRI kiln is being passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and is being used in waste heat recovery boiler (WHRB). The gas then is being cleaned in ESP before leaving out the atmosphere through ID fan and stack.
vi.	Total Water requirement shall not exceed 660 m^3/day. Efforts shall further be made to use maximum water from the rain water harvesting sources. Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and zero discharged shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.	Complied We have obtained Permission from the Water Resources Department, Government of Chhattisgarh for use of water from Mand River vide their letter no. 7322/F 4-140/s-2/31/Aujapra/2009, Raipur dated 21.09.2010. We ensure that total water requirement will not exceed 660 m^3/day. We have also installed effluent treatment plant and sewage treatment plant for the

		treatment of industrial and domestic effluents and the treated water is being utilized for ash handling, dust suppression and green belt development. Closed cooling circuit has also been implemented to reduce fresh water consumption. Zero Liquid Discharge is being maintained as no effluent is being discharged outsite the plant. Water permission letter is attached as **Annexure-II**
vii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from the other sources.	Complied We have developed rainwater harvesting structure in the plant premises to harvest rain water. Photograph of rainwater harvesting structures are attached as **Annexure-III**
viii.	Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under E(P) Act whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhopal, Chhattisgarh Environment Conservation Board (CECB) and CPCB.	Complied We have installed Effluent Treatment Plant (ETP) and Sewarage Treatement Plant (STP) in the plant premises for the treatment of industrial and domestic effluent. Monitoring of ETP, STP outlets, groundwater and surface water are also being carried out regularly through NABL accredited. As per the monitoring data, the result found within prescribed standards. We are also

		submitting the monitoring data regularly to the concerned authority along with six monthly compliance report. Wastewater, Surfacewater and Groundwater Quality Monitoring reports are attached as **Annexure-IV**
ix.	The water consumption shall not exceed as per the standard prescribed for the steel plants.	Being Complied We ensure that the water consumption will not exceed as per the standard prescribed for the steel plants.
x.	All the Coal fines, char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be used for briquette making or disposed off anywhere else. AFBC boiler shall be installed simultaneously along with DRI plant to ensure full utilization of char from the beginning. Scrap shall be used in steel melting shop (SMS) and SMS slag and kiln accretions shall be properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.	Being Complied Following are the disposal scheme of solid wastes generated from the plant: • Char/ Dolochar is being captively consumed as fuel in AFBC based Power Plant for generation of Power. • ESP and Bag filter dust is being given to nearby brick plants. • Kiln accretion and SMS slag is being used for road construction inside the premise. • Ash from AFBC based Power Plant is being utilized for brick manufacturing in the plant premises as well as is being given to nearby brick manufacturing plant.
xi.	Proper utilization of fly ash shall be	Being Complied

	ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003/2009.	The fly ash so generated from the plant is being utilized for brick manufacturing in the plant premises as well as is being given to nearby brick manufacturing plant.
xii.	Vehicular pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.	Being Complied Raw materials, finished goods and solid wastes are being transported through covered vehicles only having pollution under control (PUC). Water sprinklers have been installed in the loading and unloading of the raw material and finished product area to control dust emissions. Photograph of covered vehicles is attached as **Annexure-V**
xiii.	All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads. Facilities for parking of trucks carrying raw coal from the linked coal mines shall be created within the unit.	Complied All internal roads have been made pucca. We have also provided parking area within primises. We have also developed good greenry in plant premises. Photograph of Internal road and green belts are attached as **Annexure-VI**
xiv.	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material	Being Complied Following are the disposal scheme of solid wastes

	and its composition, end use of solid/hazardous waste should be submitted to the Ministry's Regional Office at Bhopal, CECB and CPCB.	generated from the plant: • Char/ Dolochar is being captively consumed as fuel in AFBC based Power Plant for generation of Power. • ESP and Bag filter dust is being given to nearby brick plants. • Kiln accretion and SMS slag is being used for road construction inside the premise. • Ash from AFBC based Power Plant is being utilized for brick manufacturing in the plant premises as well as is being given to nearby brick manufacturing plant. Solid/hazardous waste details is also being submitted to the concerned authority. Previous submitted solid/hazardous waste generation details (Form V) is attached as **Annexure-VII**
xv.	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	Complied We are using high grade coal and washed coal in DRI Kilns and Power Plant to reduce solid waste.
xvi.	Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, CECB and CPCB within 3 months of issue of environment clearance letter.	Complied We have prepared On Site Emergency Plan along with the mitigation measures. Onsite Emeregency Plan is

		attached as **Annexure-VIII**
xvii.	As proposed, green belt shall be developed in 33% of plant area as per the CPCB guidelines in consultation with the DFO.	Complied We are maintaining good greenery within plant premises. Greenbelt has been developed around the plant. There are 12210 no. of plants have been developed till date in 14.41 acre area which is 33% of the total factory area (43.68 Acre) Photograph of Green belt are attached as **Annexure-IX.**
xviii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	Being Complied We are implementing as per CREP recommendations. Compliance status of CREP guidelines is attached as **Annexue-X.**
xix.	All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 30th June, 2010 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhopal.	Complied
xx.	At least 5% of the total cost of the project should be earmarked to towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.	Complied The corporate social responsibility has been done as per the the requirements. Photograph of CSR activity is attached as **Annexure-XI**

xxi.	Rehabilitation and Resettlement Plan for the project affected population including tribal, if any shall be implemented as per the policy of the State Government in consultation with the State Government of Chhattisgarh. Compensation paid in any case should not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.	Not Applicable as the industry is located in the private land.
xxii.	The company shall provide housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied We had provided temporary labour house during construction activities and also we had provided safe drinking water, medical health care, mobile toilets etc. during contruction phase.
B. General Conditions		
i.	The project authority shall adhere to the stipulations made by Chhattisgarh Environment Conservation Board (CECB) and State Government.	Agreed to comply with the stipulated condition.
ii.	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	Agreed with the stipulated condition.
iii.	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 CECB 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. Interlocking facilities shall be provided so that	Being Complied We have installed continuous emission monitoring system in the plan which is connected to online server. Monitoring of stack emission is also being carried out through NABL accredited laboratory. As per the online and manual monitoring data, result found within

	process can be automatically stopped in case emission level exceeds the limit.	prescribed standards. The Stack monitoring reports are attached as **Annexure-XII.**
iv.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime).	Being Complied Following measures have been implemented in the plant to control noise pollution: 1. Whenever possible the noise is controlled at the source. 2. Use of Earmuffs/Ear plugs are in the list of mandatory PPEs for operational workforce engaged in high noisy areas. Monitoring of noise level is also being carried out regularly through NABL accredited laboratory Noise level monitoring reports are attached as **Annexure-XIII**
v.	Occupational Health Surveillance of the workers shall be done on a regular basis and record maintained as per the Factories Act.	Being Complied Occupational Health Surveillance of the workers is being done on a regular basis and record is also being maintained as per the Factories Act. We have also developed Occupational Health Center within the plant site. Photograph of Occupational Health Center is attached as **Annexure-XIV.**
vi.	All the environment management measures given in the EIA/EMP shall be	Being Complied

	implemented and complied with.	
vii.	Proper housekeeping and adequate occupational health program shall be taken up as per the Factory Act.	Being complied. Proper housekeeping and adequate occupational health program is being carried out regularly.
viii.	The company shall undertake eco-development measures including community welfare measures in the project area.	Complied. Eco-development measures including community welfare measures in the project area is being done. Eco-development measures details is attached as **Annexure-XV**
ix.	A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Complied We have developed A separate environmental management cell in the plant. Details of Environment Management Cell is attached as **Annexure-XVI.**
x.	The requisite funds shall be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures and used judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	Complied We have properly arranged environmental pollution control measures in our plant premises. Environmental pollution control measures details is attached as **Annexure-XVII.**

xi.	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Complied
xii.	A copy of clearance letter shall be sent by the proponent to concerned Panchyat, Zila Parishad / Municipal Corporation, Urban Local body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied
xiii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Being Complied Six-monthly compliance report along with all monitored data is being submitted regularly to the concerned authority. A display board showing the pollutant levels has been installed at the main entrance to inform the public. Photograph of display board is attached as **Annexure-XVIII.**
xiv.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the CWCB. The Regional Office of this	Being Complied Six-monthly compliance report along with all monitored data is being submitted regularly to the concerned authority.

	Ministry at Bhopal/CPCB/CECB shall monitor the stipulated conditions.	
xv.	The environmental statement for each financial year ending 31st March in Form-V as in mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	Being Complied The environmental statement for each financial year is being submitted regularly to the concerned authority. The copy of Form-V for the FY 2024-25 is attached as **Annexure-VII.**
xvi.	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 CECB and may also be seen at the Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office at Bhopal.	Complied The advertisement of grant of environmental clearance was published in local widely circulated newspapers; “Haribhoomi" dated 20/01/2011 & "Central Cronicle" dated 20/01/2011. Newspaper Advertisement are attached as **Annexure-XIX.**
xvii.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed with the stipulated condition.
xviii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Agreed with the stipulated condition.
xix.	The above conditions shall be enforced,	Agreed with the stipulated

	inter-alia under the provisions of the Water (Prevention & Control of Pollution Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling & Trans boundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendment and rules.	condition.

ANNEXURES

ANNEXURE – I: CEMS AND CAAQMS DETAILS WITH MONITORING TEST REPORTS AND PHOTOGRAPH OF FUGITIVE MITIGATION MEASURES

DETAILS OF CEMS & CAAQMS

1. https://portal.vasthiconnect.com/login.php?id=MzU3

2.https://sustainability.logicladder.com/public/dashboard/industries/eHlZMWdFM1FDMEJXY21kQTBpUDBIaUorbDAzNHFQNm1RSGgxYlNUM2ZPRT0=

Bhoomi Envirotech Pvt. Ltd.

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	3	F

Report No.:BEPLTR20250515ST25		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/009	Customer Sample ID*	ST-01
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Power Plant	Date of Sampling	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with FBC & WHRB
Type of fuel used	: Coal, Char and Dolochar
Stack height above the ground	: 80 mtr.
Stack Inner dia at Port Hole	: 3.8 mtr
Material of construction	: RCC
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 38°C
Flue Gas Temperature	: 170°C
Velocity of Flue Gas	: 10.5 m/s
Volume of Flue Gas Flow Rate	: 287083.6 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	27.13	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	64.00	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	43.87	--	IS 11255 (P-7), RA 2022

Note:

- *The results given above are related to the tested sample, as received & mentioned parameters.*
- *The customer asked for the above tests only.*
- *When the information is supplied by the customer these can affect the validity of results.*
- *Asterisk mark(*) provided by the customer*
- *This test report shall not be reproduced without the permission of Bhoomi Envirotech Pvt. Ltd. (BEPL)*
- *The test report will not be used for any publicity/legal purpose.*
- *Responsibility of the BEPL is limited to the invoiced amount only*

15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	4	F

Report No.:BEPLTR20250515ST26	**Date of Issue:15.05.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/010	Customer Sample ID*	ST-02
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Kiln Stack	Date of Sampling	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with WHRB
Type of fuel used	: Coal, Dolomite & Iron Ore
Stack height above the ground	: 48 mtr.
Stack Inner dia at Port Hole	: 1.3 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: ESP
Ambient Temperature	: 38°C
Flue Gas Temperature	: 116°C
Velocity of Flue Gas	: 10.1 m/s
Volume of Flue Gas Flow Rate	: 36851.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	29.47	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	60.88	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	39.12	--	IS 11255 (P-7), RA 2022

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	5	F

Report No.:BEPLTR20250515ST27			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/011	Customer Sample ID*	ST-03
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Ferro-2	Date of Sampling	10.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Submerged-Arc Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 1.2 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 38°C
Flue Gas Temperature	: 75°C
Velocity of Flue Gas	: 9.4 m/s
Volume of Flue Gas Flow Rate	: 32508.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	17.47	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	11.80	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	19.51	--	IS 11255 (P-7), RA 2022

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	7	0	6	F

Report No.:BEPLTR20250515ST28		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/012	Customer Sample ID*	ST-04
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	SMS Area	Date of Sampling	10.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Induction Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 0.6 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 71 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 38°C
Flue Gas Temperature	: 62°C
Velocity of Flue Gas	: 8.4 m/s
Volume of Flue Gas Flow Rate	: 7477.5 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	14.36	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	5.91	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	11.47	--	IS 11255 (P-7), RA 2022

Note:

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15/05/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 15-05-25
(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	6	F

Report No.:BEPLTR20250809ST017		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/007	Customer Sample ID*	ST-01
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Power Plant	Date of Sampling	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C Humidity(% RH) Min.- 60 % Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with FBC & WHRB
Type of fuel used	: Coal, Char and Dolochar
Stack height above the ground	: 80 mtr.
Stack Inner dia at Port Hole	: 3.8 mtr
Material of construction	: RCC
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 30°C
Flue Gas Temperature	: 156°C
Velocity of Flue Gas	: 10.1 m/s
Volume of Flue Gas Flow Rate	: 284329.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	26.81	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	61.94	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	47.42	--	IS 11255 (P-7), RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, Bhoomi Envirotech Pvt. Ltd.

MSinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	1	1	0	7	F

Report No.:BEPLTR20250809ST018 | **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/008	Customer Sample ID*	ST-02
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Kiln Stack	Date of Sampling	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with WHRB
Type of fuel used	: Coal, Dolomite & Iron Ore
Stack height above the ground	: 48 mtr.
Stack Inner dia at Port Hole	: 1.3 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 31°C
Flue Gas Temperature	: 128°C
Velocity of Flue Gas	: 9.5 m/s
Volume of Flue Gas Flow Rate	: 33526.8 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	30.24	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	69.68	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	41.50	--	IS 11255 (P-7), RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	1	1	0	8	F

Report No.:BEPLTR20250809ST019 — **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/009	Customer Sample ID*	ST-03
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Ferro-2	Date of Sampling	04.08.2025
Environment Condition During Testing	Temp. (°C) – 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Submerged-Arc Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 1.2 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 30°C
Flue Gas Temperature	: 79°C
Velocity of Flue Gas	: 9.0 m/s
Volume of Flue Gas Flow Rate	: 30709.9 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	17.80	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	11.52	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	21.34	--	IS 11255 (P-7), RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	9	F

Report No.:BEPLTR20250809ST020 | **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/010	Customer Sample ID*	ST-04
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	SMS Area	Date of Sampling	04.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Induction Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 0.6 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 71 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 31°C
Flue Gas Temperature	: 68°C
Velocity of Flue Gas	: 7.8 m/s
Volume of Flue Gas Flow Rate	: 6807.7 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	12.63	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	6.10	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	11.38	--	IS 11255 (P-7), RA 2022

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	6	9	5	F

Report No.:BEPLTR20250515AAQ017			**Date of Issue:15.05.2025**
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025051003/001	Customer Sample ID*	AAQ-01
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near Admin Office	Date of Sampling	09.05.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C / Max.- 38°C Humidity(% RH) Min.- 33 % / Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	$\mu g/m^3$	72.91	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	35.07	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	$\mu g/m^3$	10.64	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	18.41	80	IS 5182(P-6) RA 2022

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	6	9	6	F

Report No.:BEPLTR20250515AAQ018			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025051003/002	Customer Sample ID*	AAQ-02
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near Store Room Area	Date of Sampling	09.05.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C Max.- 38°C Humidity(% RH) Min.- 33 % Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m^3	75.33	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m^3	40.13	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m^3	14.02	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m^3	21.87	80	IS 5182(P-6) RA 2022

Note:

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18/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

BEPL

TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	6	9	7	F

Report No.:BEPLTR20250515AAQ019		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025051003/003	Customer Sample ID*	AAQ-03
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Rolling Mill Loading Area	Date of Sampling	09.05.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C / Max.- 38°C Humidity(% RH) Min.- 33 % / Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m^3	86.09	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m^3	39.68	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m^3	17.59	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m^3	29.24	80	IS 5182(P-6) RA 2022

Note:

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15/05/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**
15-05-25
(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	6	9	8	F

Report No.:BEPLTR20250515AAQ020		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025051003/004	Customer Sample ID*	AAQ-04
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near DM Plant Substation Area	Date of Sampling	09.05.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C Max.- 38°C Humidity(% RH) Min.- 33 % Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	$\mu g/m^3$	83.05	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	$\mu g/m^3$	45.49	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	$\mu g/m^3$	15.30	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	24.17	80	IS 5182(P-6) RA 2022

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	0	F

Report No.:BEPLTR20250809AAQ011		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025080403/001	Customer Sample ID*	AAQ-01
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near Admin Office	Date of Sampling	03.08.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) – 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C Humidity(% RH) Min.- 60 % Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m³	70.21	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m³	34.24	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m³	11.03	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m³	16.57	80	IS 5182(P-6) RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	1	F

Report No.:BEPLTR20250809AAQ012		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025080403/002	Customer Sample ID*	AAQ-02
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near Store Room Area	Date of Sampling	03.08.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C Humidity(% RH) Min.- 60 % Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m³	76.01	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m³	37.63	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m³	12.85	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m³	19.11	80	IS 5182(P-6) RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	2	F

Report No.:BEPLTR20250809AAQ013		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025080403/003	Customer Sample ID*	AAQ-03
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Rolling Mill Loading Area	Date of Sampling	03.08.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C / Max.- 30°C Humidity(% RH) Min.- 60 % / Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m³	81.79	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m³	38.85	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m³	18.26	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m³	26.94	80	IS 5182(P-6) RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/02

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	3	F

Report No.:BEPLTR20250809AAQ014 — **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/AAQ/2025080403/004	Customer Sample ID*	AAQ-04
Sample Description*	Ambient Air Sample	Sampling Done By	BEPL Staff
Sampling Location*	Near DM Plant Substation Area	Date of Sampling	03.08.2025
Sampling Method	As Per CPCB Guideline (Vol.1)	Duration of Sampling	24 hr.
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C Humidity(% RH) Min.- 60 % Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM10 (F.P. x 03 Nos.), PM 2.5 (F.P. x 01 Nos.),SO2 x 01 PVC Bottle , NO2 x 01 PVC Bottle,		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limit (As per NAAQS)	Method Reference
1	Particulate Matter (PM_{10})	µg/m³	77.10	100	IS 5182(P-23) RA 2022
2	Particulate Matter ($PM_{2.5}$)	µg/m³	42.57	60	IS 5182(P-24) RA 2024
3	Sulphur Dioxide (SO_2)	µg/m³	15.94	80	IS 5182(P-2/Sec 1) RA 2023
4	Nitrogen Dioxide (NO_2)	µg/m³	23.25	80	IS 5182(P-6) RA 2022

Note:

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09/08/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**
M Sinha 09-08-25
(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

PHOTOGRAPHS OF WATER SPRINKLING

PHOTOGRAPHS OF COVERED VEHICLES

PHOTOGRAPHS OF GREEN BELT


पार्किंग

PHOTOGRAPHS OF INTERNAL ROAD

PHOTOGRAPHS OF CONVERYOR BELT

ANNEXURE – II: WATER PERMISSION LETTER

COPY OF WATER PERMISSION

छत्तीसगढ़ शासन
जल संसाधन विभाग
मंत्रालय
दाऊ कल्याण सिंह भवन, रायपुर, छ.ग.

क्र.7322/एफ 4–140/एस–2/31/औजप्र/2009, रायपुर दिनांक 21/09/2010

प्रति,

मुख्य अभियंता,
हसदेव कछार,
जल संसाधन विभाग,
बिलासपुर, (छ.ग.)

विषयः– **मेसर्स स्काई एलॉयज एण्ड पावर प्रा.लि., रायपुर द्वारा रायगढ़ जिले में प्रस्तावित इंटिग्रेटेड स्टील एवं 50 मेगावाट केप्टिव पावर प्लांट हेतु माण्ड नदी से 0.28 मि.घ.मी. वार्षिक जल आंबटन/प्रदाय की स्वीकृति।**

संदर्भः–
1. शासन का पत्र क्र.–4396–4397/एफ–4–117/एस–2/31/औजप्र/2008, रायपुर दिनांक 29.06.2010.
2. कार्यपालन यंत्री, जल संसाधन संभाग, धरमजयगढ़ जिला–रायगढ़ का पत्र क्रमांक–2067–2068/व.ले.लि./2010/रायगढ़, दिनांक 13.08.2010.

विषयांतर्गत प्रकरण में राज्य जल संसाधन उपयोग समिति, छ.ग. की 28वीं बैठक, दिनांक 05.04.2010 में लिये गये निर्णयानुसार एवम् संस्थान द्वारा कमिटमेंट चार्जेस रू. 0.07 लाख का भुगतान जल संसाधन विभाग को किये जाने के तारतम्य में, मेसर्स स्काई एलॉयज एण्ड पावर प्रा.लि., रायपुर द्वारा रायगढ़ जिले में प्रस्तावित इंटिग्रेटेड स्टील एवं 50 मेगावाट केप्टिव पावर प्लांट हेतु ग्राम टेमटेमा के पास, माण्ड नदी के नैसर्गिक स्त्रोत (बहाव) से वांछित 0.28 मि.घ.मी. वार्षिक जल आबंटन/प्रदाय की स्वीकृति निम्नलिखित शर्तों के साथ प्रदान की जाती है :–

1. संस्थान को उनकी वार्षिक आवश्यकता के अनुरूप कुल 0.28 मि.घ.मी. जल का आहरण ग्राम टेमटेमा के पास माण्ड नदी के नैसर्गिक स्त्रोत से कर, जल आवश्यकता 0.14 मि.घ.मी. का संग्रहण अपने संयंत्र परिक्षेत्र में बैलेन्सिंग रिर्जवायर (तालाब) बनाकर करना होगा।

2. संस्थान द्वारा उनकी वार्षिक आवश्यकता अनुसार 0.28 मि.घ.मी. जल का उद्वहन वर्षा उपरांत बहाव की उपलब्धता माण्ड नदी में आने के बाद किया जायेगा। वर्षा में कमी होती है तो उस स्थिति में यदि माण्ड नदी में बहाव की मात्रा कम होती है तो

आवश्यकता अनुसार अतिरिक्त जल के उद्वहन हेतु शासन की पुर्वानुमति आवश्यक होगी।

3 संस्थान, माण्ड नदी में ग्राम– टेमटेमा के पास प्रस्तावित जल आहरण के निर्धारित स्थल से अपने संयंत्र स्थल तक जल ले जाने हेतु आवश्यक व्यवस्था (इंटेकवेल का निर्माण, पाईप लाईन बिछाना आदि) जल संसाधन विभाग के अनुमोदन उपरांत स्वयं के व्यय पर करेगा।

4 प्रकरण में प्रदायित जल की मात्रा के माप हेतु इंटेकवेल (पंप हाउस) में मानक जल मापन यंत्र की स्थापना संस्थान को स्वयं के व्यय पर करनी होगी, जिसकी समय–समय पर विभाग द्वारा जांच की जा सकेगी।

5 प्रकरण में जल ले जाने हेतु पाईप लाईन बिछाने के लिए भू–अर्जन एवं संबंधित जो भी समस्या आयेगी उसका निराकरण संस्थान स्वयं के व्यय पर स्वयं करेगा। इसके साथ ही छ.ग. राज्य की आदर्श पुनर्वास नीति–2007 (यथा संशोधित) का पालन करना अनिवार्य होगा।

6 संस्थान द्वारा वास्तविक जल आहरण के आधार पर स्वीकृत जल–मात्रा का आंकलन एवं समीक्षा समय–समय पर शासन द्वारा की जा सकेगी।

7 माण्ड नदी में जल आहरण के प्रस्तावित स्थल के ऊपर एवं नीचे जल उपयोग हेतु जल संसाधन विभाग स्वतंत्र होगा।

8 संस्थान, स्थानीय लोगों के जल उपयोग जैसे पेयजल एवं निस्तार आदि हितों पर किसी प्रकार का प्रतिकूल प्रभाव नहीं डालेगा एवं इसके लिए आवश्यक जल की मात्रा नदी में हमेशा सुरक्षित रखी जायेगी।

9 संस्थान, उपयोग के पश्चात अपने संयंत्र से निस्सारित जल का रि–साइकलिंग करके इसका उपयोग करेगा एवं राज्य प्रदूषण नियंत्रण मंडल द्वारा निर्धारित मानकों एवं नियमों के अनुसार उपचार कर निस्सारित करेगा, ताकि क्षेत्र में जल प्रदूषण की कोई समस्या उत्पन्न न हो।

10 संस्थान को, जल का उपयोग प्रारंभ करने के पूर्व विभाग के निर्धारित प्रारूप–7(क) में मुख्य अभियंता, हसदेव कछार, जल संसाधन विभाग, बिलासपुर के निर्देशानुसार/अनुमोदन उपरांत अनुबंध करना अनिवार्य होगा।

11 संस्थान को, शासन द्वारा नैसर्गिक स्त्रोत से औद्योगिक जल उपयोग हेतु समय–समय पर निर्धारित जल–दर पर जल कर एवं कमिटमेंट चार्जेस का नियमानुसार भुगतान जल संसाधन विभाग को अनिवार्य रूप से करना होगा एवं कमिटमेंट चार्जेस के संबंध में शासन द्वारा जारी परिपत्र दिनांक 20.04.2007 का पालन संस्थान के लिए बंधनकारी होगा।

12 प्रकरण में जल प्रदाय की यह स्वीकृति वर्तमान में उपलब्ध आंकडों/परिस्थितियों पर आधारित है। भविष्य में किसी कारणवश नदी के जल प्रवाह में कमी होने पर शासन इसके लिए जवाबदेह नहीं रहेगा एवं इस संबंध में शासन के विरूद्ध किसी प्रकार का दावा मान्य योग्य नहीं होगा।

13 शासन द्वारा कमिटमेंट चार्जेस के संबंध में जारी परिपत्र दिनांक 20.04.2007 के अनुसार संस्थान को इस स्वीकृति पत्र के जारी होने के दिनांक से 02 वर्षों के अंदर जल का उपयोग प्रारंभ करना होगा। इस अवधि के दौरान संस्थान द्वारा यदि जल का उपयोग प्रारंभ नहीं किया जाता है तो उपयोग प्रारंभ करने की समय–सीमा अधिकतम 2 वर्ष की अवधि के लिए और बढ़ाई जा सकेगी एवं इस हेतु प्रथम वर्ष में आबंटित/आरक्षित जल की संपूर्ण मात्रा के 5% अंश एवं दूसरे वर्ष में 10% अंश की जल–कर राशि अतिरिक्त कमिटमेंट चार्जेस के रूप में संबंधित वर्ष की समाप्ति के पश्चात 3 माह के अंदर जमा करनी होगी। अतिरिक्त कमिटमेंट चार्जेस की निर्धारित अधिकतम 2 वर्ष की समय–सीमा के अनुसार भुगतान करने के पश्चात भी यदि संस्थान द्वारा जल का उपयोग प्रारंभ नहीं किया जाता है एवं उपरोक्तानुसार निर्धारित समस्त शर्तों का पालन नहीं किया जाता है तो तत्काल प्रभाव से जल आबंटन/आरक्षण स्वयमेव समाप्त माना जायेगा एवं शासन को इस जल को अन्य किसी के उपयोग हेतु आबंटित/आरक्षित करने की स्वतंत्रता होगी।

सहपत्र :– शून्य

(सी.के. खेतान)
सचिव,
जल संसाधन विभाग,
मंत्रालय,रायपुर

.....4

पृ.क्र 7323 /एफ 4–140/एस–2/31/औजप्र/2009, रायपुर दिनांक 21/09/2010
प्रतिलिपिः–

1. प्रमुख अभियंता, जल संसाधन विभाग, रायपुर को संदर्भित पत्रों के परिप्रेक्ष्य में सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित।

2. अधीक्षण अभियंता, जल संसाधन मण्डल, रायगढ़ को सूचनार्थ अग्रेषित।

3. कार्यपालन अभियंता, जल संसाधन संभाग, धरमजयगढ़ को संदर्भित पत्र क्र.–2 के परिप्रेक्ष्य में सूचनार्थ एवं शीघ्र आवश्यक कार्यवाही हेतु अग्रेषित।

4. अतिरिक्त अधीक्षण अभियंता, ऊर्जा विभाग, छत्तीसगढ़ शासन, मंत्रालय, रायपुर को सूचनार्थ अग्रेषित।

5. उप संचालक, राज्य निवेश प्रोत्साहन बोर्ड, मंत्रालय के पास (रेणुका द्वार), शास्त्री चौक, रायपुर को उनके पत्र क्र.–195/एसआईपीबी/2009/462, दि. 22.06.09 के परिप्रेक्ष्य में सूचनार्थ अग्रेषित।

6. मेसर्स स्काई एलॉयज एण्ड पावर प्रा.लि. सुप्रीम हाऊस, महादेव घाट चौक रींग रोड़ नं.–1, रायपुर (छ.ग.) को उनके आवेदन पत्र के परिप्रेक्ष्य में सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित।

सहपत्र :–शून्य।

20/9/2010

विशेष कर्तव्यस्थ अधिकारी
जल संसाधन विभाग,
मंत्रालय,रायपुर

ANNEXURE – III: PHOTOGRAPH OF RAINWATER HARVESTING STRUCTURES

PHOTOGRAPHS OF RAINWATER HARVESTING STRUCTURE

ANNEXURE – IV: WASTEWATER, SURFACEWATER AND GROUNDWATER QUALITY MONITORING REPORTS

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/01

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	7	0	1	F

Report No.:BEPLTR20250515WW23			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/WW/2025051003/007	Customer Sample ID*	WW-01
Sample Description*	Waste Water	Sample Collected By*	Customer
Sampling Location*	STP Outlet	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle & 1 Ltr. Glass Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 13.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per CPCB for Discharge of Effluents		Method Reference
				Inland Surface Water	Public Sewer	
1	pH at 25°C	-	7.55	5.5 to 9.0	5.5 to 9.0	IS 3025(P-11) RA 2022
2	Total Suspended Solids (TSS)	mg/Lit	25.10	100	600	IS 3025(P-17) RA 2022
3	Chemical Oxygen Demand (COD)	mg/Lit	72.00	250	--	IS 3025(P-58) RA 2023
4	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/Lit	13.64	30	350	IS 3025(P-44) RA 2023
5	Oil & Grease	mg/Lit	6.20	10	20	IS 3025(P-39) RA 2021

Remark: mg/Lit - milligram per liter,

Note:

- *The sample has been provided by the customer there for the result applied as per the sample recieved*
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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	7	0	2	F

Report No.:BEPLTR20250515WW24			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/WW/2025051003/008	Customer Sample ID*	WW-02
Sample Description*	Waste Water	Sample Collected By*	Customer
Sampling Location*	ETP Outlet	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle & 1 Ltr. Glass Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 13.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per CPCB for Discharge of Effluents		Method Reference
				Inland Surface Water	Public Sewer	
1	pH at 25°C	-	7.91	5.5 to 9.0	5.5 to 9.0	IS 3025(P-11) RA 2022
2	Total Suspended Solids (TSS)	mg/Lit	39.80	100	600	IS 3025(P-17) RA 2022
3	Chemical Oxygen Demand (COD)	mg/Lit	128.00	250	--	IS 3025(P-58) RA 2023
4	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/Lit	23.63	30	350	IS 3025(P-44) RA 2023
5	Oil & Grease	mg/Lit	6.80	10	20	IS 3025(P-39) RA 2021

Remark: mg/Lit - milligram per liter,

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	4	F

Report No.:BEPLTR20250809WW015		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/WW/2025080403/005	Customer Sample ID*	WW-01
Sample Description*	Waste Water	Sample Collected By*	Customer
Sampling Location*	STP Outlet	Date of Sampling*	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp. (°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle & 1 Ltr. Glass Bottle		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 07.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per CPCB for Discharge of Effluents		Method Reference
				Inland Surface Water	Public Sewer	
1	pH at 25°C	-	7.71	5.5 to 9.0	5.5 to 9.0	IS 3025(P-11) RA 2022
2	Total Suspended Solids (TSS)	mg/Lit	29.30	100	600	IS 3025(P-17) RA 2022
3	Chemical Oxygen Demand (COD)	mg/Lit	64.00	250	--	IS 3025(P-58) RA 2023
4	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/Lit	11.82	30	350	IS 3025(P-44) RA 2023
5	Oil & Grease	mg/Lit	6.60	10	20	IS 3025(P-39) RA 2021

Remark: mg/Lit - milligram per liter,

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

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TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	5	F

Report No.:BEPLTR20250809WW016		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/WW/2025080403/006	Customer Sample ID*	WW-02
Sample Description*	Waste Water	Sample Collected By*	Customer
Sampling Location*	ETP Outlet	Date of Sampling*	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle & 1 Ltr. Glass Bottle		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 07.08.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per CPCB for Discharge of Effluents		Method Reference
				Inland Surface Water	Public Sewer	
1	pH at 25°C	-	8.05	5.5 to 9.0	5.5 to 9.0	IS 3025(P-11) RA 2022
2	Total Suspended Solids (TSS)	mg/Lit	43.60	100	600	IS 3025(P-17) RA 2022
3	Chemical Oxygen Demand (COD)	mg/Lit	140.00	250	--	IS 3025(P-58) RA 2023
4	Biochemical Oxygen Demand (BOD 3 Days 27°C)	mg/Lit	26.00	30	350	IS 3025(P-44) RA 2023
5	Oil & Grease	mg/Lit	7.20	10	20	IS 3025(P-39) RA 2021

Remark: mg/Lit - milligram per liter,

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	6	9	9	F

Report No.:BEPLTR20250515GW021			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/GW/2025051003/005	Customer Sample ID*	GW-01
Sample Description*	Ground Water (Borewell Water)	Sample Collected By*	Customer
Sampling Location*	Near Temple Area	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 12.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per IS 10500:2012, RA 2023		Method Reference
				Acceptable	Permissible	
1	pH at 25°C	-	8.16	6.5 - 8.5	No Relaxation	IS 3025(P-11)RA 2022
2	Total Dissolved Solid (TDS)	mg/Lit	428.0	500	2000	IS 3025(P-16)RA 2023
3	Total Hardness (as $CaCO_3$)	mg/Lit	184.00	200	600	IS 3025(P-21)RA 2023
4	Calcium (as Ca)	mg/Lit	64.93	75	200	IS 3025(P-40)RA 2024
5	Magnesium (as Mg)	mg/Lit	8.35	30	100	IS 3025(P-46)RA 2023
6	Total Alkalinity	mg/Lit	78.00	200	600	IS 3025(P-23)RA 2023
7	Chloride (as Cl)	mg/Lit	15.65	250	1000	IS 3025(P-32)RA 2019
8	Sulphate (as SO_4)	mg/Lit	72.35	200	400	IS 3025(P-24/Sec 1) RA 2022

Remark: mg/Lit - milligram per liter

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

Meman Kumar Sinha
(Authorized Signatory)

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
Certified Company

TEST REPORT

Report No.:BEPLTR20250515GW021A		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/GW/2025051003/005	Customer Sample ID*	GW-01
Sample Description*	Ground Water (Borewell Water)	Sample Collected By*	Customer
Sampling Location*	Near Temple Area	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 12.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Limits as per IS 10500:2012, RA 2023		Method Reference
				Acceptable	Permissible	
1	Colour	Hazen	<1	5	15	IS 3025(P-4)
2	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025(P-7&8)
3	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025(P-5)
4	Turbidity	NTU	<1	1	5	IS 3025(P-10)
5	Free Residual Chlorine	mg/Lit	N.D.	0.2	1	IS 3025(P-26)
6	Nitrate (NO3)	mg/Lit	0.35	45	No Relaxation	IS 3025(P-34)
7	Ammonia(as Total Ammonia-N)	mg/Lit	N.D.	0.5	No Relaxation	IS 3025(P-34)
8	Iron (as Fe)	mg/Lit	0.020	0.3	No Relaxation	IS 3025(P-53)
9	Fluoride (as F)	mg/Lit	0.18	1	1.5	IS 3025(P-60)
10	Manganese (as Mn)	mg/Lit	N.D.	0.1	0.3	IS 3025(P-59)
11	Lead (as Pb)	mg/Lit	N.D.	0.01	No Relaxation	IS 3025(P-47)
12	Zinc (as Zn)	mg/Lit	0.04	5	15	IS 3025(P-49)
13	Copper (as Cu)	mg/Lit	N.D.	0.05	1.5	IS 3025(P-42)
14	Cadmium (as Cd)	mg/Lit	N.D.	0.003	No Relaxation	IS 3025(P-41)
15	Chromium (as Cr)	mg/Lit	N.D.	0.05	No Relaxation	IS 3025(P-52)
16	Total Coliforms	CFU/ 100ml	Absent	Shall not be detectable in 100 ml		APHA 22ndEd. 2012,9921-B & C,9-66 &69

Remark: mg/Lit - milligram per liter, N.D. - Not Detected, CFU- Coliform Unit.

Note:

- *The sample has been provided by the customer there for the result applied as per the sample recieved*
- *The results given above are related to the tested sample, as received & mentioned parameters.*
- *The customer asked for the above tests only.*
- *When the information is supplied by the customer these can affect the validity of results.*
- *Asterisk mark(*) provided by the customer*
- *This test report shall not be reproduced without the permission of Bhoomi Envirotech Pvt. Ltd. (BEPL)*
- *The test report will not be used for any publicity/legal purpose.*
- *Responsibility of the BEPL is limited to the invoiced amount only*

15/05/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt.Ltd.**
M Sinha 15-05-25
Meman Kumar Sinha
(Authorized Signatory)

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

BEPL

TC-13412

Format No. - BEPL/QF/7.8/01

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	7	0	0	F

Report No.:BEPLTR20250515SW022		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/SW/2025051003/006	Customer Sample ID*	SW-01
Sample Description*	Surface Water	Sample Collected By*	Customer
Sampling Location*	River Water	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 12.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Tolerance Limits as per IS 2296 Class C	Method Reference
1	pH at 25°C	-	7.49	8.5	IS 3025(P-11)RA 2022
2	Total Dissolved Solid (TDS)	mg/Lit	316.0	1500	IS 3025(P-16)RA 2023
3	Total Hardness (as $CaCO_3$)	mg/Lit	106.00	--	IS 3025(P-21)RA 2023
4	Calcium (as Ca)	mg/Lit	31.26	--	IS 3025(P-40)RA 2024
5	Magnesium (as Mg)	mg/Lit	6.80	--	IS 3025(P-46)RA 2023
6	Total Alkalinity	mg/Lit	56.00	--	IS 3025(P-23)RA 2023
7	Chloride (as Cl)	mg/Lit	14.68	600	IS 3025(P-32)RA 2019
8	Sulphate (as SO_4)	mg/Lit	76.94	400	IS 3025(P-24/Sec 1) RA 2022

Remark: mg/Lit - milligram per liter,

Note:

- *The sample has been provided by the customer there for the result applied as per the sample recieved*
- *The results given above are related to the tested sample, as received & mentioned parameters.*
- *The customer asked for the above tests only.*
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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 15-05-25

Meman Kumar Sinha
(Authorized Signatory)

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
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ISO 9001:2015
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ISO 45001:2018
Certified Company

TEST REPORT

Report No.:BEPLTR20250515SW022A		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/SW/2025051003/006	Customer Sample ID*	SW-01
Sample Description*	Surface Water	Sample Collected By*	Customer
Sampling Location*	River Water	Date of Sampling*	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling*	Temp.(°C) -- Humidity(% RH) -- Weather Condition- --
Sample Quantity Received*	5 Ltr. PVC Bottle		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 12.05.2025

ANALYSIS RESULT

Sr. No.	Parameter	Unit	Result	Tolerance Limits as per IS 2296 Class C	Method Reference
1	Colour	Hazen	<1	300	IS 3025(P-4)
2	Taste	-	Agreeable	--	IS 3025(P-7&8)
3	Odour	-	Agreeable	--	IS 3025(P-5)
4	Turbidity	NTU	<1	--	IS 3025(P-10)
5	Free Residual Chlorine	mg/Lit	N.D.	--	IS 3025(P-26)
6	Nitrate (NO3)	mg/Lit	0.31	50	IS 3025(P-34)
7	Ammonia(as Total Ammonia-N)	mg/Lit	N.D.	--	IS 3025(P-34)
8	Iron (as Fe)	mg/Lit	0.017	50	IS 3025(P-53)
9	Fluoride (as F)	mg/Lit	0.19	1.5	IS 3025(P-60)
10	Manganese (as Mn)	mg/Lit	N.D.	--	IS 3025(P-59)
11	Lead (as Pb)	mg/Lit	N.D.	0.1	IS 3025(P-47)
12	Zinc (as Zn)	mg/Lit	0.04	15	IS 3025(P-49)
13	Copper (as Cu)	mg/Lit	N.D.	1.5	IS 3025(P-42)
14	Cadmium (as Cd)	mg/Lit	N.D.	0.01	IS 3025(P-41)
15	Chromium (as Cr)	mg/Lit	N.D.	0.05	IS 3025(P-52)
16	Total Coliforms	CFU/ 100ml	Absent	5000	APHA 22nd Ed.2012,9921-B & C, 9-66 & 69

Remark: mg/Lit - milligram per liter, N.D. - Not Detected, CFU- Coliform Unit.

Note:

- *The sample has been provided by the customer there for the result applied as per the sample recieved*
- *The results given above are related to the tested sample, as received & mentioned parameters.*
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15/05/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt.Ltd.**
MBinhq
15-05-25
Meman Kumar Sinha
(Authorized Signatory)

.....End of test report.....

ANNEXURE – V: PHOTOGRAPH OF COVERED VEHICLES

PHOTOGRAPHS OF COVERED VEHICLES

ANNEXURE – VI: PHOTOGRAPH OF INTERNAL ROAD AND GREEN BELTS

PHOTOGRAPHS OF INTERNAL ROAD

PHOTOGRAPHS OF GREEN BELT


पार्किंग

ANNEXURE – VII: COPY OF FORM V

CIN : U27100CT2009PLC021184

SKY ALLOYS AND POWER LIMITED

SAPL/ENV/2024-25/02

Date 25.04.2025

To,
The Member Secretary,
Chhattisgarh Environment Conservation Board,
ParyavasBhavan, North Block, Sector-19,
Naya Raipur -492002.Chhattisgarh

Subject: - **Sky Alloys and Power Limited, Village Temtema, Tehsil- Kharsia, District- Raigarh, Chhattisgarh: –Submission of Environmental Statement in Form - V for the Period from 1st April 2024 - 31st March 2025 regarding.**

Sir,

Enclosed herewith please find, Annual Environment Statement for the financial year 2024-2025 for M/s Sky Alloys and Power Limited, Village Temtema, Tehsil- Kharsia, District- Raigarh, Chhattisgarh as per Rule - 14 of the Environment (Protection) Rules, 1986.

This is for your kind information and record please.

Thanking you,

Yours faithfully,

for, Sky Alloys and Power Limited.
Sky Alloys and Power Limited

Director Authorized Signatory

Encl: As Above

CC: - Regional Officer, Chhattisgarh Environment Conservation Board, Near TV Tower Raigarh, C.G.

Regd. Office : "SKY HOUSE" 16, Recreation Road, Choubey Colony, RAIPUR (C.G.) - 492001
Ph.: 0771-4915104, 4046097, | Fax : 0771-4046097 | E-mail : skyalloys@yahoo.in
Works : KHARSIA, TAH.- KHARSIA, Temtema, RAIGARH (C.G.) - 496661

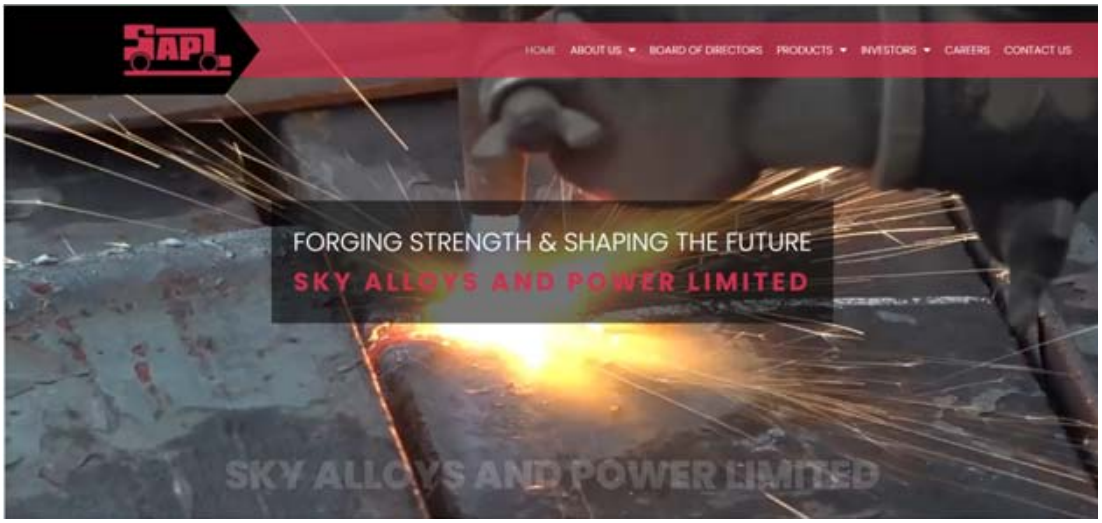
ENVIRONMENT STATEMENT

Form V

[Financial Year (2024-2025) ending 31st March 2025]

SUBMITTED BY

SKY ALLOYS AND POWER LIMITED



VILLAGE-TEMTEMA, TEHSIL-KHARSIA, DISTRICT-RAIGARH (CHHATTISGARH)

Environment Statement Report

Environment (Protection) Rules 1986

[Rules-14]

Form V for financial Year (2024-2025) ending 31st March 2025

PART-A

General

1.	**Name & Address of the Owner/Occupier of tl industry Operational or Process**	**Mr. Sandeep Agrawal, Director Sky Alloys and Power Limited Village Temtema, Tehsil Kharsia, District Raigarh, Chhattisgarh**
2.	**Industry Category**	**RED (Steel & Power)**
3.	**Production Capacity**	**400 TPD Sponge iron and CPP 20 Mw, Induction furnace 3*10 Ton, Ferro 2*9MVA, Hot charging rolling mill 95,000 Ton per year**
4.	**Year of Establishment**	**2013**
5.	**Date of last Environment Statement Submissio**	**13/05/2024**

PART-B

Water and Raw Material Consumption-Operation

I. Water Consumption in m^3/Day: 498.04 m^3/Day

Water Consumption in m^3/Day(2024-2025)	
Process	**177.80**
Cooling	**315.26**
Domestic	**4.50**

Name of product

Name of Product	Process Water Consumption Per Unit of Product Output	
	During the Previous financial Year (2023-24)	During the Current financial Year (2024-25)
Steel unit	**1.30 M^3/MT**	**1.255 M^3/MT**
Power Plant	**1.85 M^3/MWh**	**1.84 M^3/MWh**

II. Raw Material Consumption:-

Name of Raw Materials	Name of Products	Consumption of Raw Materials per unit of output	
		During the Previous financial year (2023-24)	During the Current financial year (2024-25)
Iron Pellet	**Sponge Iron**	**1.90 MT/MT**	**1.91 MT/MT**
Coal		**1.20 MT/MT**	**1.19 MT/MT**
Dolomite		**0.04 MT/MT**	**0.04 MT/MT**

Name of Raw Materials	Name of Products	Consumption of Raw Materials per unit of output	
		During the Previous financial year (2023-24)	During the Current financial year (2024-25)
Coal & Dolochar	Power Plant	2.220 MT/MWh	2.227 MT/MWh

Name of Raw Materials	Name of Products	Consumption of Raw Materials per unit of output	
		During the Previous financial year (2023-24)	During the Current financial year (2024-25)
Sponge Iron	Billets/ Ingots	0.683 MT/MT	0.682 MT/MT
Pig Iron		0.154 MT/MT	0.153 MT/MT
Scrap		0.120 MT/MT	0.115 MT/MT
Silico Mag.		0.011 MT/MT	0.012 MT/MT

Name of Raw Materials	Name of Products	Consumption of Raw Materials per unit of output	
		During the Previous financial year (2023-24)	During the Current financial year (2024-25)
Coal	Ferro alloys	0.501 MT/MT	0.500 MT/MT
Mag. Ore		2.020 MT/MT	2.014 MT/MT
Ferro Mag. slag		0.410 MT/MT	0.405 MT/MT
Pearl coak		0.352 MT/MT	0.350 MT/MT
Quartz		0.050 MT/MT	0.049 MT/MT
Dolomite		0.012 MT/MT	0.011 MT/MT

PART-C Operation

Pollution Discharge to Environment/Unit of Output
(Parameter as specified in the consent issued)

Pollutants		Quantity of Pollutants Discharged	Concentration of Pollutants Discharged	Percentage of Variation from Prescribed
1.Water		Nil	Nil	NA
2.Air	Stack Emission	LESS THAN 50 mg/Nm3	45 mg/Nm3	Within prescribed limit
3. Air	SO_2 at FBC	Within below the prescribed limit	Within prescribed limit	Within prescribed limit
4. Air	NO_X at FBC	Within below the prescribed limit	Within prescribed limit	Within prescribed limit

PART-D

Hazardous Waste:

(As specified under Hazardous Waste (Management& Handling Transboundary Movement) Rules 2008)

Hazardous Wastes	Total Quantity(Kg)	
	During the previous financial year(2023-2024)	During the current financial year(2024-2025)
Form Process(Used/Spent Oil)	NIL	1.937 KL
Form Process(Used Grease)	NIL	0.56
Ion Exchange resin	NIL	NIL

Note: Generated used oil and used grease 100% reused for lubrication of rollers purpose with in plant premises.

PART-E

Solid Waste: **Ash**

Solid Wastes	During the current financial year (2024-2025)
a. From Process (Char-dolochar)	42600.402 MT
b. Form Pollution Control Facility (Ash from ESP)	54023 MT
c. Quantity recycled of re-Utilized in captive power plant (Char-dolochar has been used as fuel in FBC boiler)	42600.402 MT
I. Bricks Making (Ash from ESP)	54023 MT

PART-F

Please specified the characteristics (in term of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of waste.

Hazardous Waste: Hazardous Waste being generated from the process includes used oil (from machineries /equipment, Authorization taken from the Chhattisgarh Environment Conservation Board.

Solid Waste: As per Fly Ash Notification 3rd November 2009 and amendments Fly Ash from CPP will be used in construction of roads/Highways/ back filling of low lying area and bricks manufacturing.

PART-G

Impact of the pollution abatement measure taken on conservation of natural resource and on the cost production.

1 - High efficiency Electrostatic Precipitators (ESPs) and bag filter installed to control of dust emission in flue gas.
2- Our plant is designed and operational on zero discharge concepts.
3- Green belt has been developed in and around the plant periphery to control the dispersal of dust particles and attenuate the noise generated during the process.
4 - Good housekeeping is being maintained in and around the plant.

PART-H

Additional measure/investment proposal for environmental production including abatement of pollution.

Plant is regularly monitoring ambient air, stack emission, noise level, water quality and soil quality in and around the plant premises. All the emission and discharges are meeting the permissible limits prescribed by MoEF/CPCB/CECB. Green belt has been developed in and around the plant periphery.

PART-I

Any Other particulars for improvement the quality of Environment.

1. <u>Pollution Monitoring and control equipment. Operation/C&I</u>

List of Pollution Control equipment are as follows:

S. No.	Plant Activities	Pollution Control Measure
1	Coal Yard	Water Sprinklers
2	Coal Handling Plants/System	Dust extraction system
4	Coal Transfer Points	Bag filters has been provided in transfer point
5	Boiler(Emission Dispersion)	ESP/Bag filters
6	DM Plant	Neutralization pit and ETP
7	Vehicle Movement	Sprinklers/Tarpaulin covering, only PUC vehicle allowed
8	Sewage water from domestic use	STP has been installed and treated water is being used for irrigation of plantation purpose.

2. <u>Management of Waste</u>.

Solid Waste: Bricks manufacturing, 100% fly ash has been utilized for bricks manufacturing.

Domestic Waste: composted and using as manure of plantation

MISCELLANEOUS

Any other particular is respect of environment protection and abatement of pollution.

1. Good housekeeping is being maintained in and around the plant, dedicated team is deployed for taking care of upkeep of housekeeping and maintaining cleanliness.

2. To create awareness among the employees by imparting training on environment and pollution control.

3. Selection of best environmental practices and its implementation

4. Regular cleaning of roads and water sprinkling to minimize fugitive emission.

5. Zero discharge condition has been mentioned by installation of STP and ETP for the treatments of domestic waste water and industrial waste water and treated water has been 100% reused for irrigation of plantation / gardening purpose, dust suppuration through water sprinklers in roads, raw material storage yard for control of fugitive emission etc.

Authorized Signatory

SKY Alloys and Power Limited

Village: Temtema, Block: Kharsia

District: Raigarh, Chhattisgarh

ANNEXURE – VIII: ONSITE EMEREGENCY PLAN

DIRECTORATE, INDUSTRIAL HEALTH & SAFETY, RAIPUR (C.G.)

Block-III, 2nd Floor, Indravati Bhawan, Naya Raipur (C.G.)

e-mail - dihscg@gmail.com
Ph. No. - 0771-2442360

Application No. : **867616** Raipur, dated : **07/11/2023**

To,

The Occupier,
M/S SKY ALLOYS & POWER LIMITED
M/S SKY ALLOYS & POWER LIMITED VILLAGE-TEMTEMA, TEHSIL- KHARSIA, DISTT. RAIGARH (C.G.)

Sub :- ON-SITE EMERGENCY PLAN.

Ref :- Your documents on the subject dated 29/09/2023

Please be informed that documents (placed below containing pages (112 duly verified by the occupier) in which the occupier has disclosed the information related to hazards at his installation in compliance of the section 41-B of the factories Act, 1948 and which also describes his On-Site Emergency Plan (After supplementing certain modification by the MAHC Cell distinctively marked on the plan) is hereby notified final with the following stipulations :-

(i) That in the case any relevant information as required under the section 41-B of the Factories Act, 1948, If has not been disclosed this notification does not provide any exemptin in this regard and the occupier himself is liable for concealing the information.

(ii) That the documents will be subjected for review :-

(a) Generally after a period of two years from the date of issue of this order.

(b) During any intervening period of two years if it is instructed to do so by this cell.

OR

(c) Invariably, when any change in the plant, machinery, Building, Structure, substance, storage or the manufacturing processes/operations is intended by the occupier or his factory persons;

(iii) That the documents will have to be reviewed (as above) always in consultation with this cell and it will be occupier's liability to provide reasonable time for review and get notified final for further period;

(iv) That suitable training/mock-drill/exercise be arranged at the factory to make all concerned familiar with their duties/ responsibilities as outlined in the on-site emergency and be well trained to act accordingly at any emergency and save lives as well as the property:

(v) That reports/ observation of mock-drills/rehearsal or action at any emergeny situation that might have arisen, shall be furnished by the factory management to this cell to assess efficiency of the plan.

(vi) The necessary copies of this plan or part thereof be got multiplied by the factory management and provide to all concerning statutory authorities and other persons and also placed at designated emergency control centre in an accessible place to all concerned in the factory.

(vii) That in case of failure to comply with the stipulations or the relevant provisions of the law, not with standing legal proceeding to which the occupier may be subjected, he himself will bear (for any suspension/refusal rejection of his licence to work the factory) the liability of such action.

Encl.:- As above

Chief Inspector of Factories
Govt.of C.G. Raipur

REVISED ON SITE EMERGENCY PLAN AS ON 2023

of

M/S SKY ALLOYS AND POWER LIMITED

VILL.-TEMTEMA, P.O.- RABARTSON,

TEH.-KHARSIYA, DISTT.- RAIGARH (C.G.)

Phone No.- Fact. – 084355-04046
Fax- 0771-4046097

Email :- skyalloys@yahoo.in

PRESENTED BY
SHRI VIKAS AGRAWAL

DIRECTOR

I N D E X

(01)

***** V E R I F I C A T I O N *****

This is to certify that, the documents and information incorporated in the 11th Revised Onsite Emergency Plan manual (as onYear 2023) of **M/S SKY ALLOYS AND POWER LIMITED,** Vill.-Temtema, P.O.- Rabartson, Teh.- Kharsiya, Distt - Raigarh (C.G.) have been personally verified and signed on each page by me.

The Revised On Site Emergency Plan manual is submitted herewith to the Director, Industrial Health & Safety, Govt. of C.G. seeking his kind approval and permission to implement the same at **M/S SKY ALLOYS AND POWER LIMITED (SAPL)**, Vill.-Temtema, P.O.- Rabartson, Teh.-Kharsiya, Distt - Raigarh (C.G.)

We hereby acknowledge revising and updating the Onsite Emergency Plan manual in the event of any change(s) in the technology, Infrastructure, plan process, machinery(s), building(s), storage and manufacturing process and/or deletion or addition made on account of the above. and, shall submit the same to the Director, Industrial Health & Safety, Govt. of C.G. for his approval.

We further undertake that in the event of closure of the factory, the hazardous materials stored in the factory shall be disposed-off in a safe and sound manner without affecting risk and danger to the human beings and to the environment and, shall intimate the action taken in this regard, to the Directorate of Industrial Health & Safety, Govt. of C.G.)

PRESENTED BY
SHRI VIKAS AGRAWAL

DIRECTOR

CHAPTER - 1

NECESSITY, OBJECTIVE AND INTRODUCTION OF EMERGENCY/ACTION PLAN:

1.1 NECESSITY

Developments and advancement in science, have made impossible to possible. A few decades back the thought And ideas of human beings which were dreams have now become reality. Man has been continuously conquering over nature. This advancement in science will continue and shall continue to bring more & more comforts and amenities to human life by adding new and unknown dimensions to technology. Similarly in Industrial Development man has made tremend -ous advancement from first day of inventing to generate and use fire. Several other sources of energy like Petrol, Gas, Electricity. Nuclear fuel have been invented . All these sources of techno -logy, Science And Energy , on one side brings happiness and comforts, when used properly and wisely, but on the other hand do create agonies and disasters if misused , mishandled, neglected, indiscriminately used or carelessly used. It has says that EVEN A SINGLE ACCIDENT FAIL ALL WISE PLANNING.

The Industrial accident which took place in Union Carbide in Bhopal and in petroleum Depot of BPCL , Raipur and Bhilai served as a tragic warning to all concerned with the Planning Location creation and regulation of factories handling, processing manufacturing, Storing Transporting of hazardous highly inflammable and explosive substances. Even after taking All the precautions if any emergency is created then one should have mean and plans to tackle it, and in turn minimize losses to plant and machinery, buildings and inhabitants inside/around the factory premises.

In spite of several efforts to prevent the accidents in an industry, the possibility of occurrence of any accident cannot be ignored, that may result adverse effect on the people, environment and property, considering a aspects of possible hazards and safety precaution to prevent them further planning has been made to face any major accident in a well planned manner so that adverse effect may minimise with the help of ON-SITE and OFF-SITE relevant authorities and public. It is with the concept that emergency planning becomes necessary. This plan will certainly help in reducing all kinds of damage and hazard.

1.2 OBJECTIVES OF EMERGENCY PLAN

The main objectives of the Emergency & Disaster control Plan is, to create a procedure and infrastructure based on the combined resources of the factory as well as external Services, with a view to minimize damage and losses due to any type of emergency and disaster situation may arises in the plant premises, which may directly or indirectly affect the employees, the property of the company and the local community.

The objectives may further be classified as under :

a) To identify casualty, damage and to carry out the rescue operation and treatment to the Persons affected by the emergency.

b) To safeguard other persons not affected by the emergency so far.

c) To minimize, damage to the property and to the environment at a zero level.
d) To initially contain the impact of incident and ultimately bring the incident under control.
e) To provide authentic information to outsiders and the media.
f) To accomplish rehabilitation of the affected persons, if any.
g) Preservation of relevant records.
h) To investigate into the causes of emergent situation with a view to prevent its reoccurrence in future.

1.2 INTRODUCTION

The Emergency plan/Action Plan/Disaster control plan is nothing but AN ACTION PLAN FOR HANDLING EMERGENCIES IN AN INDUSTRY.

The plan is a statutory requirement under the Indian Factories Act-1948 with an intention to arrange and Gear up the facilities to combat the emergency if any , in an effective way to ensure minimum possible loss to the human beings and to the properties involved and, to make the situation in order with minimum possible time period.

In view of the above facts this Revised On-Site Emergency Plan manual, has been prepared by **M/S SKY ALLOYS AND POWER LIMITED** Medium Scale Unit set-up to manufacture Sponge Iron, Geneation of Captive Power (16 MW), Melting & Casting of Steel to mfg. Steel Ingots, Billets/Blooms, all types of Ferro Alloys and Re-rolling of Steel to Mfg TMT Bars, Wire Rods & other Structural Sections Fly Ash Bricks in Vill.-Temtema, P.O.- Rabartson, Teh.-Kharsiya, Distt - Raigarh (C.G.).

This plan has been prepared in brief to provide all information regarding dangers, Including health hazards and the measures to overcome, such hazardous arises from the exposure or handling of the material or substances in the manufacturing, transportation, storage, transportation and other process, workers employed or engaged in the factory and to the general public living in the vicinity of the area the safety measures required to be adopt in the event of the accident taking place.
It is hoped that this emergency plan shall further help to take precautions to maintain the unit most hazard free and ideal one.

Herewith it is released for all **SAPL** Raigarh workers/ employees concerning with Handling of the Emergency if arises, any due to reasons whatsoever, related to operations, Maintenance and functioning of the plant As such, I request all workers to actively and honestly participate in the action plan of **SAPL** Raigarh,(On-site emergency plan) as per role given them, to make over self operational at any stage of emergency. It is hoped that this emergency plan shall further help to take precautions To maintain the unit most hazard free and ideal one.

We are highly thankful to all departmental Personnel who guide andhelp us to prepare this Onsite Emergency Plan. We also thankful to Shri Prakash Upadhyay Mob.-9424202720who give us his valuable time and suggestion to prepare this Revised Onsite Emergency Plan.

CHAPTER - 2

INTRODUCTION OF M/S SKY ALLOYS AND POWER LIMITED

2.1 INTRODUCTION OF FIRM

By viewing the vide demand of Sponge Iron as a better substitute for Steel Casting in place of Steel Scrap, by the small & medium Scale Unit for casting and also be due to easy availability of raw material for producing Sponge Iron. Directors of the Firm has set up a Medium Scale Unit in this region under the name as **M/S SKY ALLOYS AND POWER LIMITED** in Vill.- Temtema, P.O.- Rabartson, Teh.- Kharsiya, Distt - Raigarh (C.G.), lying about 27 KM from Raigarh for producing the Sponge Iron with a capacity of 60000 TPA with 2x 100 TPD Kiln and Generation of Captive Power 16 MW by WHRB & FBC Boiler in 1st phase and Ferro Alloys & SMS in 2nd Phase.

Company has xpanded the Unit in 2014 to utilize generated power in captive use, by installing Steel Melting Shop with 2x10 MT +1x6 MT Induction Furnace & CCM 6x11 m double strand in SMS + CCM Division for the production of Steel Ingots,Billets/Blooms and 2x9 MVA SAF in Ferro Alloy Div. (out of that only one Furnace (1x9MVA) will put in production of Ferro Alloys from 2014) for the production of All type of Ferro Alloys & Fly Ash Bricks.

Company expanded the unit in year 2022 by installing 2 more Kiln of 2x100 TPD in SI Division to enhance the capacity of Sponge Iron up to 1,20,000 TPA. In SMS & CCM Division installing 1 more Induction Furnace of 1x10 MT to enhance the production capacity of Steel Ingots, Billets/Blooms up to 1,00,000 TPA
Now Company is again going in Expansion by installing Rolling Mill Plant to manufacture TMT Bars, Wire Rods & other Steel Structural Section with a capacity of 1,20,000 TPA.

Our unit is registered with all Government Departments as well as with the directorate of Industrial Health & Safety .The factory License No. is.- **41039/41039/B-1, B-3, B-5/RGH/2m(i) .**

2.2 OCCUPIER OF THE FIRM

2.2.1 PROMOTERS

The company was promoted by Shri Ravi Singhal & Shri Sanjay Goyal. Under their active guidance the company has been continuously expanding and diversifying its activities and has recorded substantial growth. Other Director's list is enclosed herewith.

2.2.2 BOARD OF DIRECTORS

Following personnel are the Directors of the Company

1.	SHRI RAVI SINGHAL	DIRECTOR
2.	SHRI SANJAY GOYAL	DIRECTOR
3.	SHRI VIKAS AGRAWAL	DIRECTOR
4.	SHRI SANDEEP AGRAWAL	DIRECTOR
5.	SHRI SANDEEP SINGHAL	DIRECTOR
6.	SHRI VINAY AGRAWAL	DIRECTOR
7.	SHRI ARUN SINGHAL	DIRECTOR

2.2.3 OCCUPIER & FACT. MANAGER OF THE FACTORY

SHRI VIKAS AGRAWAL (DIRECTOR)
22,Sai Heritage Colony, Dhimrapur Chowk,
Raigarh (C.G.) PinCode: 496001
MobileNo.: 8435504041

2.3 BRIEF WRITE-UP ON M/S SKY ALLOYS AND POWER LIMITED

1..	FACTORY LICENCE NO.	**41039/41039/B-1, B-3, B-5/RGH/2m(i)**
2.	MANUFACTURING OF	**SPONGE IRON, GENERATION OF CAPTIVE POWER MELTING & CASTING OF STEEL TO MFG. STEEL INGOTS AND ALL TYPES OF FERRO ALLOYS**
3.	INSTALLED CAPACITY * SPONGE IRON * POWER GENERATION * STEEL CASTING * FERRO ALLOY * ROLLED STEEL PRODUCT * FLY ASH BRICK	 **1,20,000 TPA (4x100 TPD (ROTARY KILN)** **1x20 MW** **1.0 Lac TPA (3x10+1x6 MT IND. FURNACE & CCM)** **30,000 TPA (2x9 MVA SAF)** **1.2 Lac TPA (ROLLING MIL PLANT & BLOCK MILL)** **3 MILLION NOS. PER ANUM (proposed)**
4.	TECHNOLOGY FOR * SPONGE IRON * POWER GENERATION * STEEL CASTING * FERRO ALLOY * ROLLED STEEL PRODUCT * FLY ASH BRICK	 **SL / RN PROCESS (MODIFIED)** **FBC & WHRB BOILER AND TURBO GENERATOR** **INDUCTION FURNACE (INDOTHERM PROCESS)+CCM** **SUBMERGED ARC FURNACE** **HOT REROLLING OF STEEL BILLET/INGOTS** **MIXING WITH CEMENT& MOULDING UNDER PRESSURE**
5.	POWER (ELECTRIC FROM CSEB) CAPTIVE GENERATION	 **1,800 KVA** **20 MW**
6.	ENGAGED MANPOWER MEN WOMEN	**BELOW 1000 Nos.** **850 Nos.** **10 Nos. (for Office Job & House Keeping Work)**
7.	WIND DIRECTION	**SOUTH WEST to NORTH EAST (NORMALLY)**
8.	ECC (EMERGENCY CONTROL CENTER)	**IN THE OFFICE NEAR CHAMBER OF DIRECTOR**
9.	ASSEMBLY POINT	**GROUND NEAR GATE & ECC HAS BEEN MARKED AS ASSEMBLY POINT.**

CHAPTER - 3

ADDRESS, LOCATION AND PLANT LAYOUT

3.1 ADDRESS/LOCATION OF THE FACTORY:

Factory is situated about 27 KM. from Raigarh and 12 KM from Kharsiya, just inside the NH-200 in Vill.- Temtema, P.O.- Rabartson, Teh. -Kharsiya, Raigarh (C.G.). It is well connected with NH & Bombay-Hawrah Rail line and NH 200. The site is not located in densely populated area and the plant is scattered in around 48 Acres Land. Location of the factory and surrounding details are shown in Key plan shown below.

3.1.1 Factory/Office Address

M/S SKY ALLOYS AND POWER LIMITED
Vill.-Temtema, P.O.- Rabartson, Teh.-Kharsiya,
DISTT.- RAIGARH (C.G.)
Phone No.- Fact. – 084355-04046
Fax- 0771-4046097
Email :- skyalloys@yahoo.in

3.1.2 Regd. Office Address

M/S SKY ALLOYS AND POWER LIMITED
16-Recreation Road,
Opp.Chhattisgarh Gramin Bank
Choubey Colony, Raipur (C.G.)
Ph. No.- 0771-2253300
Fax- 0771-4046097
Email :- skyalloys@yahoo.in

3.2 PLANT LAYOUT

The overall plant layout is divided into two parts viz.
(The Plant Layout is shown as in attached PDF sheet)

(A) MAIN PLANT AREA

The plant is sub-divided into Two divisions viz.

(1) SPONGE IRON DIVISION
(2) POWER PLANT DIVISION
(3) SMS+ CCM PLANT DIVISION
(5) FERRO ALLOY DIVISION
(5) ROLLING MILL DIV.
(6) FLY ASH BRICK PLANT DIVISION (Prop)

1). SPONGE IRON DIVISION

This Division of Plant may further be subdivided into Four subdivisions viz

(i) RAW MATERIAL HANDLING YARD/SHED

In this section of Plant Raw material like Coal, Iron Ore are feeded Through Ground Hopper from stock yard for crushing and screening and further stored to day bin. Nos of worker ordinarily engaged/employed in this section are 20-22 Nos.

(ii) STOCK HOUSE

Graded Raw Material are stored in this section for further processing, Raw materials are Coal, Iron Ore and Dolomite. Nos of worker ordinarily engaged/employed in this section are 14-16 Nos.

(iii) KILN AND CONTROL ROOM

This Section of Plant consist 4x100 TPD, Kiln, Cooler and Control Room Building. Nos of worker ordinarily engaged/employed in this section are 32-36 Nos.

(iv) PRODUCT HOUSE, WEIGH BRIDGE ETC.

In the Product House Finished Product which is Sponge Iron is stored and dispatched after weighing, to the market. Nos of worker ordinarily engaged/employed in this section are 26-28 Nos.

2). POWER PLANT DIVISION

This Division of Plant may further be subdivide into Four subdivisions viz

(i) RAW MATERIAL HANDLING YARD/SHED

In this section of Plant Raw material like Coal, CharCoal, are stored in daybin & Flue Gases from ABC of Kiln are feed to Boiler to generate the Steam. Nos of worker ordinarily engaged/employed in this section are 10-12 Nos.

(ii) BOILER HOUSE

This section of Plant consist of 4 Nos. WHRB Boiler and 1 No. AFBC Boiler, Air Preheater etc. to generate the Steam used to Generate the Electricity. Nos of worker ordinarily engaged/employed in this section are 30-32 Nos.

(iii) TG BUILDING AND CONTROL ROOM

This Section of Plant consist Steam Turbine 1 No. coupled with Turbo generator by which Electricity is generated and for governing them, Control Room Building is there. Nos of worker ordinarily engaged/employed in this section are 32-36 Nos.

(iv) SWITCH YARD

Generated Electricity is wheeled to different section of Plant through Switch Yard. Nos of worker ordinarily engaged/employed in this section are 6-8 Nos.

3). **SMS+CCM PLANT DIVISION**

This Division of Plant may further be subdivide into Three subdivisions viz

I) MOULD PREPRATION & R.M. DIVISION

In this section of plant Raw Material like Sponge Iron, Scrap (i/c sorting & bundling of Scrap) Pig Iron and some Alloy are kept and feed to the Furnace by means of EOT as per the requirement. For some special casting if required moulds are prepared, at present for casting MS Ingots ready made CI moulds are used (purchased from market)and for MS Billets/Blooms/Slabs Billet caster is used. No of workers ordinarily Engaged in this Section are 10- 12 Nos.

(II) FURNACE , CCM & CASTING DIVISION

In this section of Plant trained workers are engaged, for supervising the process. As the melt fed on CCM/Moulds kept on casing bed. No of moulds are kept ready on casting bed to take the melt of a single heat or as fed to CCM for casting of Billet/Bloom/Slab by Billet Caster . No of workers ordinarily Engaged in this section are 16-18 Nos.

(III) FINISHED PRODUCT STORE

After casting of Billet/Bloom/Slab are shifted tocooling bed through Roller Table and then stacked for dispatch on Goliath Crane bay. and for MS Ingots all the moulds after pouring the hot melt in it are allowed to cool and then Castings are pushed out, again allow to cool and after removing risers and runners stacked for dispatch. The separated Slag during melting is allowed to Cool and then crushed to recover the entrapped metal which is about 8-10 % by magnetic separator. No of workers ordinarily Engaged in this section are 12-15 Nos.

4). <u>FERRO ALLOYS DIVISION</u>

This Division of Plant may further be subdivide into Four subdivisions viz

(i) RAW MATERIAL HANDLING YARD/SHED

In this section of Plant Raw material like Coal/Coke,Mangenese & Iron Ore and other alloy are stored in Storage/day bin and feed Through conveyor and skip charger to the furnaces after batching. No. of workers ordinarily engaged/employed in this section are 12-16 Nos.

ii) S.A. FURNACE & CASTING DIVISION

This section of Plant consist Submerged Arc Furnace , Casting Area, Feeding Section, Hydraulic section and Control Room, accompanied with Briquetting Plant, and Zigging Plant Nos. of worker ordinarily Engaged/Employed in this section are 10-15 Nos.

iii) FINISHISHING AND DISPATCH

Tapping beds where molten metal is tapped either in molds or in prepared sand boxes casted materials are carried to finishing section by means of EOT crane. In this section chipping knocking finishing etc. jobs are performed and after making proper gradation Finished Material after weighing and packing dispatch to the market. Nos. of worker ordinarily Engaged in this section are 12-16 Nos.

iv). POLLUTION EQUIPMENT

Smoke/Flue gases generated in furnace section are fluid in atmosphere after passing through these Pollution Equipment consist of Bag filter. ID Fan, Chimney etc. to make the working area and atmosphere pollution free. Nos. of worker ordinarily engaged in this section are 04-08 Nos.

5) ROLLING MILL DIVISION

ThisDivisions of Plant may further be subdivide into Five subdivisions viz

(i) RAW MATERIAL STORAGE, HANDLING YARD/SHED

In this section of Plant Raw material like Blooms/Billets are hot charged and feed to pusher bed or directly conveyed from Billet caster to roller table. Nos of worker ordinarily engaged/employed in this section are 05-08 Nos.

(ii) ELECTRIC AND CONTROL ROOM

This Section of Plant consist Electrical Panel, Control Room to govern the whole process. Nos of worker ordinarily engaged/employed in this section are 03-04 Nos

(iii) ROLLING MILL PLANT, WORKSHOP & MAINTENANCE

In this section of Plant trained workers are engaged, for supervising the process. As the Blooms /Billet pieces get hot up to about 1250 ^{0}C, Red Hot pieces are taken out and passes through Nos. of Roller Stand to give it required shape and finally after cutting ends placed on Cooling Bed to cool them up to normal handling temperature. Nos. of worker ordinarily Engaged in this section are 10-12 Nos.

(v) STACKING/BUNDLING & DISPATCH SECTION

In This section of Plant rolled section/wire Bundle from cooling bed are stacked on platform of EOT Cranes and load to trailer for final dispatch by means of Crane. Nos of worker ordinarily engaged/employed in this section are 06-08 Nos.

5). <u>FLY ASH BRICK PLANT DIVISION</u>

Fly ash collected in Silo is transported to end users or to Brick Mfg. Plant where Ash is mixed with cement and sand and mouled under pressure in Brick form and after curing dispatch to market for sale. Nos. of workers engaged in this section are 12- 14 Nos**.**

All working area, sections, etc. of these sub-divisions are well connected to each other through walkways & passages. The main road from entrance gate approaches all round inside the plant. In case of emergency, if arises, at any location, the people working at that location can easily rush to the entrance gate without any obstacle. Emergency egresses are shown in layout plan.

(B) ADMINISTRATION BUILDING, OFFICES & REST ROOM;

Since the area mentioned as (b) is not engaged with any manufacturing process or stacking of raw materials and finished products, here is no risk and danger in this area. Yet, the impact of any emergency if arises at main plant, may effects this area. Hence, this area is also incorporated in the On-siteEmergency Action Plan. Nos. of worker ordinarily engaged/employed in this section are 12-16 Nos.

3.2.3 Nearby Industries

There are some more Industries producing Sponge Iron, Steel products, Rolling Mill, Casting Unit etc. located in near by, Out of these industries, some of them are of Hazardous Category, In case of any accident like Fire/Explosion/Gas Release may commit in these Units then there may be possibility that, effect of such calamity may also affect our unit but not in full extent. Such hazards are detailed in Chapter-7. The Nearby/adjacent Units are listed below with them we have mutual coordination to help each other at the time of any emergency arises. Telephone/Mobile Nos. of Occupier/Fact. Manager for contacting them and the major facility available in their units are listed below :-

Sl. No	Name Of Near By Factory	Distance From Our Unit	Person to whom make contact	Contact telephone /Mobile Nos.	Facility available In Factory to over-Come emergency
1.	M/S RUKMANI POWER & STEEL LTD.	0.2 KM	Occupier /Manager	93033-29898	Trained Emergency Team Equipped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)
2.	M/S MONET ISPAT LIMITED	0.5 KM	Occupier /Manager	97520-94666	Trained Emergency Team Equipped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)
3.	M/S D.B.POWER LTD	0.7 KM	Occupier /Manager	07767-247563	Trained Emergency Team Equipped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)

3.2.4 Near by Population

Since, there is no any other hazardous chemicals / material except as listed in Chapter 6, stored or manufactured in the plant nor any highly inflammable material is stacked in the plant in a large quantity. The Range of Physical Propagation may limited up to 0.2 KM. from the Factory Site. Thus there is no risk and danger to the local people, residing in this area and in nearer villages. Villages surrounding the Factory are as follows:-

CIVIL POPULATION AROUND 5.00 Km. OF SAPL

SL.NO	VILLAGE NAME & DISTANCE FROM FACTORY (APPROX)	POPULATION (APPROX.)
01	TEMTEMA (1.0 KM)	800 - 900
02	KHAIRPALI (2.O KM)	600 - 700
03	KALMURA (3.0 KM)	400 - 500
04	PANDRIPANI (4.0 KM)	500 - 600
05	BINDUJHARYA (5.0KM)	400 - 500

3.2.5 Amenities Available in nearby to the Plant

Amenities like School, Colleges, Bazar etc are about at a distance of 7-8 KM apart, i.e. in Bayang Chowk Rabartson and in Kharsia City, Petrol Pumps are on N.H.-200 about 5 KM apart. Small Hotels are also on N.H. 1-2 KM apart. Clubs are in city Raigarh. Bus Stop-Bayang Chowk and Nearest Railway Station-Rabartson / Kharsiya are at a distance of 6-12 KM. Police Station is Kharsiya about 12 KM apart. Places of Worship are at a distance of 1KM to 5 KM from the Factory.

3.2.6 LAYOUT, LOCATION AND KEY PLAN

Note:- Layout Drawing o Plant with marking of Hazardos area ECC and Assembly Point Route of Escape etc., is attached as PDF Sheet separately.

CHAPTER – 4

ORGANISATION SET-UP AND KEY PERSONNEL OF M/S SKY ALLOYS AND POWER LIMITED

4.1 Name of Key Personnel

Occupier	: SHRI VIKAS AGRAWAL (DIR) (CIC)
Fact. Manager	: SHRI VIKAS AGRAWAL (WIC)
G. Manager	: SHRI SANJAY TRIPATHI (ASST. WIC)
Manager Mech.	: SHRI ANUJ SAXENA
. Manager (Logistic)	: SHRI INDRAJIT SINGH VINOD

4.2 ORGANISATION CHART :

SHRI VIKAS AGRAWAL (DIR) (CIC)
|
SHRI VIKAS AGRAWAL (FACT. MANAGER) (WIC)
|
SHRI SANJAY TRIPATHI (ASST. WIC)
|

: SHRI SANJAY TRIPATHI	: SHRI ANUJ SAXENA	: SHRI INDRAJIT SINGH VINOD
: GEN. MANAGER	: MANAGER MECH	: MANAGER LOGISTIC.

Special Trained Person from Key Personnel & Member of Crew Party

: SHRI R S TYAGI
: SHRI DIGVIJAY PATEL
: SHRI UTTAM VAISHNAV
: SHRI DEVANAND PATEL
: SHRI DULESHVAR DANSENA
: SHRI RUDRAPAL PATEL
: SHRI KAMAL PATEL
: SHRI HORILAL YADAV
: SHRI CHANDRIKA PATEL

Medical crew &
First Aid Trained Person

: DR. SHALABH AGRAWAL
: SHRI AJAY PATEL
: SHRI LAXMI PD.YADAV

CHAPTER - 5

MANUFACTURING PROCESS OF M/S SKY ALLOYS AND POWER LIMITED

5.1 THEORETICAL ASPECTS

5.1.1. SPONGE IRON DIVISION :- The main Technology involving for manufacturing Sponge Iron by SL/RN process i.e. Reduction process, is detaching the impurities (Deoxidation) of Iron ore and to carry it in its pure form of Iron. (from Fe2 O3 to Fe or FeO) For this 5-16 mm size of Iron, 25-150 mm size of Coal and Dolomite of 1-4 mm size is burnt in Kiln so that DeOxidation of Iron Ore takes place and purest form of Iron is produced.

5.1.2. POWER PLANT DIVISION- Electricity generation at our Captive Power Plant is by burning Coal Fines, Char, Dolo-Char and by the Inert Heat of Flue Gas as a Fuel for generating Steam, and running a Turbo Generator by that Steam. In other words, it is merely a chain of energy conversion as follows:-

A. Chemical energy of fuel is converted to heat energy to steam.

B. Heat energy of steam is converted to mechanical or rotating energy of rotating wheel called turbine.

C. The mechanical energy of turbine is converted to electrical energy in a generator.

This complete energy conversion cycle is ultimately providing the Electricity.

5.1.3 SMS PLANT DIVISION :-
Induction Furnace to Melt Sponge Iron for the production of good quality steel ingots and Billet /Bloom with CCM or Continuous/Bloom casting machine and Slag Crusher Unit to recover the Metal entrapped in Slag waste.

5.1.4 <u>FERRO ALLOY DIVISION</u> :- Submerged Arc Furnace 1 No of cap 9MVA is used (out of proposed 2x9MVA) for melting the Alloys and casted in Sand bed Mould. After chipping, Knocking and grading, dispatch for sale .

5.1.5 <u>ROLLING MILL DIVISION</u>

Either by feeding directly casted red hot Steel Billets/Ingots to Rolling Stand or feed after reheating (in Reheating Furnace fired by Pulverised Coal/Furnace Oil), feed to Rolled in different Roller Stand to give red hot piece of desired shape of Wire Rd ,TMT Bars or Small/Medium Structural Members, Stack them and dispatch for sale

5.1.6 <u>FLY ASH BRICK PLANT DIVISION</u>

Fly ash collected in Silo is transported to end users or to Brick Mfg. Plant where Ash is mixed with cement and sand and mouled under pressure in Brick form and after curing dispatch to market for sale.

5.2 MANUFACTURING PROCESS FOR PRODUCING SPONGE IRON

5.2.1 RAW MATERIAL HANDLING

Iron Ore, crushed in size at mines is transported at the plant and fed to Raw Material Plant. Iron Ore is fed into ground hopper and passed through different vibrating feeders and vibrating screens through belt conveyor and stocked in lump ore bin or fine ore bin situated at Raw Material bin building from where it is used as a fed material for rotary kiln. Coal transported from mines is passed through vibrating screen and coal crusher for crushing it in required size which is passed on vibrating screen for screening in fine and lump coal for different purpose. Dolomite is added to the kiln feed in order to control the sulphur content of the sponge iron. It has to be fed in a small size in order to ensure adequate distribution and reaction surface.

5.2.2 REDUCTION OF IRON ORE IN ROTARY KILN

The Sponge Iron Plant has designed and partly manufactured, erected and commissioned by M/s. BSBK Bhilai.

In the SL/RN Process the reduction is conducted in a refractory Lined Rotary KILN. The Raw Material viz., Iron Ore, Coal and Dolomite are fed into the Kiln. The Rotary Kiln of 3.8 metre dia and 43 metre length has been installed for reduction of Iron Ore to high grade Sponge Iron. The basic raw material consisting of iron ore in size of 5-20 mm mixed with coal and dolomite (coal in size of 3-20 mm and dolomite in size 3mm which works as catalyst for removing sulphur) is fed into the rotary kiln feed end in proper proportion with the help of weight feeders Coal is injected through the injection pipe from the discharge end of the Kiln.

The kiln at a slope of 2.5% with horizontal & rotation of the kiln facilitates the material to move along the kiln length and then continuously discharge after processing. To supply heat for the process, air is blown into the kiln through the central burner (08 Nos. air pipes). As the charge moves through the kiln it is heated by the gases which flows in opposite direction to the charge.

Temperature inside the refractory lined kiln is maintained from 850 to 1050 ^{0}C temperature from kiln inlet to outlet by burning coal with the aid of air. Air blower axially into the kiln and on the discharge end of the kiln. At the beginning light diesel oil is used to achieve the desired temperature and the fine coal dust is injected from the discharged end.

The temperature at which reduction process is carried out is basically determined by the reactivity of the coal to be used.

The chemical reaction which takes place in the kiln is as under:

Fe2O3+C --> FeO + CO (Endo Thermic)

CO2+«O --> CO (Exothermic)

Fe O + C --> Fe + CO

As a general rule the result of reduction is expressed by the degree/percentage of metalisation which is the relationship between the contents of metallic and total iron contained in the Sponge Iron. The metallization degree of the SL/RN product may reach upto 95-96%

$$\text{Metallization degree} = \frac{\%\ \text{Fe Melt}}{\%\ \text{Fe total}} \times 100\%$$

The Kiln discharge material which consist of Sponge Iron, Char and Dolochar is at about 1050 ^{0}C temperature goes into Rotary Cooler of 3.5 m dia x 50 m long by transfer chute. Water spray are used on the cooler shell to reduce temperature of the product to about 85 degree centigrade from 950 degree centigrade.Then the main product sponge iron with by product Char and Dolochar are separated with the help of Vibrating Screen and magnetic drum separators, and stored in yard/silos. A major quantity of the Sponge Iron is sold in the market and some quantity is proposed to used as basic material for Induction Furnaces to produce Steel.

As the Unit is now generating power by WHRB The waste gases coming out of kiln are burnt in After Burning Chamber (ABC) to eliminate Carbon Monoxide. These gases are passed through Waste Heat Recovery Boiler for generation of steam. The gas coming out of the Boiler is passed through Electro Static Prescipitator (ESP) for Pollution Control. After removal of dust in the gas in ESP these gases are discharged to the atmosphere via chimney of 48 mtr. height.

5.2.3 PRODUCT SEPARATION AND HANDLING SYSTEM

Discharged materials from rotary cooler is fed to the weight hopper. From this hopper, material is withdrawn by belt conveyor and continuously weighed. During normal operation, the cooler discharge is transferred to product separation building through belt conveyor. The cooler discharge 0-50mm is screened in double deck screen.Oversize material of 20-50mm is fed to Magnetic Separator -1 & fraction 0-4 mm to Magnetic Separator-2. Material of 4-20 mm size is fed into Magnetic Separator where magnetic and no magnetic materials are separated. Magnetic material of size 4-20mm are fed to the product conveyor and stored in silos.Fraction material 0-4mm coming from screen is fed to the Magnetic Separator where it is separated in magnetic and non magnetic parts. Magnetic material of size 0-4mm are fed to the belt conveyor, weighed on weigh feeder and transferred in DRI fines load out bin having capacity of 150 Tones. Non magnetic material coming from the Magnetic Separator are collected on belt conveyor and transferred into the 160 Tones non-magnetic dust bin.

5.2.4 EFFLUENT - TREATMENT

The hot gases which are coming out from rotary kiln are allowed to pass through After Burning Chamber where its inert heat is utilised to produce Steam by WHRSG and then to wet Scrubber. The purpose of using wet Scrubber is to cool the hot gases as well as supress solid coming out from Rotary Kiln. The water mixed with solids is then allowed to go into sedimentation tanks from where it is pumped into thickener. In the thickener this sedimentation water is separated out. The cleaned water is reused in the cooling system. The thickener discharged which is slightly acidic in nature is brought into the tank where lime is added and this liquid gets neutrilised. This neutrilised effluent is then taken into a series of settling tank where the solid gets separated. The solids are removed at intervals from the settling tanks and then are passed into low lying areas in factory premises.

In another way Hot gases are used to produce steam in WHRB which further used in Power generating section and flued gases passes through ESP where solid particles are arrested completely.

5.2.5 UTILITIES

a) Electrical Power :

The total requirement is 1500 KVA. Approx. about 135 to 150 units are consumed for 1 MT of sponge iron. This power is now available from our own Captive Power Plant or from C.S.E.B.. In case of non-availability of power, we have installed 2 No DG SETS of 750 KVA so as to run the rotary kiln and cooler and meet our emergency services.

b) Fuel :

LDO is used only at the initial stage to start the rotary kiln @ 50 ltrs/hrs for about 36 hours. After it the temperature inside the kiln is sufficient to get Coal Fines ignited. Average consumption of feed end is around 70% where as 30% coal is in the form of fines which fed and fired from kiln discharge end.

c) Compressed Air :

Compressed Air is basically used for lubrication system as well as to operate pneumatic cylinders. The requirement is apporx. 300 cum per kiln.

d) Water :

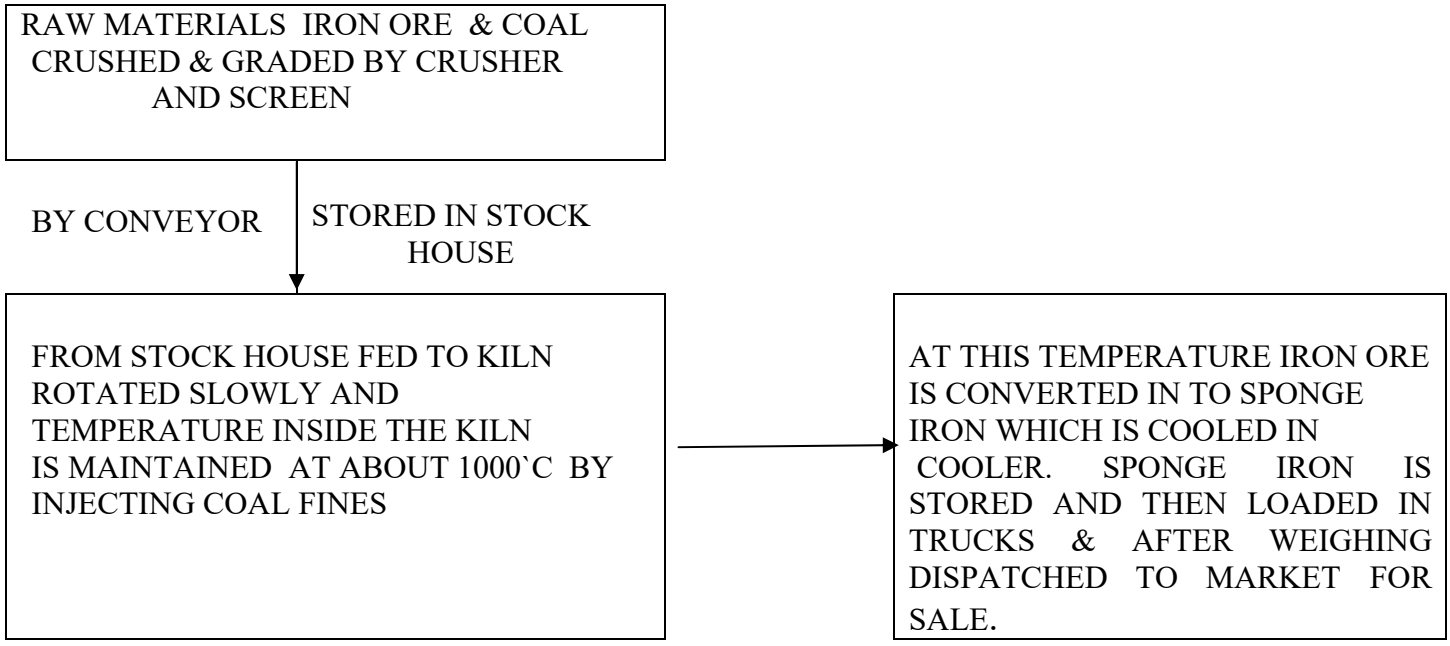
The water requirement in this process is quite substantial because it is used for basically two major purpose :-

i) Water is used in the wet scrubbing system for suppressing solids going along with the kiln exit gases

ii) Water is used for spraying in the cooler so as to cool the sponge iron coming out from rotary kiln from the temp. around 900~C to 85~C.

The total water consumption is approx. 4000-5000 ltrs of per tone of sponge iron produced.

5.2.6 PROCESS FLOW CHART FOR MFG SPONGE IRON



5.3 PROCESS FOR GENERATING POWER/ ELECTRICITY

Electricity generation at our Thermal Power Plant is by burning Coal Fines, Char, Dolo-Char and by the Inert Heat of Flue Gas as a Fuel for generating Steam, and running a Turbo Generator by that Steam. In other words, it is merely a chain of energy conversion as follows:-

A. Chemical energy of fuel is converted to heat energy to steam.

B. Heat energy of steam is converted to mechanical or rotating energy of rotating wheel called turbine.

C. The mechanical energy of turbine is converted to electrical energy in a generator.

This complete energy conversion cycle is ultimately providing the Electricity.

5.3.1 The Power plant consists of 1No.- 16 MW single cylinder single stage uncontrolled extraction, fully condensing type system turbine, designed, manufactured & supplied by M/S BHEL INDIA. The Turbine inlet steam Pr & Temp are 66.0 ATA & 480 ^{0}C respectively.

There is a total of 5 Boilers 4 of which are of Waste Heat Recovery (WHR) type & each of 10 TPH at 52 KG/CM2 (G) Pressure & 410 ^{0}C Temp. and Fifth one is Fludised bed Combustion (FBC) type of 45 TPH at 66.00 KG/CM2 (G) Pressure & 485 ^{0}C temperature Steam capacity and are designed, manufactured and supplied by M/S CETHAR VESSELS LTD, TRICHY. Thus total steam generated is 75 TPH 64.0 ATA & 480 ^{0}C

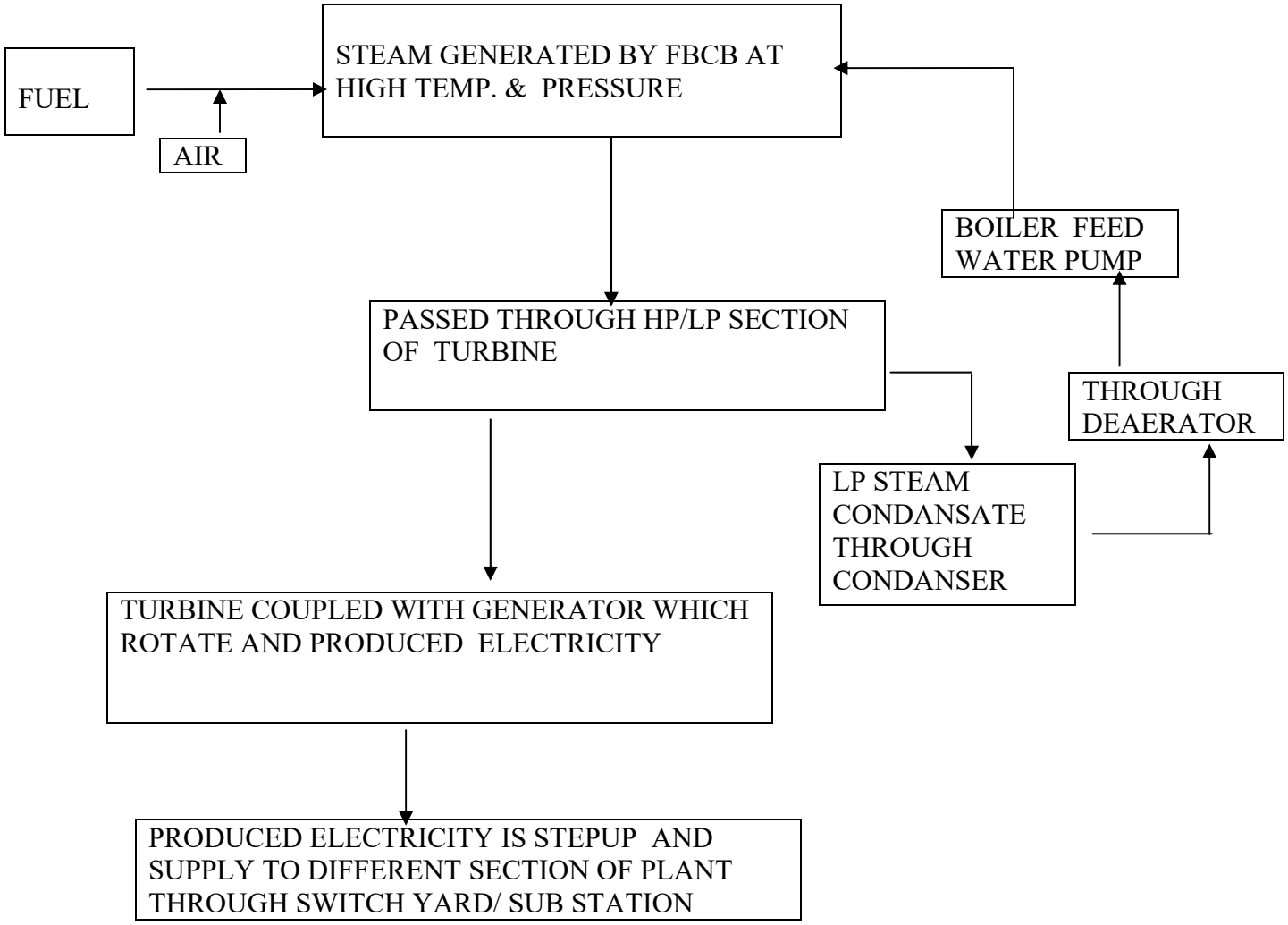
We will use Coal Fines/Dolochar/Char coal having GCV 2200 KCal/Kg. as a fuel from stock yards feed to the raw feed hopper by means of conveyors, and then for fludised Bed Combustion (FBC) of Boiler to generate super heated steam 45 TPH at 66 Kg./Cm2, 485 ^{0}C and in other 2 Nos. Boiler Steam is generated by using the inert heat of Flue gases from Kiln.

The bled quantity of 11 TPH at 3 Ata is taken to deaerator for removal of dissolved Oxygen in the boiler feed water, where make up water is added to take care of any loss of water in the cycle.

The balance of 64 TPH of high pressure steam will flows through LP section of Turbine and then to condenser for condensing. This super heated steam will drive steam turbine coupled with 16 MW, 11KV generator. So electricity will be generated at 11 KV, part of it about 12 MW will be diverted to Sponge Iron, SMS, Ferro Alloys and other Division of Plant and rest infirm will be used in Power Plant. Even though the balance quantity is step up with help of power transformer to 33 KV in sub-station and then switched to C.S.E.B. grid system by means of switch yard.

During the process of combustion of Coal/Char coal in FBC, Ash will produced, most of the ash will be carried along with the flue gas as fly ash. A very small percentage of ash about 05% will be drained from bottom of FBC furnace. As we provided ESP unit in path of flue gases, most of the fly ash will get collected and the clean flue gas with a dust loading of less than 50 MG/N m3 will be diffused to the atmosphere through chimney. Fly Ash will be transported pneumatically to the Ash Silo. The Fly ash will further proposed to used for mfg. Ash Bricks.

5.3.2 PROCESS FLOW CHART FOR POWER PLANT DIVISION



5.4 MFG PROCESS FOR SMS+CCM PLANT(INDUCTION FURNACE+CCM) DIVISION

5.4.1. GRADING & PREPARATION OF SCRAP

The scrap/sponge iron of different composition is to be segregated carefully so as to avoid any mix up.

5.4.2. MELTING THE GRADE

For the required chemical composition of steel all the raw materials i.e. sponge iron, steel scrap, Ferro alloys and other material are charged in the specially prepared refractory lined crucible of the induction furnace**.** The furnace is switched on and within one hour the charge starts melting**.** After melting of the charge sufficient quantity of Ferro alloys are charged**.** At the time when required temperature is attained by the molten bath, separate the slag from it carefully, thus metal is ready for tapping**.**

5.4.3. TAPPING OF MOLTEN METAL IN CCM/MOULDS

The molten metal is then tapped in the specially preheated ladle.The ladle filled with molten metal is taken to the position by crane, either to CCM where Blooms/Billets/Slab are casted or to casting platform where specially prepared moulds are kept for filling. After filling each moulds up to risers position the furnace is charged for the next heat.

The ladle is either placed on the Blooms/Billets/Slab casting machine. Hydraulic arrangement has been provided for opening the ladle bottom hole to take the molten metal in tundish. A required level of molten metal is maintained in the tundish & molten metal is fed to two strands, triple radius, mould tube and is cast into various sizes of Blooms/Billets/Slab. Blooms/Billets/Slab withdrawal Mechanism, straighter has been provided for withdrawal of the casted Blooms/Billets/Slab from the mould tube. The process is controlled by Digital Logic.

Permitting sufficient time for the solidification of the steel the moulds are then knocked out and the steel castings are freed from bones and risers. The castings are conditioned where-ever necessary by chipping & grinding or by gas cutting.

The castings are finally inspected for surface, internal soundness, dimensions, hardness, microstructure and other aspects. After final inspection castings are ready for dispatch.

5.4.4 PREPARATION OF MOULD

For ingots casting CI moulds are used. Even though for other job casting Moulds are prepared on basis of supplied pattern. As follows;-

It is one of the essential process for the castings. This consists of selection of proper quality of sand for moulds and cores, the sand is sieved for required sizes. Proper ingradients i.e. binders etc. are mixed in the sand muller mixer and 4-5% water is added.The core binders like molases dextrin, bentonite etc are proprietory items are added in the sand which varies with the types of castings. After proper preparation

of the mould for gas venting, gates and risers, the surfacre of the prepared moulds are coated and dried. The mould are then kept ready for pouring. In cases of hollow castings cores are prepared with silica,sand mixed with core oils and dried in ovens or treated with hot gas process. For ingots casting CI moulds are used.

5.4.5. ASSEMBLY OF MOULDS

For casting of inhgots of different sizes CI Moulds are used in which molten metal is tapped and can be used for many times The two halves of green sand/CI moulds as described are placed one over other by properly matching the shape thus the cores are prepared and are placed as required by the shape of castings. The pouring basin is properly cut, some weights are put on the top of this mould assembly, so that it does not get loosened.

5.4.6. STRIPING

The poured castings are stripped from the moulds assembly after three hours.

5.4.7. HEATING & PREHEATER

Casted Ingots are inspected and correct pieces are keep for anealing in normalizing urnace. and ladles are heated in prehe4ater (Vertical/horizontal)

5.4.8. CLEANING

The adhering sand is cleaned from the metal castings, runners, risers, gated sprue etc. are chipped off by chisel or by cut off wheels.Grinding is done to remove excess stuck metal on surface shots blasting is also be done to clean the each piece of ingotsd/jobs.

5.4.9. FINAL INSPECTION

Visual inspection are done after cleaning of castings and re-rolling of section, which are irreparable are rejected and again charged in the furnace.

5.5 PROCESS FLOW CHART FOR CASTING OF STEEL INGOTS/BILLETS IN SMS DIV.

MATERIAL GRADING
|
|
V
MELTING
|
V
ALLOY ADDITION
|
PREPARATION OF MOULDS & PLACING IN POSITION
|
V
TAPPING IN MOULDS
|
V
PRE INSPECTION & HEATING
|
V
CLEAN
|
V
SCREENING/SORTING
|
V
HARDENING
|
V
TEMPERING
|
V
FINAL SORTING
|
V
PACKING & DISPATCH

5.6 MANUFACTURING PROCESS OF FERRO ALLOY DIVISION

Main technology involved in the production of Ferro Alloy (Ferro Manganese Ferro Silicon, Ferro Chrome etc.) and HC Ferro Manganese is as follows**.**

5.6.1 SAF PLANT (Submerged Arc Furnace)

The manufacturing process identified for this unit is one which is well established and common, and presently being followed by majority of similar manufacturing units mostly in Large or medium scale sector.

As per present globally accepted process most of Ferro Alloys are produced in submerged Arc Smelting Furnace (A 3-phase Furnace) power to the furnace is supplied from Furnace transformer to Furnace through 3 Nos. soderburg Electrodes.

Raw material Samples of Mn Ore, Coke, Dolomite is taken from raw material storage then tested for its chemical composition and noted. Before preparation of charge, necessary Ingredients by weight are added through Day Bin.

Batching charge is fed in the Furnace, Arc is produced by electric. Gets heated up due to I2R effect of high current passing through the charge from the three Electrodes At certain temperature about 1500~C Chemical reaction take place, Carbon present in the charge reacts with the Oxides of manganese, Oxides of Iron and Oxides of Silicon, Thus Metallic Manganese, Iron and Silicon are smelted and separated from the ores. Unreacted materials, impurities and residual lower Oxide, form slag. Metal and Slag in molten form Gets collected at the bottom of Furnace. These are tapped out from Tap Hole provided at bottom side of furnace after each interval of 2 Hours. Tapped Molten mass consist of mixture of Metal & Slag. Metal is separated out from slag by gravity separation method.

Production process is continuous. Load of the Furnace during smelting and tapping period more or less remains same.

Following Chemical reactions take place:

$3Mn_2O_3 + C \longrightarrow 2Mn_3O_4 + CO$
$Mn_3O_4 + C \longrightarrow 3MnO + CO$
$MnO + C \longrightarrow Mn + CO$

Oxides of manganese present in the Ore get to reduced Metalic manganese with Carbon of reducing agents and Carbon Mono-oxides is liberated.

High Manganese slag is also used as raw material for extraction of Manganese is present in the form of MnO and chemical reaction is as under:

$MnO + C \longrightarrow Mn + CO$

Iron is present in Manganese Ore & in Dolomite in Oxide form as Fe_2O_3.
It gets reduced to Iron with following chemical reaction

$Fe_2O_3 + 3C \longrightarrow 2Fe + 3CO$

Silicon is present in the Raw Material, in the form of SiO_2, SiO_2 is present in Manganese ore, reducing agents high Mn Slag, Quartz etc. Silicon is smelted from SiO_2 as per following reaction :

$SiO_2 + 2C \longrightarrow Si + 2CO$

Thus in smelted molten metal, Mn, Fe, Si are present in the molten Form. Metal so smelted Is called Silicon Manganese. The metal content some carbon in dissolved state as carbides of Metal. Certain amount of Phosphorus is also present in the Metal. This is smelted from Phosphate present in the Manganese Ore and Reducing agents.

It may be noted that entire oxide of Manganese do not get reduced to Metalic Manganese.

Certain amount of manganese in MnO form remains unreacted and forms a part of slag. Similarly, certain amount of SiO_2 remains unreacted and forms a part of slag. Dolomite/Lime Stone is added to provide proper fluidity to slag. Hence CaO and MnO of these fluxing materials are also a part of slag.

Thus during smelting of Silico Manganese (Si Mn), Metal produced contains Mn, Si, Fe and C& P as impurities. Slag consist of MnO, SiO_2, Al_2O_3, CaO, MgO etc.

Product is separated on its cooling and after chipping, knocking and sizing Finished Product Ferro Alloy /Ferro Manganese, Silico Manganese, Ferro Calcium are dispatch for Sale.

5.7 PROCESS FLOW CHART OF FERRO ALLOY DIVISION

PROCESS FLOW CHART OF SAF PLANT

RAW MATERIAL GRADING & FEEDING TO FURNACE
(Mn ORE, COKE, DOLOMITE ARE MIXED WITH FLUXES
BRIQUETTE AND OTHER INGREDIENTS)

SMELTING IN FURNACE
(SUBMERGED ARC FURNACE)

AFTER LIQUIDATION

LIQUID METAL CASTED IN BLOCKS

AFTER COOLING AND SIZING
PACKED AND DISPATCH FOR SALE

5.8 MANUFACTURING PROCESS FOR ROLLING MILL DIVISION

5.8.1 REROLLING OF STEEL

Red hot Billets imported from SMS Division/Billet Caster are directly pushed in Rollers or Steel Blooms/Billets piecesimported from other Unit are pushed in furnace by means of pusher m/c for heating up to 1200-1250 degree centigrade temperature then these red hot pieces of steel are taken out from furnace and then passes through Block Mill and different Roller Stand of required sizes to rolled steel pieces in different section such as Wire Rod, TMT Bars, Angles, Channels, Tees, section etc. (if Demanded) of different size Cut through Rotary Shear in required length and allow to cool in cooling bed, after straightening and making final inspection stacking onGoliath Crane Bay platform and dispatch for sale.

5.9 PROCESS FLOW CHART FOR REROLLING OF STEEL (ROLLING MILL DIVISION)

IMPORTED RED HOT STEEL BILLETS PIECES ARE PUSHED IN STAND
OR IMPORTED STEEL BLOOMS /BILLETS PIECES ARE CUT
|
V
FEEDING IN OIL FIRED REHEATING FURNACE FOR HEATING
(IF REQUIRED)
|
V
ROLLED IN ROLLER STANDS TO MFG. WIRE ROD, TMT BARS ETC.
CUT BY ROTARY SHEAR
|
V
COOLED ON COOLING BED
|
V
STRAIGHTENING AND END CUTTING IF REQUIRED
|
V
INSPECTION/SORTING/STACKING
AND DISPATCH FOR SALE

5.10 MFG PROCESS OF FLY ASH BRICK PLANT DIVISION

5.10.1 Fly ash and Bed Ash collected in Silo is transported to Brick Mfg. Plant where Ash is mixed with cement and sand in Mixer pan and conveyed to Moulding M/C where mix is mouled under pressure in Brick form and shifted to curing bed by trolly, after curing dispatch to market for sale.

5.11 PROCESS FLOW CHART FOR FLY ASH BRICK PLANT DIVISION

FLY ASH, CEMENT SAND ETC. ARE IMPORTED TO PLANT
|
V
A BATCH IS PREPARED OF ALL RAW MATERIAL AS PER REQUISITION
|
V
MIXED IN MIXER PAN
|
V
PREPARED MIX IS CONVEYED THROUGH CONVEYOR TO MOULDING M/C
|
V
MIX IS MOULDED IN BRICK FORM UNDER PRESSURE
V
MOULDED BRICKS ARE SHIFTED TO CURING PLATFORM BY TROLLY
|
V
CURING IS ALLOWED FOR 8-15 DAYS , TO GAIN THE PROPER STRENGTH OF BRICKS
|
V
THUS PREPARED FLY ASH BRICK IS TRANSPORTED/DISPATCH FOR SALE

CHAPTER - 6

SALIENT FEATURES OF M/S SKY ALLOYS AND POWER LIMITED

I). The Steel Integrated Plant of **SAPL.** is engaged in production of the following in its different section:

01. SPONGE IRON DIVISION

.

High grade Sponge Iron - Through iron ore, coal and dolomite. The installed capacity of the Sponge Iron is 1.20 Lac Tons per annum, Comprising of Three Sponge Iron Kilns with cooler, Two More Proposed, Raw Material Handling system Stock House and Product House and other Utilities.

02. POWER PLANT DIVISION

Captive Co-generation of Electrical Power - By recovering waste heat of Sponge Iron Division of flue gases and by FBC Boiler too.

By recovering waste heat of Sponge Iron Division (flue gases) and by FBC we are generating 16 MW power.

Comprising of (a) Waste Heat Recovery Boilers- 4 Nos & FBC Boilers -1 No.
(b) Turbine Generator 1 No (c) ESP & (d) Switch Yard & Transmission system.

03. SMS PLANT DIVISION

Induction Furnace to Melt Sponge Iron for the production of good quality steel Billets/Ingots @ 1.0 Lac MT per annum is made through Induction Furnace 03 Nos. – 3x10 MT+1x6 MT Capacity & CCM of 6/11m dia double strand.

04. FERRO ALLOY DIVISION

Manufacturing of Ferro Alloys – By submerged Arc Furnace .

Ferro Alloys will be proposed to mfg in submerged Arc furnace – 1x 9 MVA the (out of proposed- 2 Nos.) capacity will be 0.165 Lac MT per Annum.

Comprising of (a) Raw Material Handling Yard and Storage Bin.

(b) 1x9 MVA Furnace with Charging and Tapping Facility

(c) Pollution Control Equipment

(d) Chipping, Knocking, Packing and Dispatch Section.

05. ROLLING MILL DIVISION

Rerolling of Steel to Manufactured Wire Rod, TMT Bars and Heavy/Medium Structural Members By Hot Rerolling.

Either by feeding directly casted red hot Steel Billets/Ingots to Rolling Stand or feed after reheating in FO fired Furnace. Capacity of Rolling Mill Plant will be 1,00,000 MT per Annum.

Comprising of (a) Conveyor Roller table to import casted billet directly from SMS/CCM Division (Oil Fired Reheating Furnace with FO Storage Tank (proposed) (b) Drives with Electric Motor, Fly wheel, Gears and Roller Stand, TMT processing Unit Pinch Roller and Rotary Shear (c) a well equipped Workshop for maintenance of different machines Parts (d) Stacking and Dispatch section i/c Goliath Crane Bay.

05. FLY ASH BRICK PLANT DIVISION

Fly Ash Brick Plant is to produce Ash Brick from generated Fly Ash/Bed Ash of Power Plant and thus To reduce pollution. Fly Ash Brick having production capacity of 3 million Bricks per Annum

Comprising of (a) Raw Material Fly Ash, Cement, Sand handling Yard, Batching Plant and Hopper
(b) Pan Mixture and conveyor system
(c) Brick Moulding M/C, with hydraulic/pneumatic pressure system and brick carting trolly.
(d) Curing arrangement and loading facility.

II) PLANT AND MACHINERY

The basic process consist of following major equipments:

6.1 SPONGE IRON DIVISION

6.1.1. KILN & COOLER

There are 4 Nos. 100 TPD Refractory Lined Rotary Kiln with Rotary Cooler. The size of Kiln is 3.8 mts in dia and 43 mts in length mounted inclined to downward slope is there.The R.M. feeded in its upper end and the finished product with the by product are drawn at lower end. Drawn material are cooled in cooler by spraying water on shell.

6.1.2 RAW MATERIAL HANDLING YARD

There are separate handling yard for Iron ore, Coal & Dolomite. All the Raw materials are brought by transportation and after weighing are unloaded in yard. it is then fed into the intake hopper from where it is carried to crusher to minimise to appropiate size and then to the plant.

6.1.3 PAY LOADER AND TIPPER

Graded quantity of Raw Material from stock yard are feed to intake hopper on demand by means of pay loader and tipper.

6.1.4 CRUSHER WITH VIBRATORY SIEVE

There are number of Crusher with vibratory Sieve to make the appropriate size of R.M Higher size are recycle to the crusher and lower size are disposed. These crusher are connected with conveyor system.

6.1.5 D.G. SET

There is 2 Nos. D G SETS of capacity 750 KVA for generating the electricity to start the process after shut down and to meet emergency services.

6.1.6 CONVEYORS

For carrying material from one section/machines to another, well equipped conveyor system is there.

6.1.7 WEIGH BRIDGE

There are two Electronic Weigh Bridge for import RM and export Finished product of capacity 60 MT and 100 MT

6.1.8 MOBILE CRANE

There are total 1 No of Mobile Crane in Plant near to Kiln Shed of cap. 10 MT used for lifting and loading purposes.

6.1.9 DIESEL/ LDO TANK

There are 2 Tank of capacity 12 KL for storing the HSD/LDO to be used in DG Set and for initiating the combustion in Kiln.

6.1.10 WATER HYDRANT POINT AND FIRE EXTINGUISHER

To meet the Fire Hazards if occur, to sprinkle the water at every section of Factory. Water Hydrant Point with single headed and double headed nozzle and Fire Extinguishers are provided in sufficient numbers all round inside and outside the factory structures.

6.2 POWER PLANT

6.2.1 WASTE HEAT RECOVERY BOILER -4 NOS.

There are 4 Nos. WHR Boiler which converts inert heat of Flue Gases into heat energy of high temperature, high pressure Steam. In the Sponge Iron Plant the kiln ABC flue gas is let out at a rate of 12000 cum/h to 15000 cum/h at a temperature range of 900 oC to 1050 oC depending upon the Iron Ore Feed rate and process requirements. This kiln waste gas when passed through a heat recovery steam generator made of radiant/conductive heat transfer surfaces, can generate 40 T/hour steam at 52 kg/cm2 pressure and 410 ^{0}C Temperature.

6.2.2 COAL/DOLOCHAR/CHAR FIRED F.B.C. BOILER -1 NO.

A High pressure Coal/ Dolochar/Char Fired Boiler which converts the chemical energy of fuel into heat energy of high temperature, high pressure steam. The fuels (Char,Dolo-Char and Coal Fines) are burned in a FBC Boiler to generate 45 T/hour steam at 66 kg/cm2 pressure and 485 ^{0}C temperature.

6.2.3 STEAM TURBO GENERATOR SET OF 16 MW

This mainly consist of

(A) Two 'Turbine' which is driven by the Steam feed to it. It converts heat energy into mechanical energy. The Turbine is driven at minimum 2500 rpm for generating power.
(B) A 'Generator' which is driven by the Turbine by means of which it generates "Electrical Power" by converting mechanical energy into electrical energy.
(C) A 'Condenser' which condensate the steam in water, after it work on Turbine.
(D) 'Boiler feed pumps' it pumps back the condensed water in the condenser back to Boiler along with water from D.M. Plant for further production of Steam.

6.2.4 ELECTRICAL SUB STATION AND SWITCH YARD

There is a Sub Station and Switch Yard from where the generated electricity is diverted to SID, SMS Plant, in house use of Power pant and other division of plant and even though balance infirm quantity step up and then switched to CSEB Grid line.

6.2.5 AIR COMPRESSOR

Air from atmosphere is drawn and compressed it for control and instrument purposes and other miscellaneous plant use.

6.2.6 D.M. PLANT/WATER TREATMENT PLANT

Water from Borewell are pumped and collected after pretreatment in under ground and over head tanks of capacity 60000 cum. Part of it is chemically treated by a process called 'Deminaralisation Process' in DM Plant ,(DM Plant of 15.5 M3/hr capacity) such water is free from any salts and ions and fit for Steam generation and are separately stored in D.M. water tanks.

6.2.7 ASH HANDLING PLANT/SYSTEM

In the Rotary Kiln ash particles formed due to combustion of Coal/Dolomite are present in flue gases even after it passes through ABC and Wet scrubber is evacuated in the Ash handling section. Accordingly in FBC 95% of the Ash called as Fly Ash is arrested by "Electrostatic precipitators" (it is also known as Main Pollution Control Device). The remaining 05% of ash which is called 'Bottom Ash' collects itself in the bottom of the boiler.Thus the produced Ash will be collected Iin Ash Silo and put in use through Ash Handling System and disposed off to end users like sodium silicate manufacturer, bricks manufacturer etc. Presently its maximum part will utilized in Brick Plant Division for mfg. Ash Bricks.

6.2.8 POLLUTION CONTROL DEVICES

For controlling the Air pollution the main device "Electrostatic Precipitator" is there by which fly ash is retained to defused in Air, only Flue Gases coming out from Kiln and Boiler (due to combustion of Coal) by means of Chimney/Stack and ID Fan (+110' height) is diffused in atmosphere.

6.2.9 AIR COOLED CONDENSOR

We have provided a new device Air Cooled condenser to condensate the steam. The steam from the steam turbine exhaust is ducted to the manifold or air cooled condenser, supplied by M/S GEI Hamon Ltd. It is 5 molds, 5 Fans, Aluminium LL Fin type Air Cooled Condenser. The Condensate(water) from the condenser is fed to the deaerator through condensate extraction pumps & ejectors. The condensate from Deaerator is further fed to Boiler through 2 x 100 % motor driven feed pumps.

6.2.10 AUX. COOLING TOWER

There are 2 celled induced draft cross flow wooden Cooling Tower supplied by M/S Paharpur Cooling Towers, circulating water pumps, water storage tank of capacity 250 M3, Cooled water from cooling tower is pumped to the condenser coil where it condensed the steam (condensed water fro steam is reused as feed water for producing steam in Boiler) and to cooler to cool the exit product from Kiln.The returning water get hot which is again pumped to the cooling tower for cooling.

6.2.11 WATER HYDRANT POINT AND FIRE EXTINGUISHER

To meet the Fire Hazards if occur, to sprinkle the water at every section of Factory, Water Hydrant Point with single headed and double headed nozzle and Fire Extinguishers are provided in sufficient nos. all round inside and outside the factory structures.

6.2.12 EOT CRANE

There is 1 No of EOT Cranes mounted on Turbine Shed used for lifting and loading of capacity30 MT.

6.2.13 LABORATORY EQUIPMENTS

There is one Laboratory well equipped for analysing the Raw water.Chemical composition of Fuel and Testing the Properties of steam etc. along with the quality of Sponge Iron.

6.3 SMS PLANT/ INDUCTION FURNACE DIVISION

6.31 INDUCTION FURNACE

In the Factory a medium frequency furnace of capacity 3x10 MT+1x6 MT with 2 crucible each are installed to meet production target**.** Power of 3x3800 KVA is used for melting the scrap. For lining the furnace acid/base refractory bricks are used depending upon the grade of steel to be melted.

6.3.2 BILLETRS/BLOOM CASTING M/C (CCM)

For casting Billets/Blooms there is a Billet/Bloom Casting M/C (CCM) is there with different size of mould and Roller Stand to carry away the castedv Billets are needed in which molten metal is poured and after cooling it will be separated from the mould. For this nos. of moulds of required size are needed

6.3.3. MOULD BOXES

For casting steel, molds are needed in which molten metal tapped and after cooling it will be separated from the mould. For this we use & Store nos. of CI Moulds of required size.

6.3.4 PATTERN MAKING SHOP

To prepare moulds of any kinds of parts or jobs a wooden pattern are prepared . these pattern are used to prepared the mould of particular parts in which casting is done.

6.3.5. DOUBLE GIIRDER EOT CRANE- 3Nos. (i/c Magnetic crane)

It is to be used for placing the laddel in the place, where molten metal is poured in it and then to moulds. It also be used for shifting furnace/moulds etc.

6.3.6 AIR COMPRESSORS

It is required to supply compressed air to machines operated pneumatically and also for cleaning out risers and runners of moulds.

6.3.7. GRINDERS

Used for removing the runners and risers or any other extra material sticking to the castings. It is also used to fettle the casting.

6.3.8. COOLING TOWER

During the process of Casting cooled water is circulated through Furnace which get hot during the Process and cooled in cooling Tower.

6.3.9. SUB STATION

Electricity supply to this division of Factory by CSEB sub-Station situated in Siltara and from our own Switch yard since we generate Power of 16 MW for captive use. A small sub-station is situated Within Factory premises bounded by barbed wire fence as per specification

6.3.10 D.G. SET

To meet the requirement of Power at the time of Emergency/Power cutoff in the factory to run emergency light/Pumps etc, a D.G. set of 2x 500 KVA capacity are kept in a lean to shed.

6.3.12 LADDLE PRE HEATER

The moulds, laddle are dryed before pouring the melt in it. to avoid the difference in temperature of Poured pot. So that explosion or cracking of molds are avoided.

6.3.13. SLAG CRUSHER

Slag Crusher are installed to recover the metal entrapped in separated Slag from molten metal. It is equipped with Crusher, Disintegreter, magnetic separator, Ball Mill etc. too.

6.4 FERRO ALLOY DIVISION

6.4.1 FURNACE TRANSFORMER

There is Transformer of capacity 9 MVA used to produce Arc in Submerged Arc Furnace.

6.4.2 ARC FURNACE

There is 1 No. Arc Furnace of capacity 9 MVA & 1x 9.5 Mts dia is used for smelting the Grade specially mixed and charged in it Temp. about 1500`C is produced inside the furnace by producing Arc by carbon Electrode.For lining the furnace acidic/basic refractory bricks are used depending upon the grade of Ore/Concentrate to be smelted.

6.4.3 COKE/COAL HANDLING SYSTEM

It consist of Ground hopper and Conveyor System, Coke/Coal is transported from mines of required grade and after screening and briqueting stored in Day bin for day to day use.

6.4.4 RAW MATERIAL HANDLING SYSTEM

Depends upon the charge to be melted as per the requirement Ferro Alloys, Mangenese, ,coal, Briqueteetc are stored in yard and through Ground Hopper, conveyed to Day bin for storing by conveyors

6.4.5 STORAGE BIN/DAY BIN

Since coal, coke is used in huge mass in Arc Furnace, in different quality depends upon Charge to be melted, So for day use it is stored in Bins, which are 12 Nos. From day bins coal along with Ore/ Concentrate are taken in bucket and with the help of EOT Crane/Skip Hoist charge in Furnace.

6.4.6 EOT CRANE AND SKIP HOIST

There are 3 Nos. EOT Crane, out of which one Single Girder Crane of 2x2 MT capacity used for charging Raw material in Furnace and 2 No. Double Girder of capacity 10 MT used for Finished Product and Slag loading.

6.4.7 BLOWER

The entrapped dust is separated by means of blowing the air through Raw materials and Finished Product.

6.4.8 AIR COMPRESSORS

It is required to supply compressed air to machines, operated pneumatically and also for cleaning out risers and runners of moulds.

6.4.9 GRINDERS

Used for removing the runners and risers or any other extra material sticking to the castings. It is also used to fettle the castings.

6.4.10 D.G. SET

Diesel Generator sets are prop. to use to produce Electricity at the time of power cut-off of capacity 1X125 KVA, to meet the Emergency Services.

6.4.11. SUB STATION

Electricity supply to this division by a small Sub-Station is situated within Factory premises bounded by barbed wire fence as per specification. Transformers of capacity 5MVA are there.

6.4.12. WORKSHOP

A small Workshop consist One Lathe m/c, One Shaper m/c, One Drill m/c, One Grinder & Two Welding m/c are there for the maintenance of machine parts used in this factory.

6.4.13 POLLUTION CONTROL DEVICE AND CHIMNEY

A well equip and best suited Pollution control Device are there to arrest the Carbon particle entrapped with fluid smoke, consist 2 Nos. Chimney with Blower

6.4.14. WATER HYDRANTE POINT AND FIRE EXTINGUISHER

To meet the fire hazard if occur, water hydrant Pipe line of 4" dia is laid all round with hydrant Points 04 Nos. with pipes and Nozzles fire box and fire extinguishers about 08 Nos. are provided inside and outside the Factory building. Also be the sand bucket stand 12 Nos. are placed near all working sheds. Beyond it water sprinkling in filling/storage shed, Lorry Platform is provided.

6.4.15 COOLING TOWER

During the process of Casting cooled water is circulated through Furnace which get hot during the process and cooled in cooling Tower.

6.4.16. LABORATORY EQUIPMENTS

In the laboratory some chemical/physical properties of manufactured Steel Products, Ingots, Forged Balls etc are tested such as % of carbon & hardness and Density. Hence the equipments for performing these tests are keep in laboratory.

6.5 ROLLING MILL DIVISION

6.5.1 PULVERISED COAL/OIL FIRED FURNACE (PROPOSED ON REQUIREMENT)

There will a PulverizedCoal/Oil Fired Reheating Furnace 70 Feet long will be used for heating Steel Billets/Blooms up to required 1200-1250 deg. cent. temperature so that ingot/Bloom pieces can easily be Rolled/Molded in required shape of Steel Section. (presently in our unit Casted Red hot Pieces of Ingots/Billets are directly feed to Roller Stand through Roller Conveyor.)

6.5.2. ELECTRIC MOTOR, FLY WHEEL AND GEAR ASSEMBLY

Heavy Electric Motor of 375-1600 HP with Fly Wheel and Pinion & Reduction Gear assembly attach with Roller Table and Stand in 4 Drives operated by means of ACB (Air Circuit Breaker) are there.

6.5.3. ROLLER STAND

Red Hot pieces of Billets/Ingots are passes through Roller Stand of diff. sizes to make a required section of Steel.

6.5.4. ROLLER CONVEYOR/TABLE

To carry the red hot piece of steel from one stand to another Roller Table/Conveyor are used.

6.5.5. STRAGHTENING & END CUTTING M/C

By means of Straightening M/c the Rolled Steel sections are straighten if required and Ends of Rolled Section are cut by means of End cutter.

6.5.6. PUSHER M/C

Steel Blooms/Billets are placed on pusher bed and by means of pusher m/c pushed in the Furnace.

6.5.7 COOLING BED

After Re-rolling of required section from last stand goes to Cooling Bed which consist end cutting m/c too. On this bed Hot Rolled Steel section are allowed to cool up to handling temperature for stacking to dispatch.

6.5.8. HOIST/CRANE

There are 2 Nos of Hoist/ Cranes of Capacity 3.0 MT used for Handling and shifting Heavy Parts of Machines Raw Material and Finished Products like Roller, Steel Section etc.

6.5.9. AIR COMPRESSORS

It is required to supply compressed air to machines operated pneumatically and also for cleaning out risers and runners of Finished products.

6.5.10. COOLING TANK

During the process of Re-rolling cooled water is circulated through Roller Stand which get hot during the process and cooled in cooling Tank.

6.5.11. CHIMNEY & I.D. FAN WITH POLLUTION EQUIPMENT (PROPOSED)

To achieve the required temperature in furnace, Furnace Oil is used for firing, hence generated smoke is emitted in the atmosphere by means of I.D. Fan and Chimney after allowing settlement of dust particle in pollution equipment.

6.5.12. SUB STATION

From Switch Yard Electricity Below 4000 H.P. is supply to this division of Factory by this small Sub-Station and then to Control Room from where to the different section of Factory, situated within Unit/Factory premises bounded by barbed wire fence as per specification.

6.5.13. WORKSHOP

A well equipped Workshop consist 14 Lathe m/c, 4 Shaper, Three Radial Drill/Drill m/c, 8 Nos. Grinder, one Hoist of cap 5.0 MT & Eight Welding m/c are there for the maintenance of machine parts used in this Factory.

6.5.14. WATER HYDRANT POINT AND FIRE EXTINGUISHER

To meet the Fire Hazard if occur, Water Hydrant point and Fire Extinguishers are provided all round the Factory shed and building and near Coal/FO Storage Tank.

6.5.15 GOLIATH CRANE/JCB

There are 2 Nos of Goliath Cranes moved on tracks used for lifting and loading R.M. & Finished Product of capacity 10 MT.

6.5.16 D.G. SETS

Diesel Generator sets are there to use to produce Electricity at the time of power cut-off of cap. – 1x500 KVA and 1x250 KVA to meet the Emergency Services.

6.5.17. LABORATORY EQUIPMENTS

In the laboratory some chemical/physical properties of manufactured Steel Products, Structural sections are tested such as % of carbon & hardness and Density. Hence the equipment for performing these tests are keep in laboratory.

6.6 FLY ASH BRICK PLANT DIVISION

6.6. 1 DAY BIN HOPPER

Different raw materials like Fly Ash, Cement Sand etc. are imported and stored in day Bin.

6.6.2 BATCHING PLANT

Raw materials are batched and conveyed to Mixing Pan as per the Batch requirement by this Batching Plant.

6.6.3 CONVEYOR SYSTEM

To carry the material from one place/machine to another machine Belt conveyors are used.

6.6.4 MIXING PAN

Batched Raw Materials are mixed in Mixing Pan and mixed is conveyed to Moulding M/C

6.6.5 MOULDING M/C WITH HYDRAULIC SYSTEM

Prepared Mix of Fly Ash & other RM is moulded in Brick Form and compressed by Hydraulic System attached with M/C.

6.6.6 CARTING TROLLY & CURING PLATFARM

prepared Fly Ash Bricks are carted to curing platfarm by carting trolly and allow to cured for 7-15 days and then dispatch for Sale.

6.7 GENERAL SECTION/DIVISION

6.7.1 L.P.G. CYLINDERS

L.P.G. is used as a fuel for Cutting/Welding for this LPG Commercial Cylinders are imported about 15-20 Nos. and placed on properly marked Platform. These cylinders are conveyed/carried as per demand/use to the working place/workshop.

6.7.2 OXYGEN GAS CYLINDERS

Oxygen Gas is used as a fuel for Cutting/Welding for this Oxygen Commercial Cylinders are imported about 15-20 Nos. and placed on properly marked Platform. These cylinders are conveyed/carried as per demand/use to the working place/workshop.

6.8 RAW MATERIAL

6.8.1 RAW MATERIALS & THEIR AVAILABILITY

Basic Raw Materials used are :-

1) Iron Ore - 5-20 mm (Baildella- C.G. & Koira- Orissa)
2) Feed Coal - 3-20 mm (Korba)
3) Injection Coal- 0-04 mm (Korba)
4) Dolomite - 03 mm (Baradwar & Hirri)

6.7.2 RAW MATERIALS & THEIR QUANTITY

To Meet the normal Production The Main Raw materials and their Quantity stored in Factory are as follows:-

S.NO.	RAW MATERIAL	QUANTITY	MEANS OF STORAGE
	SPONGE IRON DIVISION		
01	IRON ORE	3,000 MT	OPEN YARD
02	COAL	6,000 MT	OPEN YARD/COVERED SHED
03	DOLOMITE	800 MT	OPEN YARD/COVERED SHED
04	WATER (PUMPED FROM BORE WELL	SUFFICIENT	IN U/G AND O/H TANK
05	LDO	20 – 24 KL (2x12KL)	IN MS STORAGE TANK 2x12 KL UNDER GROUND
06	LABORATORY CHEMICALS	1OR 2 KG	IN BOTTLES & BOXES
	POWER PLANT		
07	COAL ,CHARCOAL & CLEAN COAL	2,000 MT	OPEN YARD/COVERED SHED
08	TG OIL/ TRANSFORMER OIL	2,000 LTS	IN PP/MS DRUMS OF 200 LTS IN STORE
09	HYDRAZINE HYDRATE	200 – 250 LTS.	IN 20/40 LTS JERICAN IN STORE
10	SULPHURIC ACID	300 – 400 LTS	IN 20/40 LTS JERICAN IN STORE
11	WATER (PUMPED FROM BORE WELL)	SUFFICIENT	IN WATER POND
	SMS PLANT NDIVISION		
12	SPONGE IRON	500-600 MT	IN COVERED SHED IN BIN
13	CI/MS SCRAP	50 – 60 MT	5IN COVERED SHED
14	COAL/PET COKE	30- 40 MT	IN COVERED SHED IN BIN
15	BENTONITE POWDER	200-300 KG	IN COVERED SHED IN DRUM
16	LABORATORY CHEMICALS	1 or 2 KG	IN BOTTLES & BOXES

S.NO.	RAW MATERIAL	QUANTITY	MEANS OF STORAGE
FERRO ALLOYS DIVISION			
17	Mn ORE	200- 400 MT	IN COVERED SHED/YARD
18	DOLOMITE	100- 200 MT	IN COVERED SHED/YARD
19	COKE/COAL	800 -1000 MT	IN COVERED SHED/YARD
20	ALLOYS OF MAGNESE, SILICA	36 - 40 MT	IN COVERED SHED/YARD
21	M.S. SCRAP	20- 30 MT	IN COVERED SHED/YARD
22	WATER (PUMPED FROM POND/TANK)	SUFFICIENT	IN WATER POND
23	LABORATORY CHEMICALS	1 or 2 KG	IN BOTTLES & BOXES
24	LPG CYLINDERS (For Cutting/Welding Purpose)	20 NOS (LPG)	IN 19 KG CYLINDER (COMMERCIAL CYLINDER)
25	O_2 CYLINDERS (For Cutting/Welding Purpose)	20 NOS (O^2)	IN 50 Kg CYLINDER (COMMERCIAL CYLINDER)
ROLLING MILL DIVISION			
26	BILLETS & INGOTS	200-500 MT	DIRECTLY FROM SMS DIV. BY ROLLER CONVEYOR
27	ROLL STAND OF DIFFERENT SIZES	200-300 NOS.	IN STORE
28	WATER (PUMPED FROM POND/TANK)	SUFFICIENT	IN U/G AND O/H TANK
29	LABORATORY CHEMICALS	1 or 2 KG	IN BOTTLES & BOXES

FLY ASH BRICK PLANT DIVISION			
30	FLY/BED ASH	200 -300 MT	IN OPEN YARD
31	CEMENT	30 - 50 MT	IN 50 KG BAGS IN COVERED SHED
32	SAND	800 MT	IN COVERED SHED/YARD
33	WATER (PUMPED FROM POND/ WELL)	SUFFICIENT	IN WATER POND

6.7.3 FINISHED PRODUCT & THEIR QUANTITY

S.NO.	MATERIAL	QUANTITY	MEANS OF STORAGE
01	SPONGE IRON	1000 MT	IN COVERED SHED & IN BINS
02	GENERATION OF ELECTRICITY/POWER	16 MW	TRANSMITTED TO DIFFERENT SECTION OF PLANT THROUGH SWITCH YARD AND TO CSEB
03	MS BILLETS & INGOTS	1000 MT	IN COVERED SHED AND SEND TO ROLLING MILL DIVISION
04	FERRO ALLOYS (FERRO MANGANESE)	100-150 MT	IN COVERED SHED
05	REROLLED STEEL PRODUCTS WIRE ROD , TMT BARS & OTHER STRUCTURAL MEMBERS	800 MT	IN COVERED SHED
06	FLY ASH BRICK	1.0 -2.0 LAC NOS.	IN OPEN YARD

6.7.4 FINISHED PRODUCT RANGE

(a) Sponge Iron with 88 to 93% metallisation.

NOTE :- Storage Area of Material where there is possibility of Spillage or leakage, are provided with dyke wall. So that leaked material will not mix up/spill on large area and can be used/destroyed easily. Material like LDO/HSD (Stored in Tank)

CHAPTER- 7

HAZARDOUS CONSIDERATION IN OPERATION/PROCESS/STORAGE, MSDS & RISK ANALYSIS IN SAPL

7.1 SAFETY CONSIDERATION / HAZARDS CONSIDERATION

7.1.1 MAJOR HAZARD POTENTIAL ASSESSMENT

The major disasters or emergencies usually take birth from one or any combination of the following :-

(a) Slow isolated fires
(b) Fast spreading fires
(c) Explosions
(d) Bursting of pipe lines/vessels
(e) Uncontrolled release of toxic/corrosive/flammable liquids.
(f) Uncontrolled release toxic/flammable gases/dust

Depending upon the nature, scale, speed and impact on environment each of these may constitute an emergency. The hazard potential of various plant sections is identified and tabulated.

7.1.2 POSSIBILITY OF FIRE HAZARD

(a) In Kiln & furnace section due to heat and temperature.
(b) In Coal/Oil Storage section
(c) Cables on galleries and on trays in all plant sections
(d) From oil handling

7.1.3. POSSIBILITY OF EXPLOSION HAZARD

(a) In Kiln due to excessive Gas Stored
(b) In the Induction Furnace (Charging of scrap & alloy/Molten metal)
(c) Transformers & Turbo Generator (oil cooled)
(d) Tapping of Melt in the Ladle & Mould
(e) Compressor and Air Tank

7.1.4 POSSIBILITY OF BURSTING OF PIPE LINES

(a) Compressed Air Pipes due to high pressure.
(b) Water pipes due to high pressure.
(c) Diesel & LPG carrying pipe due to high pressure.
(d) Steam pipes due to high pressure.

7.1.5 POSSIBILITY OF RELEASE OF GASES / DUSTS

(a) Gases from Furnace, (Induction &SAF) T.G. (due to excessive heat)
(b) Fumes & CO from the furnace at the time of melting.

7.1.6 POSSIBILITY OF SILICOSIS & OTHER DISEASE

a) Breathing crystalline silica/coal causes silicosis and the main risk factor is exposure to silica dust.
b) Exposure in Manganese Dust (excessive) may Cause diseases of brain in its dump area.

S. NO.	NAME OF HAZARDOUS CONTENT	PHYSICAL STATE	MAX. QTY. STORED	MODE OF STORAGE	REACTS WITH	NATURE OF MATERIAL TOXIC CORROSIVE EXPLOSIVE FLAMMABLE	HANDLING/ CONVEYIG DEVICE	PLACE OF STORAGE	VULNE-RABLE AREAS	CONT-ROL MEAS-URES REQUIRED/ PROV-IDED
01	DIESEL OIL	LIQUID	24 KL	IN MS U/G TANK 2X12 KL	OXIDISING MATERIAL	FLAMMABLE	BY PUMP	IN SHED	YES Marked	1) FIRE EXTINGU-ISHERS IN SUFFICIENT NOS. 2) HYDRANT LINE ALL AROUND THE PLANT 3)CHEMICALS ARE STORED IN MARKED AREA PROVI-DED WITH DYKE WALL 4) DUST OF ALL MATERI-AL & MN SUPPRESED BY SPRINK-LING & ARREST BY BAG FILTERS (PCE WITH CHIMNEY) ARE PROVIDED. 5) LIGHTENING ARRESTER PROVIDED
02	SULPHURIC ACID	LIQUID	400 LTS	IN 20/40 LTS PVC JERICAN	OXIDISING MATERIAL	CORROSIVE	BY PUMP/ MANUALLY	IN FRP JERICAN	YES	
03	HYDRAZINE HYDRATE	LIQUID	250 LTS	IN 20/40 LTS PVC JERICAN	OXIDISING MATERIAL	CORROSIVE	MANUALLY	IN SHED	YES	
04	T.G. OIL/ TRANSFORMER OIL	LIQUID	2000 LTS.	IN PP/MS 200 LTS. DRUMS	OXIDISING MATERIAL	FLAMMABLE	BY PUMP	IN SHED	YES Marked	
05	LPG (LIQUIFYPETROLEUM GAS	GAS	20 CYLINDERS	IN COMM. CYLDS.	OXIDISING MATERIAL	CORROSIVE	BY TRPLLY/ MANUALLY	IN COMM. CYLINDER IN OPEN AIR/SHED	YES Marked	
06	OXYGEN GAS	GASEOUS/LIQUID	20 CYLINDERS	IN SHED	NO ANY MATERIAL	NON FLAMMABLE	BY TRPLLY/ MANUALLY	IN COMM. CYLINDER IN OPEN AIR/SHED	YES Marked	
07	COAL, COKE & COAL DUST	SOLID	9040 MT	IN COVERED SHED/YARD	COMBUSTING MATERIAL	FLAMMABLE	BY PAY LODDE/MANUAL	IN SHED	YES Marked	
08	MANGA-NESE	SOLID	400 MT	IN COVERED SHED/YARD	NON COMBU-STING MATERIAL	NON FLAMMABLE	BY PAY LODER/MANUAL	IN SHED	YES	

7.3 Consequence of Major Hazardous from Storage:

I. Coal & pet Coke

1) Fire may possible if directly come in contact.

II. Diesel Oil

1) Fire may possible if directly come in contact.

2) Due to Fire, explosion of LDO storage drum can occur.

III Sulphuric Acid, Hydrazine Hydrate,

1. These chemicals if heated to decompose give out highly toxic fumes. Which can spread in the surroundings causing toxic effects.

2. Spillage of these materials due to leakage or collapse of storage vessels can give out toxic fumes and gases affecting workers.

3. These material can cause bursting of storage vessels as they react with oxidizing material and with other impurities like acids, amiens, moisture, thus emiting out toxic gases and fumes which can spread in work area.

4. Leakage from Gas cylinder cause spreading of toxic gases & Fire in the factory and in Adjoining areas out side factory.

5. In the event of the collapse or leakage of the storage tanks these chemicals can emit highly toxic fumes in contact with moisture or water, affecting workers and people in surroundings areas.

7.4 Consequence of Major Hazardous from Processing:

I) In the Ferro Alloy Division, SMS+CCM Division, Rolling Mill Division and in Power Plant Division mainly Hurt/Burn may possible to the workers from moving parts of m/cs and due to handling of hot materials. Boiling & Splashing mainly occur due to impurities of silica in RM . It has found that higher % of Silica, form/cause a hard cover over molten mass in furnace and during removing/breaking this cover/ slag may cause excess boiling and splashing of molten metal, due to it hazard may arise in near by area and in turn may convert in accident.

II) . In Ferro Alloy Division, SMS+CCM Division some times explosion may possible in ladle at the time of tapping of hot metal due to difference in temp.

III) In Coal Fired Boiler CO gas is produce which may be harmful if inhaled by workers in excess (such situation aries only if combustion of coal is in presence of less Oxygen and if it will not exhaust immediately in to the atmosphere.)

7.5 Physical Range of Consequences (Propagation) :

Storage (hazardous as per 7.3.)	**Processing/ (Hazardous as per 7.4)**
I. Limited to Factory premises	I. Limited to Factory premises
II. Can spread up to 200 mts or out side the factory premises	II. Can spread in the processing section/shed up to 200 mts up to the factory premises.
III. Can spread up to 200 mts or out side the factory premises.	III Can spread in the processing section/shed up to 200 mts /up to the factory premises

7.6 MATERIAL SAFETY DATA SHEET OF MATERIAL/OIL

7.6.1 DIESEL OIL (LDO)

Trade Name	: Light Diesel Oil (LDO)
Hazardous Ingredient	: No any (only combustible ingredient are there.)
Health	: Normally no health hazard.
Fire	: Moderate Fire Hazard flammable but not much volatile.
Reactivity	: Normally Stable. No reaction with water.

1. Physical Properties :-

Characteristic Nature	: It is in liquid form.
Appearance, Colour & odour	: It is colourless Liquid with perceptible odour.
Flash Point	: 38 ^{0}C (Auto ignition temperature)
Boiling point at 760mmHgG	: 150 ^{0}C -260 ^{0}C
Specific Gravity	: 0.8379 at 20 ^{0}C
Miscibility	: Not Soluble in Water

2. Fire and Explosion Hazard

Flammable limits in air	: Upper 6.7 and Lower 1.0 by Vol.
Extinguishing Media	: Foam/DCP/Halon
Special Fire Fighting	: Containers keep cool by spraying with water if exposed to fire, do not use water jet. Extinguish fire by foam, DCPor Halon,never by water spray.
Unusual Fire and Explosion	: Conform explosive mixture with air particularly in empty un-cleaned receptacles.

3. Health Hazard Information

Routes of exposure

Inhalation	: Normally not existing at normal Temp.
Skin	: Possible
Skin absorption	: Possible
Eye Contact	: Possible
Ingestion	: NA
Effects of overexposure	: Remove to fresh air and remove soaked or acute overexposure clothing. Wash the affected part.

Emergency and First Aid Procedure

Eyes	: Wash with plenty of water
Skin	: Wash with plenty of water

4. Reactivity Data

Conditions contributing to instability	: Nil
Incompatibility	: Nil
Hazardous decomposition products	: Nil
Conditions contributing to hazardous Polymerization	: Nil

5. Leakage/Spillage

Steps to be taken if material is released or spilled

* No naked light, no smoking
* Mark road and warn other road users.
* Keep public away from danger area
* Use explosion proof electrical equipment.
* Keep unwind.
* Shut off leaks without risk.
* Contain leaking liquid with sand or earth.

7.6.2 SULPHURIC ACID

Chemical Name : SULPHURIC ACID
Chemical formula : H_2SO_4

1. Physical properties :-

Characteristic Nature	: It is in fuming liquid form.
Colour & odour	: It is colourless Oily Liquid with penetrating odour.
Flash Point	: 72.8 ^{0}C
Boiling point	: 315-338 ^{0}C
Specific Gravity	: 1.84 at 20 ^{0}C
Miscibility	: Soluble in Water

2. Toxicity : Highly corrosive and moderate toxic.
TLV : 05 ppm (7mg/CuM.)

3. Fire Hazard

This is very powerful acidic oxidizer which can ignite or even explode on contact with Many materials e.g. some metals acid, vinyl acetate and great number of organic substance.

4 Disaster Hazard

1. Dangerous, when heated emits highly toxic fumes of SO_2 & SO_3 on decomposition.
2. It will react with water or steam to produce toxic and corrosive fumes.
3. It can react with oxidizer or reducing material.

5. Leakage/Spillage

In case of any heavey leakages from tank, it should be neutralize with Alkalies like Ammonium Hydroxide, Sodium Hydroxide and washed with mop quantities of water.
While taking action in above cases the person shall wear self contained breathing apparatus.

6. Treatment of antidotes

Delay in case of skin contact due to leakage/spillage.
May result in serious injuries

1. Skin contact
a) Remove contaminated clothes and prolong application of moving water. To use deluge type of shower. Not to neutralize until all acid is washed out minutes.
b) In case of servers and extensive burns, keep patient on back and keep him warm.
2. Eyes contact, the eyes should be washed by copious quantities of water for 15 minutes.
3. Injection (taken internally) do not attempt to induce vomiting or to give any thing of the patient who has swallowed strong HCL solution.
4. The affected portion of skin shall be flush with plenty of water and then a paste of 1vol. Ammonia 25% + 1vol. Of turpentine + 10vol. Of Alcohal 90% shall be apply on the skin.

7.6.3 HYDRAZINE HYDRATE

Chemical Name	: HYDRAZINE HYDRATE
Chemical formula	: N2H4H2O
Trade Name	: HYDRAZINE HYDRATE
Hazardous Ingredient	: Only one ingredient are there.)
Health	: Oral-60mg/Kg, Interpritoneol-59 mg/Kg, Skin-190mg/Kg
Fire	: Moderate Fire Hazard flammable but not much volatile.
Reactivity	: Normally Stable. React with water.

1. Physical Properties :-

Characteristic Nature	: It is in liquid form.
Appearance, Colour & odour	: It is colourless Liquid with penetrating odour.
Flash Point	: 72.8 ^{0}C
Auto ignitor	: N.A.
UEL	: N.A.
LEL	: N.A. (Hazardous Combustion product, Emits Highly Fumes of Oxides)
Boiling point at 760mmHgG	: 118 ^{0}C -119 ^{0}C at 1 atm.
Specific Gravity	: 1.038 at 20 ^{0}C at 1atm .
Miscibility	: Soluble in Water

2. Fire and Explosion Hazard

Flammable limits in air	: No.
Extinguishing Media	: DCP/CO2 Flooding the area with water to prevent reignition

Special Fire Fighting Procedure	: Containers keep cool by spraying with water if massive fire container exposed to fire, to keep it cool. In case of massive fire do Fire Fighting by DCP/CO2 from a safe distance
Explosion Data	: Sensitivity to Chemical Impact.
Unusual Fire and Explosion	: Sensitivity to static Discharge.

3. Health Hazard Information

Routes of exposure	
Inhalation	: High.
Skin	: High
Skin absorption	: Higher
Eye Contact	: High
Ingestion	: High
Effects of overexposure	: High (It is strong Skin & Mucus Membrane Irritant. It is absorbed from the lungs, Gestro, Intestinal track. Remove overexposure clothing. Wash the affected part.

4. Emergency and First Aid Procedure

Eyes & skin : Wash with plenty of water affected part of body. Do not try to neutralize with other chemicals & do not use Ointment.

Inhalation : In case of Inhalation lay the patient down in a comfortable & warm condition and give oxygen at low pressure as deemed fit.

5. Reactivity Data

Conditions contributing to instability	: Yes
Incompatibility	: Yes
Hazardous decomposition products	: ammonia, Nitrogen, Hydrogen.
Conditions contributing to hazardous	: Hydrogen peroxide, Nitric acid, Polymerization & other Oxidant. Reacts in Oxidizing condition. It is Strong Reducing Agent.

6. Leakage/Spillage

In case of Spills , flush with large amount of water and neutralize with sulphuric acid.

7. Waste Disposal

The Waste will be diluted to at least 40% & neutralize with dilute sulphuric acid . Before Disposal flush to sewar with excess water.

8. Handling/ Storing precautions

Avoid Direct Contact with skin.

Hydrazine Hydrate should be stored in polythene car buoys orin MS Drum PP lined. No any flammable or inorganic chemical , oxidizing material has been stored near hydrazine hydrate. More over it is stored away from heat or fire sources.

The persons handling the chemical are trained to avoid direct contact with vapours.

7.6.4 T. G. OIL/TRANSFORMER OIL

Trade Name : Turbine 4-6

Hazardous Ingredient : No any (only combustible ingredient are there.)

Health : Normally no health hazard.
Fire : Moderate Fire Hazard flammable but not much volatile.
Reactivity : Normally Stable. No reaction with water.

1. Physical properties :-

Characteristic Nature : It is in thick liquid form.

Appearance, Colour & odour : It is black colour Liquid with non perceptible odour.
Flash Point : 84 ^{0}C (Auto ignition temperature)
Boiling point at 760mmHgG : 765 ^{0}C 890 ^{0}C
Specific Gravity : 0.995 at 20 ^{0}C
Miscibility : Not Soluble in Water

3. Fire and Explosion Hazard

Flammable limits in air : Upper 14.7 and Lower 5.5 by Vol.
Extinguishing Media : Foam/DCP/Halon
Special Fire Fighting : Containers keep cool by spraying with water if exposed to fire, do not use water jet. Extinguish fire by foam, DCP or Halon, never by water spray.
Unusal Fire and Explosion: Conform explosive mixture with air particularly in empty uncleaned receptacles.

4. Health Hazard Information

Routes of exposure
Inhalation : Normally irritating at normal Temp.
Skin : Possible
Skin absorption : Possible
Eye Contact : Possible
Ingestion : Possible
Effects of overexposure : Remove to fresh air and remove soaked or acute overexposure clothing. Wash the affected part.

Emergency and First Aid Procedure

Eyes : Wash with plenty of water

Skin : Wash with plenty of water

4. Reactivity Data

Conditions contributing to instability : Nil
Incompatibility : Nil
Hazardous decomposition products : Nil
Conditions contributing to hazardous : Nil
Polymerization

5. Leakage/Spillage

Steps to be taken if material is released or spilled

* No naked light, no smoking
* Mark road and warn other road users.
* Keep public away from danger area
* Use explosion proof electrical equipment.
* Keep unwind.
* Shut off leaks without risk.
* Contain leaking liquid with sand or earth.

6. Disposal of Tank Waist

Tanks are generally be cleaned after the period of 1 or 2 Year the waste in the form of mud, This waste will carry in the remote place and if possible burnt and be merged deep in earth.

7.6.5 MATERIAL SAFETY DATA SHEET (MSDS) OF LPG

Technical Name	:	Liquefied Petroleum Gas
Chemical composition	:	Mixture of Butane & Propane
Odour	:	LPG is odorless. Odourant Ethyle mercaptan is added to LPG for Distinctive smell to realize its presence.
Colour	:	Colourless
Vaporization	:	Liquid LPG expands 250 to 270 times it volume during Vaporisation.
Calorific Value	:	11,850 KCal/Kg
Combustion	:	2% - 9.5% by volume of LPG vapour in air produces a combustible mixture. {2.2% to 9.5% for Propane and 1.8% to 8.4% for Butane}
Storage	:	Normally stored in liquid form under moderate pressure in pressure vessel at normal temperature.
Volumetric Expansion	:	Volumetric expansion is 0.002 to 0.0033 (Liquid LPG expands 100 times to that of steel).
Auto-Ignition Temp.	:	441 - 481 degrees centigrade.

Toxicity	:	LPG is not-toxic in nature. Excessive inhaling may cause dizziness. LPG liquid in contact with human body can cause serious cold burns which are similar to heat burns.
Stability with water	:	Insoluble with water.
Flash Point	:	-76 to -156^0 F
Vapour Pressure	:	1313.56 mm at -58 deg. F
Vapour Density (Air=1)	:	1.5
Sp.Gravity(Liquid LPG)	:	0.51 to 0.58 deg. F
Molecular Weight	:	44
TLV TWA	:	1000 ppm
TLV STEL	:	1250 ppm

1 HAZARDS OF LPG :

It is essential to recognize various hazards in the operation of LPG system so that effective remedial measure can be planned out.

2 FIRE HAZARDS :

If the LPG concentration in air falls in the range of 2% to 9.5% by volume, an explosion or fire may occur in the presence of source of ignition. Explosion is accompanied by tremendous release of energy which may lead to the bursting of storage vessels.

3 SOURCE OF HEAT AND OPEN FLAME :

Any source of fire near the area containing LPG vapour constitutes a likely danger like
1) Matchsticks 2) Cigarettes 3) Blow-pipes etc.

4 AUTO-IGNITION :

If the temperature of LPG vapour is equal to its Auto-Ignition temperature, the vapour Can catch fire on mixing with oxygen even without the help of a spark or flame.Auto- Ignition temperature of LPG is around 450 deg. C.

5 SPARKS:

Ignition of LPG vapour-air mixture can be produced by a spark which may result in an explosion or fire. For, example rubbing of iron-nails on shoe sole with hard or metallic surface, sparks from loose electrical fittings.

6 STATIC ELECTRIC CHARGES :

Static Electric are produced by friction of two dissimilar materials, and these charges can accumulate to develop a potential difference over two surface. A spark can take place to neutralise the difference which is enough to initiate a fire and explosion. A proper system of ground in grand earthling is essential for earthling such static generation.

7 LIGHTING :

Metalic objects located at heights are more vulnerable to lightings. For example, safety Relief valves fitted on top of Bullet discharging LPG vapour to atmosphere may be a likely target for lighting to hit. A reliable earthing system is provided to avert such disasters**.**

8 HEALTH HAZARDS :

Exposure to LPG can give rise to following health hazards :

9 INHALATION :

If air with hydrocarbon concentration of0.001% is inhaled for minutes, the person feels gidy. If concentration increases to 0.5% and a person inhales such air forabout4minutes, he exhibits symptoms/similar to those of alcoholism.

10 COLD BURN :

LPG in liquid form coming in contact with body immediately vaporises. For vaporisation, the required latent heat will be absorbed directly from the skin and flesh, causing freezing effect which is referred to as COLD BURN.

7.6.6 OXYGEN GAS (O2)

1. CHEMICAL IDENTITY

CHEMICAL NAME `	OXYGEN Chemical classification supporter of combustion
Synonyms	N.A.
Trade Name	OXYGEN
FORMULA	O_2
Hazardous ingredients	N.A. Oxygen in itself creates no hazards. It is a colorless, odorless, tasteless gas. It is non-flammable and given green level. But fire hazard is dangerous because it helps in combustion of other substances. The other parameters are: -
Specific gravity	1.10535 referred to air
Boiling point	183^{o}C
Solidifies at	-227^{o}C

PHYSICAL & CHEMICAL DATA.

Boilding Range Point	182.96 ºC
Physical status	GAESEOUS
Melting/Freezing pointº C	-218.65º C
Vapour Pressure	N.A. Odour
Odour	Odourless.
Vapour Density	1.1053
Solubility in water	35º C : 0.489 others. (Air-1)
Specific Gravity (for liquid)	1.148
Fire & Explosion Hazard Data	
Flammability	YES/NO LED% Flash point º C N.A.Non flammable.
TGD Flammability	UEL % Flash Point ºC N.A.
Explosion Sensitivity to Impact	N.A.
Explosion sensitivity to State Electricity.	
Hazardous Polymerisation	N.A.
Combustion Liquid:	**No.**
Explosive material	**No**
Corrosive material	**No**
Flammable material	**No**
Organic peroxide	**No**
Reactivity Data:	
Chemical Stability	**Chemically stable – But reacts into most oxides**
Reactivity	**Reacts with most elements to form oxides.**
Health Hazard Data	**Gaseous form – Non hazardous.**
	Liquid form – Cause burns.
Routes of Entry	Breathing.
Emergency Treatment	N.A.
Permissible Explosive limit	N.A.
Preventive measures	
Gas :	Not to be released in closed spaces.
	Heat sources kept away.
Liquid :	Should not come in direct contact with body.
Personnel protective Equipment	Protective clothing to be used while handling liquid oxygen.
FIRE	N.A. FIRE EXTINGUISHSING Media.
FIRE N.A.	Special Procedures.

Waste Disposal method.

For liquid oxygen – to be allowed to evaporate in specially made vessels.

7.6.7 MATERIAL SAFETY DATA SHEET (MSDS) OF COAL/PET COKE

1. **Product Description**

Product Name:	**:** Coal, Bituminous
Recommended Use	**:** Science education applications
Synonyms	**:** Washed Coal, Clean Coal, Soft Coal
Chemical Name	**:** Coal, Bituminous

.

1. **Physical properties :-**

Formula: N/A (C + Impurities)
Molecular Weight: N/A
Appearance: Lumps
Odor: Mild
Odor Threshold: No data available
Insoluble **pH:** No data available
available **Melting Point:** 399 C
data available
Boiling Point: No data available
Flash Point: 260 ^{0}C
Flammable Limits in Air: N/A

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): N/A
Specific Gravity: 1.2
Solubility in Water: Practically
Log Pow (calculated): No data
Autoignition Temperature: No

Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: N/A

2. **Fire and Explosion Hazard**

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Avoid Dusting. May become explosive when dispersed in air.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

3. **Health Hazard Information**

Routes of exposure

Inhalation	: Normally not existing at normal Temp.
Skin	: Possible
Skin absorption	: Possible
Eye Contact	: Possible
Ingestion	: NA
Effects of overexposure	: Remove to fresh air and remove soaked or acute overexposure clothing. Wash the affected part.

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact:	After contact with skin, wash immediately with plenty of water.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4. Reactivity Data

Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures.
Incompatible Materials:	Strong oxidizing agents
Hazardous Polymerization:	Will not occur

Section 11 **Toxicity Data**

Routes of Entry Inhalation.
Symptoms (Acute): Respiratory disorders

5. Leakage/Spillage

Steps to be taken if material is released or spilled

Steps to Take in Case Material Is Released or Spilled:
Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid the generation of dusts during clean-up. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Avoid creating dusts. Eliminate ignition sources. If a vacuum is used, ensure that the material is wetted or otherwise treated so an explosive dust atmosphere is not created within the vacuum.

6. Disposal Methods:

Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

7.6.8 MATERIAL SAFETY DATA SHEET (MSDS) OF MANGANESE (Mn)

1. **Product Description**

Product Name: Manganese
CAS#: 7439-96-5
Chemical Name: Manganese
Chemical Formula: Mn
Toxicological Data on Ingredients: Manganese: ORAL (LD50): Acute: 9000 mg/kg [Rat].

2. Physical and Chemical Properties

Physical state and appearance: Solid.
Odor: Odorless.
Taste: Not available.
Molecular Weight: 54.94 g/mole
Color: Grayish white.
pH (1% soln/water): Not applicable.
Boiling Point: 2095°C (3803°F)
Melting Point: 1244°C (2271.2°F)
Critical Temperature: Not available.
Specific Gravity: 7.44 (Water = 1)
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Volatility: Not available.
Solubility: Insoluble in cold water, hot water.

3. Exposure Limits:
TWA: 1 (mg/m3) from ACGIH (TLV) [United States] TWA: 5 (mg/m3) [Canada]
TWA: 5 (mg/m3) from OSHA (PEL)
STEL: 3 (mg/m3) from NIOSH [United States]

4. Fire and Explosion Data

Flammability of the Product: Non-flammable.
Auto-Ignition Temperature: Not applicable.
Flash Points: Not applicable.
Flammable Limits: Not applicable.
Products of Combustion: Not available.
Fire Hazards in Presence of Various Substances: Not applicable.
Explosion Hazards in Presence of Various Substances: Not applicable.
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:
Moderate fire potential, in the form of dust or powder, when exposed to flame. When manganese if heated in the vapor of phosphorus at a very dull red heat, union occurs with incandescence. Concentrated nitric acid reacts with powdered manganese with incandescence and explosion. Powdered manganese ignites in chlorine.

Special Remarks on Explosion Hazards: Moderate explosion potential, in the form of dust or powder, when exposed to flame.

5. Emergency and First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

6. Hazards Identification

Potential Acute Health Effects: Hazardous in case of inhalation.
Slightly hazardous in case of skin contact (irritant), of eye contact (irritant),
of ingestion the substance may be toxic to blood, lungs, brain, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

7. Toxicological Information

Routes of Entry: Inhalation. Ingestion.
Toxicity to Animals: Acute oral toxicity (LD50): 9000 mg/kg [Rat].
Chronic Effects on Humans: May cause damage to the following organs: blood, lungs, brain, central nervous system (CNS).
Other Toxic Effects on Humans:
Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.
Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
Manganese can cross the placenta. May cause cancer (tumorigenic) based on animal data.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: May cause skin irritaiton Eyes: Dust may cause mechanical irritation.

Inhalation: Dust may cause respiratory tract irritation. May cause "Metal Fume Fever" which may include flu-like symptoms (fever, chills, upset stomach, vomiting, weakness, headache, body aches, muscle pains, dry mouth and throat, coughing, tightness of the chest). May affect behavior/Central Nervous system (change in motor activity, torpor, nervousness, tremor, yawning, mood swings, irritability, restlessness, fatigue, headache, apathy, languor, insomnia than somnolence, hallucinations, delusions, uncontrollable laughter followed by crying, compulsions, aggressivness, weakness in legs, memory loss, decreased libido, impotence, salivation, hearing loss, slow gait,), and respiration (dyspnea, shallow respiration, cyanosis, alveolar inflammation). Ingestion: Repeated or prolonged exposure from ingestion may affect brain (degenerative changes), blood
and metabolism. Ingestion: May cause digestive tract irritation. There is a low gastrointesitnal absorption of manganese. Chronic Potential Health Effects: Inhalation: Repeated or prolonged exposure from inhalation may affect brain (degeneratiave changes), behavior/Central Nervous system with symptoms to acute exposure. May also affect liver (chronic liver disease, jaundice) Ingestion: Repeated or prolonged exposure from ingestion may affect brain, blood and metabolism

8. Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. (as per Factory Act Second Schedule (Section 41F))

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV..

9. Handling and Storage

Precautions:
Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, reducing agents.
Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above

10. Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

11. Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Incompatible materials
Incompatibility with various substances: Reactive with oxidizing agents, reducing agents.
Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Superficially oxidized on exposure to air. Reacts with aqueous solutions of sodium or potassium bicarbonate. Reacts with dilute mineral acids with evolution of hydrogen and formation of divalent manganous salts. Reacts with fluorine and chlorine to produce di or tri fluoride, and di and tri chloride, respectively. In the form of powder, it reduces most metallic oxides on heating. On heating, it reacts directly with carbon, phosphorus, antimony, or arsenic. Also incompatible with hydroxides, cyanides, carbonates.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

12. Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

7.7 DESCRIPTION & RISK ANALYSIS OF HAZARDOUS OPERATION/PROCESS/AREA / MATERIALS STORED IN M/S SKY ALLOYS AND POWER LIMITED

Here we again describe the possible hazardous not only due to materials/chemicals but also due to the other plant and machineries and means to overcome them, in tabulated form here as under:-

01. SPONGE IRON DIVISION

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFICATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
01.	Belt Conveyor Systems for iron Ore, coal etc.,Raw material Handling Plant	A. Jamming of Conveyor belts. & Breakage of Conveyor Belts. C. Splash of Material from Conveyor System. D. A 750mm wide walk way must be provided on both side for movement. E. Drives are provided with coupling guards. F . Stop switches with Lock must be provided for safety. (Coal, Sand & other Material dust)	A .All Conveyor belts must be provided with Trip Wire System must be removed. B. Head & Tail end are provided by nip guard. C. Movement below the Conveyor belt during operation must be banned. D. Bag Filters/Pollution Control Equipment had Provided to arrest Dust of Material. Use of safety Appliances is must for worker. (like Shoes, Nose mask Hand Gloves etc)	The process to be stopped immediately and the cause of jam. The broken conveyor belt to be replaced or repaired. Reason for splash to be rectified.
02.	Primary Crusher Hopper	A. Limestone or Coal jamming /bridging in hopper. (Coal, Sand & other Material dust) .	A.Red light indication to Stop Feeding of Limestone/Coal from the yard. B. Information given To yard supervisor Not to allow supply of lime-stone /coal from the yard. C. Chain barrier to Stock dumping of ore in hopper. D. Slide gate lowering in case of jamming/ bridging in over jaw crusher . E. Slings/Anchors/Wedges are used As a tool for realizing jams. The operation must be supervised by a competent supervisor. F. Stop switches with Lock must be provided for safety.	Rock breaker for releasing jamming in hopper Bag Filters/ Pollution Control Equipment had Provided to arrest Dust of Material. Use of safety Appliances is must for worker. (like Shoes, Nose mask Hand Gloves etc)

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFICATIO N (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
03.	Mechanical Vibro-feeders	Removal of set clay In vibro feeder and Tail and drum. (Coal, Sand & other Material dust)	A.Vibro feeder must be interlocked With other belt. B. Line clearance Is taken after Checking the Trip wire system. C. Use of safety Appliances. D. Minimum two Work man deputed to take care of the man & material as safety measures.	Safety shoes, safety halmets, hand gloves & safety goggles are provided. Bag Filters/Pollution Control Equipment had Provided to arrest Dust of Material. Use of safety Appliances is must for worker.
04.	Raw Coal/ IO Hopper and Screen & Crusher House	Removal of jams, Gantry & Coal Crusher Jamming. (Coal, Sand & other Material dust)	A.Hopper jams is Mostly cleared With the help of Goliath Crane upto Grill & below the Grill jam is Removed manually By pocking with Pipe. B. All precautions are Taken before Sending worker on Grill for removing The jaws. C.A workman on Crane is posted For emergency help & one more atendent . D. Crane is not run Till line clear is Given.	The crane movement is done only after obtaining the line clearance. Bag Filters/ Pollution Control Equipment had Provided to arrest Dust of Material. Use of safety Appliances is must for worker. (like Shoes, Nose mask Hand Gloves etc)
05.	Coal storage Dump	Fire Hazard possible.	A.No smoking zone declared .B. Water hose Provided near To the dump & Stores. C. Stored away from Electrical installation.	In case of fire water hoses are operated water. Unburnt heap is immediately removed. Fire alarm is activated.
06.	Coal belts, tunnels pits	A.Jamming with Fine Coals dust & spilled material. B. Fire cause by Welding spark Electrical short circuit or throwing the lighted bidi & excessive high temprature.	A.Regular cleaning Is being ensured No welding job is started out when The area is not Clean. Smoking is Strictly prohibited Fire hydrants Points are provided To spray water in Case of fire.	The jam is to be cleared immediately before supplies are continued. In case of fire all the fire fighting steps to be taken immediately. Further movement of coal To be stopped immediately.

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
07.	Rotary Kiln	A.Jump out or fall Out. B.Rotary Kiln Jam or choked due to ring formation.	A.Support rollers to be maintain properly. B. Girth gear and Tyers are to be Checked regularly and frequently. C. Structural barrier to be Provided To avoid fallout. D. The temperature of the kiln to be Maintained properly no over heating to be allowed.	The plant operation to be stopped immediately. The area to be sealed until cooled for reinstallation. In case of jam the kiln must be stopped & allowed to cool down before breaking the ring. The klin must be started only after breaking the ring.
08.	Transformer Oil, Diesel etc.	Fire hazard may possible if come in direct contact with fire.	A.Fire proof system Made available like Foam extinguishers And hydrant System etc. keep Accessible. B. Stored in MS cylinnder tank & kept away from any type of fire caused things.	Proper care os to be taken in storing and keeping the drum of oil. Precautions shold be adopted and taken as mentioned in chapter-7.
09.	Control Rooms	Electrical shock Possible due to leakage.	A.Earth leakage Circuit breaker is installed. & All instruments are properly Earthed. B. Shock precaution & treatment chart are displayed. C. Operater should Be provided with Insulated shoes. D. E. Electrification Layout & diagram is displayed.	In the event of electric leakage main supply should be immediately shut off. Shock Treatment & medical Aid shall be immediately provided. Lightening Arrester Provided
10.	Water Cooling Pond	Drowing of a man possible.	A.Cooling pond Should be fenced or covered. B. Must not be permitted for using the water pond for general utility.	Drowned person should immediately be given first -Aid.
11.	E.O.T. Crane	Hoist Rope Breakage possible.	A.No movement of Strange people in Crane bay will be Permitted. B. Frequent check of The rope and other Load bearing material shall be Done. C. Light indication Movement of crane Shall be provided. D. Prescribed load Shall only be Allowed. E. Crane operator to Give alarm before Movement.	Weak rope shall be immediately replaced.

02. POWER PLANT DIVISION

S. No. (01)	OPERATION/ PROCESS EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFICATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR II MISHAP/ HAZARDS OCCURS.) (05)
1.	FBC Boiler Turbo Generator	Leakage of CO gas. Fire hazards.	CO gas detector are installed to detect the leakage as it is poisonous gas. Due to leakage of oil or electrical short circuit.	Any case of poisoning CO gas will be given initiate first health treatment. The cause of CO leakage will be detected and eliminated/ rectified. The system will be shut down and will electrically disconnected till the complete remedy.
2.	Handling Storage and Feeding of Steam coal/ coal etc.	Fire hazards caused by flames if it come in direct contact with fire. (Coal, Sand & other Material dust)	1.Workers charging the material in the furnace are equipped with Gloves, Nose Mask & proper equipments to Handle & feed the Coal and other material, also Fire proof dress & proper equipment to handle the scrap and material 2 Fire fighting equipments power/ foam type extinguishers on vehicle and mounted on walls are kept readily available. 3) Hydrant system provided at conspicuous places. 4) Precautions to ensure that storage is done of above maintained material are in proper way and at proper place away from electric installation.	a) Installation of inert gas (Nitrogen, Carbon Dioxide) equipments to take care of fire hazards in the factory area is being installed. b) Hydrant point has been provided at the proximity of gas cylinders, coal storage area c) All precautionary measures to be adopted and taken as mentioned in Chapter-8 d) Un burnt heap/stack will be removed and carry away from fired area.
3.	Leakage of steam from Pipe Line/ Boiler	Leakage of steam may cause superficial burn if victim directly come in contact	Emergency kit is kept ready which consisting of – a. Tools for stopping leakage through boiler and pipe line. b. All the pipeline has covered with insulators/ piping. c. Detector solution to detect percentage of leakages (available at site).	a) Precautionary measure to be taken up as mentioned in Chapter-8. b) Ammonia tourch is used to find out the leakage. c) In the event of major leakage the production of steam will stopped and maintenance of leakage point may carry quickly.
4.	Control Rooms	Electrical shock possible due to -	a) Earth leakage circuit breaker is installed. b) Shock precaution and treatment chart are displayed. c) Operator should be provided with insulated shoes. d) All instruments are properly earthed. e) Electrification layout and diagram is displayed.	In the event of electric leakage main supply should be immediately shut off. Shock treatment and medical aid shall be immediately provided. Lightening Arrester Provided

S. No. (01)	OPERATION/ PROCESS EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFICATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
5.	Water cooling pond/ tower	Drowning of a man possible. Burnt due to returning hot water may possible.	a) Cooling pond should be fenced or covered. b) Must not be permitted for using the water pond for general utility. All workers are not permitted to the tank & hot water line. Railings are provided all round the tank. Victim are First Aided by trained person and then carried to Doctor.	Drowned person should immediately be given first aid. Even after, if any worker get hurt then firstly First Aid is given to him and then refer to Doctor/ Hospital for further treatment.
6.	Diesel Oil, TG Oil, Transformer oil etc.	Fire hazard may possible if come in direct contact of fire.	Fire proof system made available and fire fighting equipments like Foam Extinguishers and hydrant system etc. keep accessible.	Proper care is to be taken in storing and keeping the drum of oil. Precautions should be adopted and taken as mentioned in Chapter-8.
7.	Boiler, Dryer Generator, compressor, process tank/ Vat and other machines.	Hurt may possible if come in contact with any moving part.	All machines are compact and whole process is done under consistent watch of supervisors and by adopting all safety precaution and measures. All workers are not permitted to come nearer to the machines. Safety guards and railings are provided all round the machines. Victim are First Aided by trained person and then carried to Doctor.	Even after if any worker get hurt then First Aid is given to him and if hurt is serious then refer to the Doctor/ Hospital for further treatment and checkup.
8.	Handling of Acid and Chemical etc.	Hurt and minor injury may possible.	a) Workers are provided with gloves, shoes and proper equipments to handle the scrap at the time of unloading and charging to Vat/ Tank. b) Transferring of Caustic Soda from lorry to tank and then to reaction Vat is done by pumping and under direct supervision of Officer Incharge. c) Entry of other person is prohibited and proper watch is kept by Officer Incharge.	If any worker is hurt during the process – 1) Information is delivered to the Director/ Manager available in Factory. 2) First Aid is given to victim and if hurt is serious then refer to doctor/hospital for further treatment and checkup.
9.	Laboratory chemicals, Ammonia, Sulphuric Acid, HCl etc.	In case of breakage cause burns damage to respiratory system due to concentrated inhalation.	a) Proper care taken to store/ handle chemicals. b) Qualified and trained personnel are employed. c) First Aid Box available at site. d) Fire fighting equipments readily available at site.	Instruction Board to be displayed for the knowledge of other man to take care of the situation in the event of occurrence (as shown in Annexure-A)

03. SMS /CCM PLANT & ROLLING MILL PLANT

S. No. (01)	OPERATION /PROCESS /EQUIPME--NT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
01	Induction and Reheating Furnace/ Ladle Preheater	Fire hazard caused by flames Burnt may possible if directly come in contact.	1. Emergency Kit is kept ready and nearer to the Furnace 2. Fire Fighting Equipments powder/foam type extinguishers on vehicle and mounted on walls are kept readily available 3. Hydrant system provided At conspicuous places 4. Fire Fighting man is employed	a) Switch off the System. b) Information is delivered to the Manager/Director present in the Factory. c) First Aid is given to the victim and carrying to Hospital for further treatment. d) In case of any malfunct-ion Furnace get switched off automatically and can be restarted only after removing the faults.
02	Charging of RM, scrap and other material in Induction, Furnace And Moving Parts of other M/Cs Fly As Brick Plant, Fly Wheel Roller Stand Etc.	Cut/Burnt & hazards may possible (In Induction Furnace RM Charged after Cheking % of Silica which is only responsible of Boiling/ Splashing of Molten Mass)	1 Workers are provided with gloves & proper equipments to handle & feed the scrap. 2.Workers charging the material in the furnace are equipped with Fire proof dress & proper equipment to handle the scrap and material 3.Fire proof system made available fire fighting equipments like extinguisher and water hydrant with sufficient No of points easily accessib 4. Furnace is operated by trained and qualified person so that condition of E of Molten Mass not arise. 5. Entry of other person is prohibited and proper watch is kept by shift in-charge	a) If any worker is hurt/ burnt during the process b) Information is deliveredto th Director/Manager available in Factory. c) Information given to the Doctor fix up by the Manageme d) First Aid is given to the victim by shift in charge/ trained person and then refer to the Doctor for further treat
03	Tapping of Molten metal In the Ladle/moulds process of Rolling Hot Steel Pieces	Burn due to Hot metal (boiling/splashi ng) is possible and some time explosion may possible	1. Fire proof system made Available 2. Whole Process is operated by trained and qualified person. 3. During tapping entry of other person/worker is prohibited. 4. During the process of Heating & drying entry of other person/ worker is prohibited	a) Complete process is taken up in presence of shift in-charge and by his b) Even after if any worker get hurt then firstly first aid is given to him & then refer to Doctor/ Hospital for further treatment.

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
04	Shifting of Ladle/moulds by crane	Serious injury may cause due to movement of moulds laddle by crane if mould are not fastened carefully	1. Laddle/mould are placed where tapping is done and after tapping shifted to cooling place 2. Proper watches kept by shift In-charge during the process 3. Fastening & loosing of moulds from the crane is done by trained person under the guidance of shift in-charge. 4. Crane is not run till line clear is given.	q) The crane movement is don only after obtaining the line clearance b) If any injury may cause then after giving first aid to person/ worker refer for furthe treatmen to Doctor/Hospital
05.	Diesel Oil Transformer Oil, etc. Storage & Pumping to equipment	Fire hazard may possible if come in direct contact with fire.	A Fire proof system Made available like Foam extinguishers And hydrant System etc. keep Accessible. B. Stored in MS cylinder tank & kept away from any type of fire causing things.	Proper care to be taken in storing and keeping the drum of oil. Precautions should be adopted and taken as mentioned in chapter-8
06.	Welding Gas like Oxygen, Acetelene, LPG etc.	Fire hazard Caused by flames & leakage On inhalation Cause damage of Nosal system & lungs	1. Emergency Kit is kept ready and nearer to the Storage of cylinders 2. Fire Fighting Equipments powder/foam type extinguishers on vehicle and mounted on walls are kept readily available 3. Hydrant system provided At conspicuous places 4. Fire Fighting man is employed 5. precautions to ensure that cylinders are not allowed to clash with each other. 6. Cylinders are handled carefully without dropping or rolling 7. Sand bed cushion available for the purpose of unloading cylinders and point of transferring 8. Periodic inspection done to avoid accident of any kind.	Emergency kit is kept ready which consisting of:- 1.Tools for stopping leakage through storage tank/pipe line. 2.Self contained breathing apparatus Must be provided 3.Detector solution to detect percentage of leakage (available at site). 4. Installation ofInert gas (Nitrogen CO_2) equipments to take care of Fire hazards in the factory is being installed. 5 Hydrant point has been provided at the proximity of gas cylinders and also be kept Out side the factory too.

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR I MISHAP/ HAZARDS OCCURS.) (05)
07.	Water Cooling Pond/cooling Tower	Drowning of a man possible. Burnt due to return-ing hot water may possible	A .Cooling pond should be fenced or covered. B.Workers must not be permitted for using the water pond for general utility. Railings are provided all round the tank	Drowned person should immediately be given first -Aid/CPR b) If any injury may cause th after giving first aid to person worker refer for furthe treatm to Doctor/Hospital
08.	Lab chemical like ammonia Sulpheric acid, HCL etc.	In case of breakage cause burns and damage to respiratory system	1. Proper care taken to store/ handle chemicals 2. Fire fighting equipments like extinguishers, sand bucket etc, keep available 3. First Aid box keep available at site.and First Aid personnel are employed.	Instructions are to be dis-played for the knowledge other man to take care of the situation in the event of occurance. (See Annexure `1')
09.	Control Rooms	Electrical shock Possible due to leakage.	A.Earth leakage Circuit breaker is installed. B. Shock precaution & treat ment chart are displayed. C. Operater should Be pro-vided with Insulated shoes. D. All instruments are properly Earthed. E. Electrification Layout & diagram is displayed.	In the event of electric leakage main supply should be immediately shut off. Shock Treatment & medical Aid shall be immediately provided. Lightening Arrester Provided
10.	E.O.T. Crane	Hoist Rope Breakage possible.	A.No movement of Strange people in Crane bay will be Permitted. B. Frequent check of The rope and other Load bearing Material shall be Done. C. Light indication Movement of crane Shall be provided. D. Prescribed load Shall only be Allowed. E. Crane operator to Give alarm before Movement.	Weak rope shall be immediately replaced.

04. FERRO ALLOY DIVISION

S. No. (01)	OPERATION /PROCESS /EQUIPMENT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
01	Submerged Arc and Laddle Preheater	Fire hazard caused by flames Burnt may possible if directly come in contact.	1. Emergency Kit is kept ready and nearer to the Furnace 2. Fire Fighting Equipments powder/foam type extinguishers on vehicle and mounted on walls are kept readily available 3. Hydrant system provided At conspicuous places 4. Fire Fighting man is employed	a) Switch off the System. b) Information is delivered to the Manager/Director present in the Factory. c) First Aid is given to the victim and carrying to Hospital for further treatment. d) In case of any malfunct-ion Furnace get switched off automatically and can be restarted only after removing the faults.
02	Charging of RM, scrap and other materal in SA Furnace and other M/Cs	Cut/Burnt & hazards may possible (In SA Furnace RM Charged after Cheking % of Silica which is only responsible Of Boiling/ Splashing of Molten Mass) (Dust of Mn Coa,l sand are also harmful)	1.Workers charging the material In the furnace are equipped with Gloves, Nose Mask & proper equipments to handle & feed the Mn, other material, scrap and dust also Fire proof dress & proper equipment to handle the scrap and material 2. Bag Filters/Pollution Control Equipment had Provided to arrest Dust of Material. Use of safety Appliances is must for worker. 3.Fire proof system made available & fire fighting equipments like extinguisher and water hydrant with sufficient No of points easily accessible 4.Furnace is operated by trained and qualified person	a) If any worker is hurt/ burnt during the process then Information is delivered to the Director/Manager available in Factory. c) Information given to the Doctor fix up by the Managemer d) First Aid is given to the victim by shift in charge/ trained person and then refer to the Doctor for further treat e) Entry of other person is prohibited and proper watch is kept by shift in-charge
03	Tapping of Molten metal In the Laddle/molds Process of casting	Burn due to Hot metal (boiling/splashing) is possible and some time explosion may possible	1. Fire proof system made available 2. Whole Process is operated by trained and qualified person. 3. During tapping entry of other person/worker is prohibited. 4. During the process of Heating & drying entry of other person/ worker is prohibited	a) Complete process is taken up in presence of shift in-charge and by his b) Even after if any worker get hurt then firstly first aid is given to him & then refer to Doctor/ Hospital for further treatment.

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFIC-ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
04	Shifting of Ladle/moulds by crane and on Track /casted moulds	Serious injury may cause due to movement of moulds/ laddle by crane if mould are not fastened carefully	1. Laddle/mould are placed where tapping is done and after tapping shifted to cooling place 2. Proper watches kept by shift In-charge during the process 3. Fastening & loosing of moulds from the crane is done by trained person under the guidance of shift in-charge. 4. Crane is not run till line clear is given.	q) The crane movement is done only after obtaining the line clearance b) If any injury may cause then after giving first aid to person /worker refer for further treatment to Doctor/Hospital
05.	Diesel Oil Transformer Oil, etc. Storage & Pumping to equipment	Fire hazard may possible if come in direct contact with fire.	A Fire proof system Made available like Foam extinguishers And hydrant System etc. keep Accessible. B. Stored in MS cylinder tank & kept away from any type of fire causing things.	Proper care to be taken in storing and keeping the drum of oil. Precautions should be adopted and taken as mentioned in chapter-8
06.	Welding Gas like Oxygen, Acetelene, LPG etc.	Fire hazard Caused by flames & leakage On inhalation Cause damage of Nosal system & lungs	1. Emergency Kit is kept ready and nearer to the Storage of cylinders 2. Fire Fighting Equipments powder/foam type extinguishers on vehicle and mounted on walls are kept readily available 3. Hydrant system provided At conspicuous places 4. Fire Fighting man is employed 5. precautions to ensure that cylinders are not allowed to clash with each other. 6. Cylinders are handled carefully without dropping or rolling 7. Sand/Rubber bed cushion available for the purpose of unloading cylinders and point of transferring 8. Periodic inspection done to avoid accident of any kind.	Emergency kit is kept ready which consisting of:- 1.Tools for stopping leakage through storage tank/pipe line. 2.Self contained breathing apparatus Must be provided 3.Detector solution to detect percentage of leakage (available at site). 4. Installation ofInert gas (Nitrogen CO_2) equipments to take care of Fire hazards in the factory is being installed. 5 Hydrant point has been provided at the proximity of gas cylinders and also be kept Out side the factory too.

S. No. (01)	OPERATION /PROCESS /EQUIPME-NT/AREAS (02)	HAZARDS IDENTIFIC--ATION (03)	CONTROL MEASURES (IMPLEMENTED/EXISTING) (04)	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.) (05)
07.	Water Cooling Pond/cooling Tower	Drowning of a man possible. Burnt due to return-ing hot water may possible	A .Cooling pond should be fenced or covered. B.Workers must not be permitted for using the water pond for general utility. Railings are provided all round the tank	Drowned person should immediately be given first -Aid/CPR b) If any injury may cause then after giving first aid to person/worker refer for furthe treatmentto Doctor/ Hospital
08.	Lab chemical like ammonia Sulpheric acid, HCL etc.	In case of breakage cause burns and damage to respiratory system	1. Proper care taken to store/ handle chemicals 2. Fire fighting equipments like extinguishers, sand bucket etc, keep available 3. First Aid box keep available at site.and First Aid personnel are employed.	Instructions are to be dis-played for the knowledge other man to take care of the situation in the event of occurance. (See Annexure `1')
09.	Control Rooms	Electrical shock Possible due to leakage.	A.Earth leakage Circuit breaker is installed. B. Shock precaution & treat ment chart are displayed. C. Operater should Be pro-vided with Insulated shoes. D. All instruments are properly Earthed. E. Electrification Layout & diagram is displayed.	In the event of electric leakage main supply should be immediately shut off. Shock Treatment & medical Aid shall be immediately provided. Lightening Arrester Provided
10.	E.O.T. Crane	Hoist Rope Breakage possible.	A.No movement of Strange people in Crane bay will be Permitted. B. Frequent check of The rope and other Load bearing Material shall be Done. C. Light indication Movement of crane Shall be provided. D. Prescribed load Shall only be Allowed. E. Crane operator to Give alarm before Movement.	Weak rope shall be immediately replaced.

SL. NO.	OPERATION/ PROCESS/ EQUIPMENT /AREAS	HAZARDS IDENTIFIC-- ATION	CONTROL MEASURES (IMPLEMENTED/EXISTING	MEASURES TO BE TAKEN (NORMALLY ADOPTED OR IF MISHAP/ HAZARDS OCCURS.)
(1)	(2)	(3)	(4)	(5)
	GENERAL			
01.	Handling/ Storage/ Transportation (import/export) of Raw Material and Finished Products by Road in/out side the Factory	Any Worker/person may knock-out, trail/dash/trample/toe by running vehicle or during Loading/Unloading and Handling/ storage of Raw/Finished Material, ultimately get convert in serious accident	1. Speed Limit of Vehicle is displayed every where in the plant. Driver of vehicle are instructed time to time. 2. No movement of Strange people on road/Loading/Unloading & Storage Points will be allowed. 3. Frequent check for Speed of vehicle made and loading/ unloading of material carried in/under supervision of trained Supervisors. 4. Light indication for Movement of Transport Vehicle is proposed. 5. Overloading & overtaking is strictly prohibited, 6. Handling & Storage of Material Will be carried very care fully and at proper marked place/Area.	1) Even after adopting all safety measures for Road Transportation , if any person/worker may get accidences then immediate action taken by Supervisors/ rescue team. 2) If any injury may cause then after giving first aid at site/OHC to person/worker, refer for further treatment to Doctor/Hospital.

S. No. (01)	Query Raised/not covered in earlier OSEP Submitted (02)	Provisions are made in our plant/measures to be taken if mishap/hazards occurs. (03)
(a)	Risk Analysis of Various plants in terms of molten metal boiling, splashing due to variousreasons is not addressed.	In old submitted OSEP described on page No.- 90 and in detailed MSDS as enclosed from Page No.-52 to 84 Now it addressed adequately as much as possible and we takecare/adopted in our plant, to avoid any possibilities of accident. In SMS shop & Ferro Alloy Division different Raw Materials(mainly-Sponge Iron/Iron Ore/manganese Ore, Coal/Coke and other Alloys are feed in furnace for melting, in Induction Furnace and Submerged Arc Furnace. Boiling & Splashing mainly occur due to impurities of silica in RM . It has found that higher % of Silica form/cause a hard cover overmolten mass in furnace and during removing/breaking this cover/slag may cause excess boiling and splashing of molten metal , due to it hazard may arise in nearby area and in turn may convert inaccident. In our Unit proper care taken/adopted to avoid any such condition. 1) proper analysis is done in lab of all raw material batch wise and onlythen feed in furnace. 2) whole process/operation are carried in presence of trained/well qualifiedperson and step by step under their Guidance, to avoid any suchpossibilities of accident/hazards. 3) All Raw Material must de-moisturised before feeding the furnace. As RM get melt and if it required to add some alloy/RM part, then it mustde-moisturised before adding in melt. So that temperature difference of bothmaterial not much more, otherwise there may be chance of explosion. 4) the ladle must be heated by LRF/Preheater before tapping the melt in it.If the temperature of ladle & melt is differ much more then there will be thechance of explosion. 5) Preheating checklist is to be monitored and maintained for recording the temperature of new Ladle. Due to such adopted care in operation/production, no any such accidents of Boiling/Splashing are notice in our plant.

CHAPTER - 8

FACILITIES AVAILABLE TO FIGHT HAZARDS IN M/S SKY ALLOYS AND POWER LIMITED

8.1. ALARMING SYSTEM

An electric ALARM facility is available at **M/S SKY ALLOYS AND POWER LIMITED** having a range of 0.50 KM. Its switch is kept in ECC and at Time Office

Presently the alarm is maintained in general for plant worker & Public is as under:

1. At 6.00 AM - For end of C shift and begining of A Shift.
2. At 8.00 AM - For beginning of General Shift.
3. At 10.00 AM - For lunch break of A Shift
4 At 11.00 AM - For end of lunch break of A Shift
5. At 1.00 PM - For lunch break
6. At 2.00 PM - For end of lunch break & end of A shift and beginning of B shift.
7. At 5.00 PM - For end of General Shift
8. At 6.00 PM - For lunch/Rest break of B Shift
9 At 7.00PM - For end of lunch break of B Shift
10. At 10.00 PM - For end of B shift and begining of C Shift.
11. At 2.00 AM - For lunch/Rest break of C Shift
12. At 3.00 AM - For end of lunch break of C Shift

The siren is blown continuously for 15 seconds once only in above cases.

8.1.1 EMERGENCY ALARM SYSTEM

In case emergency arises in the plant the way of blowing the siren shall be as under and blown by either CIC or by Time Office in-charge/Security Officer only after getting permission from CIC/WIC.

S.NO.	NATURE OF EMERGENCY	TYPE OF ALARM
01.	NORMAL FACTORY SIREN	CONTINUOUS BLOW FOR 15 SECONDS (ONCE ONLY)
02.	FIRE EMERGENCY, EXPLOSION AND IN CASE OF LEAKAGE OF OIL/ CHEMICALS	BLOW FOR 10(TEN) SECONDS AND OF FOR 05 (FIVE) SECONDS TO BE REPEATED 03(THREE)TIMES
03.	EMERGENCY CLEAR SIERN	CONTINUOUS BLOW FOR 30 (THIRTY) SECONDS ONCE ONLLY

8.2 EMERGENCY CONTROL CENTER (E.C.C)

For the efficient implementation of Emergency Action Plan, The Emergency Control Center (E.C.C) has established in our Unit, near the chamber of Director, situated in Office Building located near the entrance of Plant.

The E.C.C will be managed by the Chief Incident Controller in association with WIC, Security Officer, the Key Personnel and Sr. Officers of outside agencies called in for assistance. No other personnel shall be allowed to access the E.C.C.

The Emergency Control Center will be equipped with the following data/information:

1. Safety data pertaining to the hazardous materials likely to cause emergency.

2. Procedure of major and special fire fighting, rescue operations, first-aid, artificial respiration system, etc.

3. Emergency call out list of persons drafted for emergency control i.e. key personnel and notified team members, Security, Police and State authorities.

8.2.1 FACILITIES AVAILABLE AT E.C.C

The Emergency control Center (ECC) shall be equipped with following facilities all the time:

1. Intercoms/PAS system.
2. P & T Phones & Mobiles.
3. Internet & Fax facilities.
4. Layout Plan and Key Plan map.
5. District telephone directory.
6. Emergency lights.
7. Wind direction and speed indicator.
8. On-Site Emergency Plan manuals.
9. First Aid Box and its position in different section.
10. List of Personal Protective Equipment. (PPE)
11. Position of Fire Fighting Equipments. (on Layout plan)

8.2.2 AMBIENT WIND DIRECTION

The direction of wind of this area is generally from South West North East. As there is no sea surrounded to this place the ambient wind is calm and stern. A wind bag is fixed on the top floor of the unit to see the wind flow and direction.

During extreme summer due to atmospheric pressure wind velocity is observed as high.

A Chart is affixed in ECC, main gate and prominent points giving details about air direction and its probable speed, Gas detector is provided near Galvanizing Plant.

8.2.3 EMERGENCY LIGHTING FACILITY

For lighting the critical zones/Area of Plant at the time of Emergency and during the power cut off, We have D.G. Set through which power will be supplied for lighting all sections of Plant and also to run all the emergency equipments such as hydrant pump, extinguishing system, etc.

8.2.4 FACILITY OF ROLL CALLS/ATTENDENCE

At the time of Entry of workers for the Working shift the Roll Calls for attendance are made by Computerised punching System and by Time keeper/Supervisor too, for checking the system time to time. A proper records are kept as per rule.

8.2.5 FACILITY, TO INFORM RELATIVES OF VICTIM

The relatives of affected person due to emergency will informed trough Mobile of their close relatives as given by the workers in their bio data and by sending the office Staff to his residence (Address and Mobile/Telephone Nos of Close Relatives of all workers are noted & kept in record)).

8.2.6 FUNCTION OF EMERGENCY CONTROL CENTER (E.C.C)

In an emergency it is almost certain to evacuate affected person from inside the factory to a safer place. It is also essential to evacuate non-essential workers to streamline emergency Action Plan activities and ensuring safety of those people. The evacuation will be affected after getting infor -mation from the Works Incident Controller soon after emergency arises.

On evacuation, all works staff and employees other than Notified Team Member, shall be assembled at the assembly point for receiving and to work accord further information, etc.

8.3 ASSEMBLY POINT

The Plant Gate 1 has been marked as Assembly Point for the purpose defined above. As soon as the non-essential staff and employees came to knew about emergency, they shall reach to the assembly point without delaying and further, to ensure their safety and security.

8.3.1 ALTERNATE ASSEMBLY POINT

In the event of any problem, if arises so, to establish Assembly Point at Plant Gate 1 the Alternate Assembly Point has been marked near the Office and plant gate No.-1.

All employees and work staff assembled at the Assembly Point shall abide to the information and actions plan made know to them either by C.I.C or W.I.C or their representatives.
The non-essential work staff and employees shall not leave the assembly point unless and until asked for by the competent authority.

8.4 RESPONSIBILITY/DUTIES OF MEMBERS OF OUR ORGANISATION

The Responsibility and duty of personnel's of **M/S SKY ALLOYS AND POWER LIMITED** at the time of Emergency, are classified as under:

1. CHIEF INCIDENT CONTROLLER
2. WORKS INCIDENT CONTROLLER
3. KEY PERSONNEL
4. ESSENTIAL STAFF/CREW MEMBER AND NON-KEY PERSONNEL during the emergency.

8.4.1 RESPONSIBILITY OF CHIEF INCIDENT CONTROLLER

The overall in charge i.e. Director Shri Sanjay Goyal shall be the Chief Incident Controller.

Shri Indrajit Singh Vinod Factory Manager (WIC) will take over the charge of Chief Incident Controller in case of absent of Director.

The Chief Incident Controller (CIC) shall assume overall responsibility for the factory/storage site and its personnel.

The C.I.C. shall be responsible:

(a) To assess the magnitude of the situation and to decide if the affected staff needs evacuation from the assembly points to an identify safer place.

(b) To exercise direct operational control over the areas other than those affected.

(c) To undertake a continuous review of possible developments and assess in consultation with the WIC/Key personnel as to whether shut-down the plant or any section thereof, and the need of evacuation of personnel.

(d). To liaise with Sr. Officials of Police, Fire Brigade, Medical authorities Industries in Mutual Aid and Factory Inspector etc. in consultation with Communication Officer on phones and in writing too, and provide advise on possible effects on areas outside the factory premises as well as on adjacent village/residential area, through head of P&A. about the emergency.

(e) To look after rehabilitation of affected personnel on discontinuation of Emergency.

(d) To issue authorized statements to news media and, ensure that evidence is preserve for enquiries to be conducted by departmental as well as statutory authorities.

In addition to above, the following simultaneous actions will also be taken during the emergency period by CIC.

(A) DECLARATION OF EMERGENCY

After consulting the WORKS INCIDENT CONTROLLER, to declare EMERGENCY in the plant.

(B) GIVING ALL CLEAR SIGNAL

As after overcoming the emergency arise in Plant, after consulting with WIC he has to give ALL CLEAR SIGNAL

(C) INFORMATION TO GOVT. DEPARTMENT

CIC/WIC will inform to all Govt. department as wel as to Factory Inspector about the committed Emergency, and try to implement the suggestion from them.

8.4.2 RESPONSIBILITY OF WORKS INCIDENT CONTROLLER

Shri Indrajit Singh Vinod shall be the Works Incident Controller (WIC). (In absent of Shri Vinod Shri Anuj Saxena act as a WIC)

The W.I.C. shall immediately rushed to the incident site as soon as he comes to know about the emergency and, shall take overall charge. He shall subsequently informed about the emergency to the Chief Incident Controller. He will assess the extent of the emergency and decide if major emergency exist and inform the Communication Officer accordingly. Further the Officer in consultation with CIC inform to all out side agencies.

He shall be responsible:

(a) To direct all operations to stop within the affected area taking into consideration priorities for safety of personnel, minimum damage to the plant, property and environment and, minimum loss to materials.

(b) To provide advise and information to the Fire & Security Officer and the local fire service.

(c) To ensure that all non essential workers/staff of the affected areas are evacuated to assembly points and that the affected areas are searched for casualties.

(d) To set-up communication points and establish contact with Emergency Control Center in the event of area of electric supply causing disruption in Public Address System (PAS) and internal telephones.

(e) To report on all significant and developments to the Communication Officer, and CIC

(f) To have regard to the need to preserve the evidence so as to facilitate any enquiry in the cause and circumstances which caused or escalated the emergency.

(g) It will be the responsibility of (WIC) Works Incident Controller to identify the essential staff from Work Task Force and ask them to report at the define Control Center so as to ensure their availability.

8.4.3 RESPONSIBILITY OF KEY PERSONNEL

Apart from the Chief Incident Controller and Works Incident Controller, there shall be other key personnel who will be responsible to assist the C.I.C. and the W.I.C. as well as to carry out the job assign to them in connection with combating the emergency.
The Key Personnel/Officer In-charge list is already given.
A list of the key personnel along with their telephone numbers and their residential address shall be made available to all concerned suitably.

Wherever and whenever required, the key personnel in addition to their job assigned, shall assist the Chief Incident Controller and Works Incident Controller.

8.4.4 RESPONSIBILITY OF ESSENTIAL STAFF/CREW MEMBER

To streamline the activities in connection with combating the Emergency, personnel selected shall be known as Essential Staff. This may include Steno/Typist, Attendants, messengers, Drivers, Supervisors etc. depending upon the services required by either C.I.C. or W.I.C. or the Key personnel.

8.4.5 RESPONSIBILITY OF NON KEY PERSONAL

At the time of entry of Non-Key Personnel i.e. person from out side, instruct them to Know about the rule & regulation of Plant. Also be provide them a literature/ Pomplet that what TO DO and what NOT TO DO, also about their duty if emergency arises and to work as per the instruction of organisation member.

8.5 FIRE FIGHTING FACILITY AVAILABLE IN FACTORY TO FIGHT FIRE.

Fire extinguisher & its capacity	Fire tender tanker/trailer pump & its capacity	Max. quantity of foam & Foaming agents	Water jet producer	Water storage tank & its capacity	Nos. of hydrant points & their location	Nos. of hosereel & total length
CO2-4. 5KG-4 Nos. CO2- 10KG–2Nos. DCP -5KG.-5 Nos. DCP-10KG-. 2 Nos FOAM-4KG-3 Nos FOAM-10KG-1 No.	PROPOSED A fire tender Trailer pump of capacity 6 KL with a pump of cap. 20 H.P.	105 KG.	One fire Pump of 50HP produced water jet at 7KG/CM2.	1 Nos. O/H tank capacity of 500KL and 1No. GWT of cap.40000 KL	12 points (10 Nos.Single headed & 2Nos. double headed	12 Nos. 15mts. Long total 180mts. Long.

8.5.1 FACILITY OF FIRE BRIGADE AVAILABLE IN RAIGARH AND NEAR BY AREA :

Following are the Fire Brigade Services available on call :--

(1) Fire Brigade Services of Raigarh Municipal Corporation : Ph.224101 to 224104

(2) Fire Brigade Services of Jindal Raigarh : Ph.227101

8.5.2. INFORMATION REGARDING THE FIRE BRIGADE SERVICE OF RAIGARH MUNICIPAL CORPORATION

(a) Fire Brigade Supdt. : Shri G.R. Kurre
(b) Sub Officer : Shri Jadhav
: Shri P.K. Tiwari
(c) Head Leading Fire Man : 2 Nos.
(d) Staff Driver : 05 Nos.
(e) Fire Man (8 Hrs. Shift) : 15 Nos.
(f) Mechanics : 2 Nos.

The Fire Brigade Service of Raigarh Municipal Corp. is equipped with all & Every type of Fire Fighting Equipment to overcome any type of Emergency whether it may be of Fire or due to leakage/spillage of chemicals/Acid etc. On call after knowing about the type of emergency, they readily rush to the incident point and take charge to overcome the emergency.

8.6. EMERGENCY MEDICAL FACILITY AVAILABLE IN FACTORY.

Name of Doctor deputed as Company doctor.	Equipments available in ambulance available on call from Govt. Hospital Raigarh	Antidotes available if any.	First-Aiders available.	Ambulance van (Omni) Regd. No.- CG13-UA-9905 Provided by Management and kept in Factory. --- Place of Availability | Capacity | Facility available in Ambulance
Dr. Shalabh Agrawal Dispensary At Factory Site Phone No.- 73547-75000	Always 4 Nos. Ambulance is there equipped with Ventilator, Pace Maker, stretcher, nurse, Medicine etc	Cough Syrup, Strepsil, Lasix Tab Decodran.	Shri Homan Jaisval and Shri Laxmi Pd.Yadav	The management has provide one Ambulance /vehicle to use at the time of emergency to carry victim to hospitlise, it is always parked in the Ambulance Parking shed. Ambulance is equipped with breathing apparatus, Ventilator, stretcher, Medical Staff/ Nurse, all required Medicine etc.

8.6.1 HOSPITALISATION FACILITY

If any person/worker who gets affected during Emergency incidence in factory will immediately provided First aid and then taken to company's Doctor/Health Center where he will be treated as per the instruction of Doctor or shall be shifted to better medical center. Company has kept a vehicle/Ambulance -1 No.(Ambulance van (Omni) Regd. No.- CG13-UA-9905 Provided by management and kept in Factory) in the factory to meet any emergency if arise during operations. Further a qualified Doctor has been deputed whose clinic is inside/near the industrial Area and his services are available round the clock. Our Production Manager, Shift In-charge, Supervisors are well aware about the emergencies, they are living /staying in near by area and are able to reach site at any moment.

8.6.2 MEDICAL CREW and FIRST AID TEAM:

Company has appointed a Doctor on Contract Basis and trained person are employed to give the First Aid/ Medical assistance to the victim at site and to carry him for the further treatment (if required and refer by doctor/First Aid person) to Hospital/ Medical Center inside/off side the Factory.

Duty/Action of Medical Crew is as follows :

1) As after knowing /hearing/receiving the information about accident in Factory one of the First Aid trained person with Doctor (if available) rush to the site and give First Aid to the victim if there, simultaneously inform the doctor/senior person about the condition.

2) After giving First aid call Ambulence/vehicle to carry the victim for providing better Medical facility, to the medical center/Hospital. Vehicle used as Ambulance of Regd. No.- CG13-UA-9905 and we have contact other hospital also to avail us Ambulance at the time of Emergency.

3) Allow the Ambulence/evacuation vehicle/Out side medical agency to go through Factory Gate without normal Cheks.

4) Rescue of Victims/Causalities on priority basis.

5) To take and pass out the information to the senior of Victim during treatment in Hospital/ medical Center.

Company has provided FIRST AID Boxes at some auspicious point within Factory premises, at Medical center and in security office with following medicines- 4 Nos.

01. SUFRAMYCIN	02. BETNOVATE - N	03. LOCULA - 10%	04. BURNOL
05. DETOL	06. MECROERON	07. NIMSULF	08. IODINE
09. BETADINE (Iodine Ointment)		10. RELAXYGEL	11. BANDAGE
12. COTTON		13. SCISSORS	

8.6.2 FACILITY OF MEDICAL SERVICE AVAILABLE IN RAIGARH AND NEAR BY AREA:

(a) 50 bedded Government Hospital (Main Hospital) is about 20 Kms. from the factory.
C.M.O. RAIGARH HOSPITAL Phone No.- (07762) 274201 (O)
274481 (R)

(b) Government Hospital situated in Kharsia Distt.- Raigarh Phone No. - 07762- 272323

(c) Agrawal Nurshing Home of Dr. G.S. Agrawal in Civil Lines, Raigarh is about 30 KM from Factory, Nurshing home is equipped with following: Phone No.- 07762- 223481

Doctors- 2 Nos. (One of them is always for emergency service)
Compounder - 2 No. Nurses - 4 Nos. Beds - 10 Nos.

(d) Dispensary of Dr. Rajesh Singhal in Kharsia and at Plant Dispensary is equipped with following: Phone No.- -98279-99559
Doctor -1 No. Compounder - 1 No. Nurses - 1 No. Beds - 2 Nos.

8.7 FACILITY OF PERSONAL PROTECTIVE EQUIPMENTS IN SAPL

Nos. of emergency respirator kits available.	No. of self contained breathing apparatus	No. of Air line respirator	No. of canister respirators.	Other PPE's	Neutralisation facility provided for neutralizing chemicals.
03Nos.	01Nos	Nil	02Nos.	List of other PPE's are given as under (in sufficient Nos.)	Since there is no any chemical are used or produced as a waist in our Unit. Generated scrap is filled in low lying area of Factory.

8.7.1 DETAILS OF PPE's

The following protective devices have been used and safety measures were taken to protect the person from the direct effect of hazardous substances.

01. HAND GLOVES - 950 Nos.

All workers are strictly instructed to wear leather/asbestos hand gloves during handling Raw material hot material and scrap, and Rubber hand gloves for electrical work and other.

02. SHOES/GUM BOOTS - 1238 pairs

Shoes/Gum boots are provided to all persons working on the floor.

03. APRON - 425 Nos.

Heat/ chemical proof apron is provided to all workers, who they are engaged in the production process, to save their body from direct contact of Heat/chemicals.

04.GOGGLES - 898 pairs

While handling the Furnace process/hot steel pieces, workers and staff are instructed to wear goggles, to save the eyes.

04. NOSEMASK - 3850 Nos.

Sufficient Nos. of Nose masks are in each floor, and the workers and the staff are strictly instructed to wear these masks before they start their work and as per Covid Rule. Workers handling Raw Material specially Coal Iron ore, and Manganese are strictly wear the Hepa Filter Mask, Sergical Mask, N-95 (triple layer) and Cloth Nose mask to avoid the inhaling of fine dust of these materials.

05. HELMET - 855 Nos.

Sufficient Nos. of Helmet are there no any worker is allowed to enter the factory without wearing Helmet on his head.

06. EAR PLUGS– 1020 Nos.

All workers working in Noise Zone more then 80 decible are instruct to use Ear plug . Ear Plugs are provided to all worker to keep with them and use .

07. FLUSH & SHOWERS -08 Pts.

Flush and showers are made available in few points of working area where Oils are being handled. If any mishaps take place, these can use for an immediate wash of the victim

08. EMERGENCY KIT TO STOP OIL LEAKAGE - 04 Nos:

A set of leak stop emergency kit is kept available in Oil storage area. The workers and supervisors are well trained in handling the same.

The above items shall be inspected and ensured serviceable by the concerned shift In-charge of the section/location on regular intervals.

Any damage/deterioration/defect noticed in any of the above mentioned Personal Protective Equipment shall be highlighted in the record register to be maintained by the shift in-charge and accordingly, replacement of the same shall be ensured.

8.8 PROTECTION SYSTEMS

The **M/S SKY ALLOYS AND POWER LIMITED** (SAPL) which consist now Steel Integrated Plant (consist Sponge Iron Division , Power plant Division, SMS +CCM Plant (Induction Furnace) & CCM Division, Ferro Alloy Div. & Fly Ash Brick Plant), has been carefully designed and protected by sophisticated instrumentation, valves, Controls and Inter-locks and it properly maintained &operated so the above risks Negligible. To run the plant and to control the process, experienced, qualified and trained personnel are deployed. Where necessary the employees are equipped with required personal protective equipment for protection against specific hazard. The plant is provided with fast response fire detection and fighting facilities like smoke detectors, emulsifier, sprinklers etc., and emergency trip and shut down systems.

Fire hydrant system is provided to facilitate supply of water under adequate pressure round the clock to the fire vulnerable areas/points/plant sections.

The fire fighting equipment like Fire Extinguishers and Sand Buckets are also be provided at conspicious points to over come the emergency due to Fire.

8.9 MUTUAL AID/CONSULTATION

We have Joint Consultation with the Industries located in near by. We all are bound to provide Help /Aid to each other in case of any type of emergencies, with all our available possible measures on calls. The Nearby/adjacent Units are listed below with them we have mutual coordination to help each other at the time of any emergency arises. Telephone/Mobile Nos. of Occupier/Fact. Manager for contacting them and the major facility available in their units are listed below :-

Sl. No	Name Of Near By Factory	Distance From Our Unit	Person to whom make contact	Contact telephone /Mobile Nos.	Facility available In Factory to over-Come emergency
1.	M/S RUKMANI POWER & STEEL LTD.	0.2 KM	Occupier /Manager	93033-29898	Trained Emergency Team Equi- pped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)
2.	M/S MONET ISPAT LIMITED	0.5 KM	Occupier /Manager	97520-94666	Trained Emergency Team Equi- pped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)
3.	M/S D.B.POWER LTD	0.7 KM	Occupier /Manager	07767- 247563	Trained Emergency Team Equi- pped with PPE's Sufficient Fire Extinguisher &With Fire Tender (Water Tanker with Pump)

8.10 WORK ENVIRONMENT QUALITY

Work Envirnoment Quality is very nice, Management try to give pollution free working atmosphere throughout the Factory premises. Time to Time we arrange monitiring for the pollution in & nearby the Factory to know about the Pollution/Contaimination of atmosphere due to handling/processing of chemicals and other materials used for manu -facturing.

A report of monitiring about the Working Envirnoment Quality is given as under.

Pollutant	Shift PPM	TWA
CO2 & Dust	08	15
CO	0.2	0.5

8.11 EMERGENCY TEAM AND THEIR DUTIES FORMED IN M/S SKY ALLOYS AND POWER LIMITED

SHRI VIKAS AGRAWAL (DIR) (CIC)
|
SHRI VIKAS AGRAWAL (FACT. MANAGER) (WIC)
|
SHRI SANJAY TRIPATHI (ASST. WIC)
|

FIRE FIGHTING TEAM	RESCUE OPERATION TEAM	CARDON TEAM
: OFFICER IN CHARGE	: OFFICER IN CHARGE	: OFFICER IN CHARGE
: SHRI SANJAY TRIPATHI	: SHRI ANUJ SAXENA	: SHRI INDRAJIT SINGH VINOD
ASSISTANT	**ASSISTANT**	**ASSISTANT**
: SHRI R S TYAGI	: SHRI DIGVIJAY PATEL	: SHRI UTTAM VAISHNAV
: SHRI DEVANAND PATEL	: SHRI DULESHVAR DANSENA	: SHRI RUDRAPAL PATEL
: SHRI KAMAL PATEL	: SHRI HORILAL YADAV	: SHRI CHANDRIKA PATEL
& Member of Crew Party	**& Member of Crew Party**	**& Member of Crew Party**

Medical Crew Head- : DR. SHALABH AGRAWAL
Medical crew Members : SHRI AJAY PATEL AND SHRI LAXMI PD.YADAV

DUTIES :	DUTIES :	DUTIES :
1.With the help of Fire Fighting equipments try to control the light fire/Leakage.	1. Inform to all concerning officers i/c Fire brigade services on phone regarding the Fire/Leakage in plant	1. Shut off all switches & cut off Power from main switch room.
2.Inform to Operators to shut down the process/ machines.	2. Keep all the important document/portable m/cs in the safe place.	2. Fulfill the supply of Fighting equipments to the emergency Tea.
3. All the workers working around the affected area are carried away except to the the emergency team persons -	3. Control the traffic at main gate of Plant & at place	3. Carry and guide the coming Fire brigade services to the point of fire/leakage.
	4. Give First Aid to victim & refer him to Hospital.	4.Follow the instructions From Fire Officer.
	5. Wait and follow the further instructions from Officer.	

CHAPTER - 9

ACTION PLAN TO MEET EMERGENCY

The main aim of **M/S SKY ALLOYS AND POWER LIMITED** is SAFETY FIRST. We take care of all safety steps, a detail information about the Action to overcome any type of Emergency may arise in our Unit are as under:

9.1 PROCEDURE TO MEET FIRE & OTHER HAZARD :

9.1.1 FIRST INFORMATION OF EMERGENCY

As soon as an emergency is noticed by any of the **SAPL** Staff, he shall shout to divert the attention of the people at the place of Emergency, and subsequently informed to the ECC Emergency Control Center by telephone & to the Shift Engineer/In-charge and also to the Security/Fire Officer.The Shift Engineer and the Security/Fire Officer shall immediately inform about Emergency to the Chief Incident Controller and the Works Incident Controller. In addition to this, they shall also inform to the Telephone Operator so as to intimate to all emergency team members and to other agencies accordingly. As per the instruction of CIC/WIC.

9.1.2 DECLARATION OF EMERGENCY

CIC/WIC After consulting with each other and to know about the magnitude of emergency and also to be consult with officer in-charge declare EMERGENCY in the plant. For this he himself are instruct security personnel to raise the EMERGENCY SIREN.

9.2 ACTION IN CASE OF LEAKAGE/SPILLAGE OF OIL/CHEMICAL

The Section In-charge/Operator as he know about the leakage/ spillage. The Operator/Incharge staff of These section, (who are fully trained to seal any such leakages) with the help of emergency kit stop leakage in shortest possible time and neutralise the leaked Oil/Chemical the other members are also be ready for help to control the situation.

9.3 ACTION TO FIGHT FIRE HAZARD

9.3.1 Emergency actions within 15 minutes of occurrence

a. Start water sprinkling on the affected plants, and on other Plant area.
b. Stop the plant and stop leakage of any chemical/Oil.
c. Inform to the Communication Officer and to CIC/WIC.
d. Shut down electric supply to the entire factory.
e. Dilute the escaped chemical if any by spraying water/lime.
f. Fight fire with CO2 and chemical powder extinguisher only.
g.Escape out workers except those trained for emergency operations.

9.3.3 ACTION IN CASE OF FIRE

The following actions will be followed to avoid fires ;

1. Any person discovering the fire shall attempt to put off the fire by using the first and fire -fighting appliances available.

2. Simultaneously, start shouting FIRE, FIRE, AAG, AAG till assistance arrives, . He will inform CIC/WIC on phone/intercom about the fire immediately. So the CIC/WIC them selves are instruct to Security personnel to raise Emergency Alarm.

9.3.3 ACTION BY THE PERSON NEXT ARRIVING AT THE SCENE OF FIRE

Any person hearing the shout fire/fire will immediately rush to the scene of fire and start ;

a. Shouting fire, fire, fire/ aag, aag, aag.

b. Assist rescue and fire fighting operation by using equipment and extinguishers available near by and intimate fire wing if not done already.

c. Guide/assist fire fighting personnel.

9.3.4 ACTION BY FIRE FIGHTING PARTY :-

a. The fire-fighting party soon after reaching the place of fire shall start rescue and fire /fighting work as quickly as possible and keep passages doors etc., clear for evacuation.

b. Arrange salvage operation protecting valuable property or covering up of machineries.

c. Keep the area clean of the unnecessary personnel.

d. Complete the fire brigade operation.

9.3.5 ACTION BY PLANT INCHARGE

a. Immediately on hearing the fire out break, he shall rush to the scene of fire and assume charge of rescue and fire fighting operation and ensure that the information is passed to the fire stati- -on; he will inform the Key Persons about the fire. Post a guide to direct the fire personnel to the scene of fire, if not already done.

b. If required, get the electrical connections cut off from the main switches.

c. Guide fire personnel about any special hazard and ensure successful fire fighting.

9.3.6 ACTION BY INCHARGE FIRE FIGHTING

The senior most officer present at the scene of fire irrespective of the fact whether he Is controlling the section or not shall assume control, assess the situation and take action to extinguish or control the fire as expediously as possible. He shall consult Senior Officer for further action.

9.3.7 ACTION BY OTHER

a. Other section In-charges not involving in fire, immediately on hearing the fire alarm /emergency alarm he shall relieve all the personnel(under his charge) who are trained in fire fighting to proceed to the scene of fire to render assistance as required.

b. All other work shall normally go uninterrupted.

9.4 EVACUATION

In a major emergency, it will certainly be necessary to evacuate personnel from the affected areas and as a precautionary measures to further evacuate non-essential workers, in the first instance from the areas likely to be affected should the emergency escalate On evacuation, the employees should be directed to reach predetermined assembly point. This is to ensure that employees don't have to approach the affected area /point.

9.4.1 INFORMATION TO GOVT. DEPARTMENT

CIC/WIC will inform to all Govt. department as well as to Factory Inspector about the committed Emergency, and try to implement the suggestion from them.

9.5 POST EMERGENCY OPERATION

After the fire, is extinguished from entire place/areas the team in-charge will inform to the CIC/WIC about the situation so that the all clear signal will be sounded on the electric siren by the consultation with Chief Incident Controller and Work Incident Controller.

9.5.1 ALL CLEAR SIGNAL

After over coming of emergency arise, works incident controller will communicate to Chief Incident Controller about it. After verification of status, the Chief incident cont -roller will communicate and announce the all clear instruction to sound the All Clear Signal.

9.5.2 ACTION OF SALVAGE TEAM

After overcoming the Emergency occured in factory the Salvage Team will act to clean /normalise and to decontaminate the affected Area /Section, so that working/production can be restarted .The Action taken by Salvage Teams are as follows:-

a) Clean/Remove the vapour of toxic material present in atmosphere by means of exhaust/sucking equipment.
b) Proper checking/maintenance of all Plant & Machineries of affected section and to maintain them in working condition
c) Find out the reason due to which emergency has occured and after analysing develop corrected plan that it will not be repeated in future.
d) Inform to CIC after making affected area as good as it was, for restarting the production/taken in use.

9.5.3 ACTION OF MEDICAL CREW and FIRST AID TEAM:

Action of Medical Crew and First Aid Team is as follows :

a) As after knowing /hearing/receiving the information about accident in Factory, one of the First Aid trained person with Doctor/nurse (available in OHC) rush to the site and give First Aid to the victim if there, simultaneously inform the doctor/senior person about the condition.
b) After giving First aid call Ambulence/vehicle to carry the victim for providing better Medical facility, to the medical center/Hospital.
c) Allow the Ambulence/evacuation vehicle/Out side medical agency to go through Factory Gate without normal Cheks.
d) Rescue of Victims/Causalities on priority basis.
e) To take and pass out the information to the senior of Victim during treatment in OHC/ Hospital/ medical Center.

9.5.4 ACTION OF OTHER TEAM/PERSONNEL

a. On hearing the all clear siren, all persons of the plant section concerned, other than fire staff return to the place of duty and resume duty.

b. Fire fighting party assisted by the staff as required shall return all first and fire fighting appliances to the exact locations and assist salvage work if so required.

c. The Main Incident Controller and Work Incident Controller along with the concerned plant in-charge and Sr. Security Officer shall thoroughly examine the premises of fire and if satisfied, advice for restart up of plant shall be issued by the Chief Incident Controller.

d. The Security Staff shall protect or guard the area till the security of all movable articles is ensured by keeping them in safety custody or removed to safety zones.

e. Enquiry committee shall be constituted by the Manager to investigate the reasons and to take preventive action to avoid re-occurrence in future.

Arrangement for training of worker or workers neighbour as how to act in an emergency and use different equipments necessary for ensuring safety at hazardous works/situation.

In (SAPL) workers have been trained to take necessary action in case of emergency. Mock drill is conducted for security personnel and Process Plant personnel to meet the emergency requirement.

CHAPTER - 10

ACTION & SAFETY MEASURES FOR ELECTRICAL INSTALLATION

10-1 GENERAL ASPECTS

In this modern world of civilization electricity has played an important role. It become very essential in our day to day life. Its need and demand is same as in home, in office and factory. Electricity is blind, impartial machines and human bodies are treated in the same way, it passes through both of them. The current flowing through a man depends upon the voltage and man's resistance. Normal human resistance various from 1000 to 10000 Ohms.If even 5 milli ampere current pass through a heart of man it will collapsed. So whenever a part of human body come in contact of electricity the injury may occur depends upon type and quantity of current and self resistance of human body. Thus electric injuries may occur any where. It may be caused by direct current (D.C.) or by lightening. The severe ness of the injuries by electric shocks depends upon :--

1 The amount of current flowing through the body.

2 The path of current has taken through body to the earth, a weaker current passing through heart is more dangerous than a relatively stronger current passing through any other parts of body.

3 Length of time victim is in contact.

4 Type of electric energy.

5 Physical condition of victim.

10.2 ELECTRIC SHOCK

10.2.1 To avoid Electrical Shocks it is very important to understand how to use electricity very safely. It is 100% possible to avert the electrical shock at all times. A little alertness on the part of Electricians, Electrical Supervisors and workers may 100% avoid any Electrical shock accident. It is therefore advised that the Electrician should observe the following:

1. He must ware rubber sole shoes.
2. He must use rubber gloves to attend electrical repair.
3. He should ensure to switch off the line before attending to work.
4. He should check the point of work, by a Electric Taster, to ensure that there is no power at point.
5. All the point of work should be properly earthed.

10.2.2. It has been observed that most of the Electricians know about the above but still from time to time news of accidents is heard. It is always due to negligence, over confidence or hurry to finish the work, carelessness in attending the works. It is therefore advised to always alert the electric -ians of these. It is also advised that every equipment and cable must be properly isolated with suitable isolating device and each of these isolations are identified by proper marking. The suitably isolators are installed, properly marked, locked and out point circuit should earthed.

10.2.3 SIGNS & SYMPTOMS IN ELECTRIC SHOCK

1 Sudden spasm
2 May be to release hands which holds the life points.
3 Burn.
4 Severe pain.
5 Cries aloud and falls on the ground.
6 Unconsciousness.
7 Breathing impaired or stopped.
8 Burns leading to severe surgical shock.

10.3 FIRST AID :

"ANY DELAY IN FIRST AID OF THE EFFECTED BODY IN ELECTRIC SHOCK IS A DELAY FOR EVER". Hence the first aids must not get excited and must not in-danger his life.

1 The current must be cut off or the plug should be pulled out.

2 The first aide must not touch the victim or the live conductor.

3 It is difficult to cut off the current the victim has to be separated by using a dry coat rope, stick, etc.

4. If there is dry wooden chair or rubber sheet the first aider must stand on it and then separate the victim.

5 If the cloths are smoldering the spark should be extinguished.

5. Artificial respiration is to be started immediately. This may be done whoever the victim is in unconscious while and pulse less.The artificial respiration should be continued till the doctor has arrived. One may like to continue for at least 8 hours before abandoning the case as dead. When the patient start swelling, one may understand that spontaneous breathing is being revived. Artificial respiration should be continued till normal movement of breathing is fully established, as the respiration may fail again if left earlier.

6. A blanket should be kept & put around the patient, the patient must be kept warm to treat he shock. He may be given warm sweet drinks if he is conscious otherwise not, as it may harm him.

7. Superficial burns of lightening, strange may be covered with a septic dressing. The deeper burns caused from contact with live conductors may be covered with clean sheet and the patient evacu -ated to a hospital without any further delay.

8. External cardiac massage may be given if the pulse is not felt or even artificial respiration.

10.4 SAFE USE OF ELECTRICITY :

While doing some installation himself, the only way this can happen is a mistaken on the part of the electrician to conceive on electrical conductor or starter to be dead when it is really live of while the electrician is working on dead line but here is in the proximity a live line which electri -cian promised himself not to touch while carrying out he work and the dead line but unfortuna -tely during the course of his work he forgets and in adverantly touches the live line which brings about his own end. Every equipment and cable has been provided a suitable isolating device so as to ensure isolation and if each of these isolators are identified by proper marking.

10.5 SPECIAL CARE FOR USE OF ELECTRICAL APPLIANCES

We have seen that a number of accidents take place from time to time in any nation every year due to electro-qution. It may be surprising to note that carelessness and ignorance is the root cause in almost all such accidents.
To avoid such accidents, following safety measures are suggested.

1. Do not use damaged plugs, wires, switches, etc.
2. Do not touch the electrical appliances with screw drivers etc. until and unless the supply is cut off.
3. Do not touch the appliances with wet helmet when supply is there.
4. Do not connect a number of appliances in a single point. Risk of fire will be obvious.
5. Do not keep wires hanging or loose but fittings should be proper & safe.
1. Use of only three pin plug is advised as one point has earthing facility.
7. In ceiling fans, nuts and safety pins fitted must be checked periodically.
2. Connect the supply to appliances through plugs only do not insert naked wires, match sticks or wooden stick.
9. Defective appliances should be immediately rectified through a competent person.
10. Power supply should be cut off before attending a repair of equipment.
11. Keep heaters or room heaters away from the material which are sensitive to fire.
12. Use the appliances as long as you actually require. After the job is done switch off the supply of save energy.
13. Fuse wire of proper size should be used.
14. Clean the dust etc. of appliances before using.
15. Do not rush to save electrocuted person without taking proper care.

16. Before touching the affected person switch off the main.

17. Use rubber insulated tools and rubber hand gloves for working during supply or in its line.

18. Where there is danger caution board or HT line, please keep yourself away from site.

19. Always prefer equipment of ISI marked.

The above precaution certainly saves from the accidents in factory as well as at homes.

10.6 SUPPLY FAILURE

In case fails due to internal problem or due to fault in Generator supply then:

1. First of all MOCB is tripped and fault detected.
2. Following safety equipments are provided to Electrician:
   a. Hand Gloves
   b. Goggles
   c. Safety Apron

   After detection of fault it is rectified and informed to General Manager (Works) before switching on the line. Then the line is switched on.

4. In case of failure from D.G. side they are contacted immediately to rectify the fault.
5. The following safety equipments are provided in control room for any emergency:
   a. First Aid Box
   b. Artificial respiration chart
   c. Discharge rod
   d. Hand Gloves
   e. asbestos apron
   f. Goggles
   g. Fire Extinguishers and Sand Buckets

10.7 EXPLOSION.

It has also been observed that some times explosion occurs in oil Circuit Breaker and in Oil filled Transformer. Such explosion takes place only when oil is overheated due to increase in the tempe -rature of winding, which may be result of overloading. To prevent overloading safety devices and control equipments are properly installed. The Sub Station transformer is operated under the specified load only. The current is constantly monitored and at the increase of current the load is reduced. Besides this oil temperature gauge is installed in transformer and a hooter is also install -led the moment temperature increases that the specified - limit the hooter get activated and than immediately load is reduced or power is switched off to cool the transformer. Besides this period -ical testing of tansformar and cable and oil will be done, to avoid explosion.

10.8 POWER CABLES :

It is to be secured properly it is to be protected from physical hazards. All junction boxes should be protected and supported, checking of earthlings is necessary. All junction boxes should be fitted with compound

10.9 TRANSFORMER :

(A) Distribution Transformer

Distribution Transformer shall be located in sub-station in free air and shall be mounted at Height on Ridder to protect from Physical damage. Temperature of oil should be continuously monitred and the quality of oil should be checked periodically.

The transformer are located in fresh air its location is free from physical hazards checking of transformer for over heating is done time to time to avoid explosion.

(B) Sub-Station

Sub-section must be properly fenced and to avoid entry of reptiles such as snakes etc., round rabbles must be properly and evenly distributed on ground.

The following Check Points must be considered:

a. Checking the quantity of oil.
b. Checking of any leakage from transformer.
c. Checking of gasket or radiator tube or transformer.
d. Suitable extinguisher used must be installed nearer to the transformer.
e. Checking of control switches, starters.
f. All operating handles and reset buttons should be free for operation.
g. Checking of all type of protection in relay.
h. Terminal of cables must be checked periodically.
i. Checking of contacts and replacing them.
j. Periodic checking of MOCB and ACB.

The Electric supply to our this Unit is 1800 KVA by a Kharsiya Sub Station and we have Switch Yard for Captive Power generation of 16 MW with allied equipment as per norms. We have 2 Nos. D.G.Sets of capacity 750 KVA & 1 No. -500-125 KVA, placed in D.G. room near to the Control Room away from processing area, its vent is kept in such direction so that there will be no any chance of fire. D.G. Set is used mainly to meet the power at the time of failure to meet the emergency services.

All types of protection are provided in Sub-station and Switch Yard which are essential and foremost. Also we have provided Lightning Arresters.

CHAPTER - 11

TRAINING, DRILL & FUNCTIONING OF EMERGENCY PLANNING

11.1 FULL MOCK DRILL/REHARSHAL SCHEDULE MONITORING COMMITTEE

For effective functioning of the Emergency Planning during the need of hours, full Mock Drill shall be carried out once in a Year at least.
The committee may invite any other official/expert, if considered necessary.
The Committee shall supervise the following activities:

a) Functioning of Emergency Control Center very effectively. Especially, to ensure availability of all facilities, etc. as mentioned in the plan and to make the function healthiness.

b) To evaluate communication of the Emergency Plan to all segments of employees to familiars them about their responsibilities in case of any disaster, including evaluation of behaviour of employees and others.

c) To ensure that the necessities under material assistance scheme is properly documented and the concerned employees are fully aware in this regard.

11.2 EMERGENCY PLANNING EFFICACY DRILL MONITORING COMMITTEE

The Emergency Planning Efficacy Drill shall be carried out once in every six months.
The E.P. Efficacy Drill shall be carried out under the super vision of E.P. Efficacy Drill Monitoring Committee.
The committee may invite any other Official(s)/Expert(s) to assist its functioning.
The requirements given below related to the drill activities shall be necessarily supervised by committee for its being effectiveness. The Committee shall also ensure meeting with these requirements to make the drill useful and result oriented.

a) All members are trained about their responsibilities/duties. All of them are well aware of the evacuation routes, direction of evacuation, the equipments to be used during evacuation or the evacuation.

b) All employees are fully trained to rescue their colleagues, who are affected due to cause of disaster. In case they are unable to rescue their colleagues, they should know to whom they are to inform about such person(s).

c) All employees are fully trained in First-Aid use of desired equipments including breathing Appar -atus. First-Aid box, etc. and that, all these First-Aid appliances, etc, are available at the desired locations.

d) All warning alarms are functional.
e) All Telephone Lines/Communication Systems are provided in the Control Room.
f) All employees to be made aware of the authority declaring EMERGENCY.
g) Concerned official(s) authorised to inform the District Authorities, State Authorities and Corporate Center in the state of EMERGENCY are well aware of their role.

11.3 EMERGENCY PLANNING MOCK DRILL

Mock Drill is the exercise to ascertain effectiveness and proper implementation of the EMERGENCY PLANNING to counter with any probable disaster with full resources fully and properly utilised to minimise the loss to lives and properties as well as to the environment. The MOCK DRILL exercise shall have the following motive to work out the existing system related to EMERGENCY PLANNING.

1) Effectiveness of the Emergency Planning.

2) Availability of all facilities as per system laid down in the On-site Emergency Planning book.

3) Constraint being faced to meet with the requirements.

4) Any shortcoming encountered while doing the Mock Drill exercise.

5) Improvement(s) needed to make the Mock Drill more effective and more fruitfully.

The outcome of each Mock Drill Exercise shall be reported to the Head of Plant by the Chairman of Efficacy Monitoring Committee in a written report covering about mentioned and any other important points related to the On-site Emergency Planning and its Mock Drill Exercise, with the assistance of the committee members.

Suggestions, recommendations submitted by the committee, if any for improvement of the plan shall be rigorously worked out considering all pros and cons to arrive at a feasible and more effective working system. The decision so taken and amendment if so made in the plan/system shall be intimated to the Directorate of Factories, Chhatisgarh Government for obtaining approval there of.

11.4 MOCK DRILL EXERCISE/REHARSHAL SCHEDULE

It is imperative that the procedures laid down in the On-site Emergency Plan are put to the test by conducting full Mock Drill outlast once in a six months time period.

The Mock Drill shall be carried out step by step as stated below to ascertain its effectiveness and to obtain the desired result thereof:

FIRST STEP:
Test the effectiveness of the communication system.
SECOND STEP:
Test the speed of the mobilisation of the plant.
THIRD STEP:
Test effectiveness of Search, Rescue and Treatment of casualties.
FOURTH STEP:
Test Emergency Isolation and Shut Down as well as the remedial measures taken on the system.
FIFTH STEP:
Conduct a full rehearsal of the actions to be taken during an emergency.
FINAL STEP:
Prepare the Mock Drill Exercise Report covering all points related to deficiencies, eviations, short comes, lacunas, constraints, etc. encountered during the exercise.
Recommend suitable measures to counter with above mentioned evils and also suggest, if there is any thing to add for improvement of the system.

CHAPTER - 12

EMERGENCY POLICE SERVICE :

12.1 THE MAIN TASKS

The Main tasks that the Police may be required to perform during the such calamitous are mentioned below :

12.1.1 Assistance in stopping/controlling the sources of danger.
12.1.2 Assistance in securing human being and cattle trapped to the affected area.
12-1.3 Assistance in rendering first aid and medical health to those need.
12.1.4 Maintenance of order at the scene of disaster and prevention of anti social element from taking advantage of the situation and becoming active.
12-1.5 Assistance in evacuation persons not affected so far but ;likely to be affected.
12-1.6 Assisting in feeding and clothing of the victims rescued.
12-1.7 Removal of the dead bodies, their identification and disposal.
12-1.8 Assistance in providing shelter to those rendered homeless.
12-1.9 To prepare list of missing persons and
12-1.10 To communicate the information of disaster to other authorities of disaster control.
12-1.11 To contact responsible person in factory to take appropriate steps to minimise the damage due to disaster.

12-2 CLASSIFICATION OF THE CONTINGENCY :

In general Contingency will be classified in either of the following categories by the Police Head Quarters of Raipur.

a) MAJOR : A Calamity which is affecting the factory premises concerned and its immediate vicinity with causalities less than 10.

b) SERIOUS : A disaster which is affecting considerable jurisdiction of a Police Station or any important part of city.

c) GRAVE : A major portion of the city or almost the whole of the city isaffected.

By viewing the above calamity and the process of manufacturing of Steel integrated Plant carried in **M/S SKY ALLOYS AND POWER LIMITED** Only MAJOR type of calamities is possible in the factory.

12-3 ACTION

The major contingency will be handed by the concerned Police Station, i.e., Kharsia, Raigarh Police Station, under immediate supervision of the concerned Station Officer (S.0.) and in consultation with Deputy Superintendent of Police (Rural Head Quarters). The information shall be given to the Police control room of every incident and steps taken promptly. In case of calamity Police Service is available on Phone No. (07762) 272100 and 07762- 223226

CHAPTER - 13

MISCELLANEOUS :

13-1 SAFETY PRECAUTIONS IN LOADING/UNLOADING :

a) Where trucks loading/unloading job is done by crane, none should be allowed to remain nearby.

b) During unloading of scraps and its shifting a proper equipments is given to worker and care should be taken scrap must not spread any where.

13-2 SAFETY PRECAUTION IN CIVIL WORK AND JOB AT HEIGHT:

* For the civil construction work always engaged trained workers.

* Skay folding and shuttering materials must be of sound condition.

* The civil workers must not move from his work site to other Plant Area, until & unless he not to do so.

* While performing the work at height proper safety/protective, appliances must be used by worker.

* The Maintenance work of height must be performed under the supervision of Sr. Officer

13-3 SAFETY PRECAUTIONS FROM OUTSIDE/BOMB DISASTER :

a) There may be possibility of Bomb Blast by any terrorist activities , in such condition We try to evacuated all Factory premises, and try to save the life of workers.

b) Our Safety officer is wel trained to recgnise the Plant worker and entry of outsiders is ensured only after proper checking. He is also trained for any such Disaster.

c) There may be possibility That due to explosion in any nearby Industry our Plant area will not be affected. Because any such disaster will be limited up to their own premises but , all our Plant worker will be alert about that and Officers are ready to take safe step.

13-4 SAFETY PRECAUTIONS FROM SIESMIC DISASTER :

a) As viewing the Seismic Zoning Map of India published by GSI in 1935 and currently updated, Our Steel Integrated Plant come in the Area marked as least active Zone (Zone- II). The IS code assigns zone factor of 0.10 for Zone-II. Mean to say our Plant Area get affected or not by Seismic pressure, the earthquake of intensity 2.3 to 2.5 may be possible.

b) All civil construction of Factory Shed/Structure are designed and constructed by viewing this Seismic Pressure. Even if If there may be possibility of Seismic Disaster arise in this region, then in such condition/circumstances, We try to evacuated all Factory premises, and try to save the life of workers.

ANNEXURE-1

IMMEDIATE ACTION IN CASE OF ACCIDENTS IN LABORATORY DUE TO CHEMICALS

SL.NO.	ACCIDENTS	FIRE AID
1.	Combustible liquid	Don't run abbot, Lie down and roll on the floor - wrap the victim by blanket.
2.	Large Heat burn	Treat with gauge, thoroughly socked in normal saline
3.	Small Heat burn	Treat with anti burn cream.
4.	Skin of Eye effected by caustic liquids	Immediately wash caustic liquid from the from the skin of Eye nearest tap.
5.	Skin affected by a) Acid b) Alkali c) Bromine d) Silver Nitrate	 Apply Sodium bi-Carbonate solution Apply dilute Ammonium chloride solution Apply dilute Ammonium as quickly as possible than apply a thick paste of Sodium Bi- Carbonate and water. Apply normal saline solution
6.	Eye affected by caustic liquid	Apply Normal Saline Solution with an eye bath
7.	Discomfort due to breathing small quantities of chlorine or bromine	Continuously shill Ammonia Gas from bottle of dilute Ammonia Solution
8.	Chemicals in mouth	Spite chemicals from mouth and wash mouth thoroughly with water.
9.	Cuts	Apply surgical spirits or industrial methylated spirit and soft cream.

ANNEXURE - 2 STATE AUTHORITY OFFICERS

LIST OF IMPORTANT STATE/LOCAL AUTHORITY

SL.NO.	DESCRIPTION	PLACE	TELEPHONE/FAX NUMBERS
01.	COLLECTOR	RAIGARH	07762 226024 (O) 223033 (R) 07762 2228824 (FAX)
02.	SUPDT. OF POLICE	RAIGARH GRAMIN	07762 237316 (O) 236333 (R)
03.	CHIEF INSPECTOR OF FACTORIES	O/O CIF INDRAVATI BHAVAN 2ND FLOOR , C- BLOCK RAIPUR (C.G.)	0771- 2443515 (O)
04.	DEPUTY DIRECTOR OF IH&S.	DY. IH&S OFFICE Above Sweta Medical, Chakradhar Nagar Chowk RAIGARH (C.G.)	07762 –223035 (O) (Mob- 9425547693)
05.	POLICE STATION (NEAREST)	KHARSIYA (RGH) THANA	07762-272100 (O)
06.	CMO GOVT. HOSPITAL , RAGARH KHARSIYA	GOVT. HOSPITAL	07762-274201 (O) - 274481 (R)
07.	REGIONAL OFFICER (POLLUTION BOARD)	RAIGARH	07762-246997 (O)
08.	CSEB SUB STATION	KHARSIYA	07762 -272574 (O)
09.	FIRE BRIGADE RMC.	RMC OFFICE CHOWK	07762 -224101 (O)

ANNEXURE - 3 LIST OF ACCIDENTS OCCURED AND THEIR POTENTIAL

S. NO	NATURE OF ACCIDENT	DATE OF ACCIDENT	NAME OF WORKER GET AFFECTED & DETAIL OF TREATMENT ETC.
1.	Non-Fatal	12/09/2021	Mr. **BACHCHA PRASAD S/O** Mr. **RAMADAS RAY** **Place Of Accident**- FLY ASH SILO, Date of job resumption- ON BED REST, After Treatment get cure (medically fit)
2	Non-Fatal	12/09/2021	Mr. **SHIV KUMAR JAISWAL S/O** Mr. **DHAJARAM JAISWAL** **Place Of Accident**- FLY ASH SILO, Date of job resumption-ON BED REST After Treatment get cure (medically fit)
3	Fatal	12/09/2021	Mr. **BASANT KUMARV SINGH S/O** Mr SIGASAN SINGH **Place Of Accident**- FLY ASH SILO, **Civil Court Case** – RUNNING
4	Fatal	12/09/2021	Mr. **MUNNILAL RAM S/O** Mr.MOTICHAND RAM **Place Of Accident**- FLY ASH SILO, **Civil Court Case** – RUNNING
5	Fatal	12/09/2021	Mr. **YADRAM SARTHI S/O** Mr.LAXMAN SARTHI **Place Of Accident**- FLY ASH SILO, **Civil Court Case** – RUNNING

Note: - Thus till date in last 3 Years 5 Nos of accidents has occurred which has been duly reported.

ANNEXURE - 4 REPORT OF MOCK DRILL CONDUCTED IN OUR PLANT

Our Plant Management carried Mock Drill Rehearsal Time to Time (at least twice in a year) by creating some false situation in some prompt area and the action taken by Safety Committee Team Member are detailed as shown below.

Note : As detailed earlier in future we will carried the Mock Drill Rehearsal in our plant time to time.

M/S SKY ALLOYS AND POWER LIMITED
Vill.-Temtema, P.O.- Rabartson, Teh.-Kharsiya,
DISTT.- RAIGARH (C.G.)
Phone No.- Fact. – 084355-04046
Email :- skyalloys@yahoo.in

(I) MOCK DRILL/REHARSHAL SCHEDULE- I Dt.- 24-06-2021

(1) MONITORING COMMITTEE

SN	Head Of Department	Name	Designation	Signature
1	Head of Plant	Mr. Vikas Agrawal	Director CIC	
2	Factory Manager	Mr. Vikas Agrawal	Manager WIC	
3	Head of Operation & Maintainance	Mr.Sanjay Tripathi	Gen. Manager	Head of Operation & Maintainance
4	Head of Mechanical	Mr.Anuj Saxena	Manager	Head of Mechanical
5	Head of P & Al	Mr.Digvijay Patel	Manager	Head of Electrical
6	Head of S afety	Mr.N.S. Kusvaha	Asst. Manager	Head of Personal Administration
7	Head of Quality Assurance	Mr.Rajkumar Patel	QC Officer	Head of Quality Assurance
8	Head of Security Service	Mr.Horilal Yadav	SO	Head of Security Service
9	Supervisor Furnace Section	Mr Rudrapal Patel	Supervisor	Supervisor Furnace Section

2) DETAIL OF MOCK DRILL/REHARSHAL SCHEDULE

Date & Time	24-06-2021 / 5.00 PM
Site / Location	Furnace Division
Situation	The Dummy Fire created on dumped waste cotton /coal .
Incident Controller	Shri Kamal Patel

contd.—102—

3) **ACTION OF COMMITTEE MEMBERS/WORKERS**

Response of Workmen's	As soon fire near Furnace Section Seen by Shri Rahul. He shout FIRE- FIRE, and immediately inform to the head of Section Following action taken by them :- 1. By Mobile information passed of emergency (Fire) to WIC 2. He told to assistant to evacuated the section and most of worker Evacuatedwithin 2-3 minutes, only few worker are there for help. 3. Section head immediately rushed the place of fire by taking Fire Extinguisher placed in nearby (near Refractory Store). 4. With the help of Fire Extinguisher they have extinguished the Fire within 5 Minutes
Response of Equipments	**Satisfactory**
Response Time (In Hrs.)	2 Minutes
Total Control on Emergency situation	Within 10 Minutes
Deficiency (if any)	**Nil**
Corrective Action Procedure Modification Equipments Replaced Others	 N.A N.A N.A
Preventive Action	Periodical fire fighting training and awareness Programmes should be organized from time to time.
Remarks recommendations	Nil

Signature of
Incident controller

Shri Kamal Patel

M/S SKY ALLOYS AND POWER LIMITED
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Email :- skyalloys@yahoo.in

(II) MOCK DRILL/REHARSHAL SCHEDULE-II Dt.-20-12-2021

1) MONITORING COMMITTEE

SN	Head Of Department	Name	Designation	Signature
1	Head of Plant	Mr. Vikas Agrawal	Director CIC	
2	Factory Manager	Mr. Vikas Agrawal	Manager WIC	
3	Head of Operation & Maintainance	Mr.Sanjay Tripathi	Gen. Manager	Head of Operation & Maintainance
4	Head of Mechanical	Mr.Anuj Saxena	Manager	Head of Mechanical
5	Head of P & Al	Mr.Digvijay Patel	Manager	Head of Electrical
6	Head of S afety	Mr.N.S. Kusvaha	Asst. Manager	Head of Personal Administration
7	Head of Quality Assurance	Mr.Rajkumar Patel	QC Officer	Head of Quality Assurance
8	Head of Security Service	Mr.Horilal Yadav	SO	Head of Security Service
9	Supervisor Furnace Section	Mr Rudrapal Patel	Supervisor	Supervisor Furnace Section

2) DETAIL OF MOCK DRILL/REHARSHAL SCHEDULE

Date & Time	20/12/2021 / 4.10 PM
Site / Location	SID Division
Situation	The Dummy Fire created on dumped waste cotton /coal .
Incident Controller	Shri Duleshwar Dadsena

contd.—104—

3) **ACTION OF COMMITTEE MEMBERS/WORKERS**

Response of Workmen's	As soon fire near Rolling Mill Section Seen by Shri Patel. He shout FIRE- FIRE, and immediately inform to the head of Section Following action taken by them :- 1. By Mobile information passed of emergency (Fire) to WIC 2. He told to assistant to evacuated the section and most of worker Evacuatedwithin 2-3 minutes, only few worker are there for help. 3. Section head immediately rushed the place of fire by taking Fire Extinguisher placed in nearby (near Refractory Store). 4. With the help of Fire Extinguisher they have extinguished the Fire within 5 Minutes
Response of Equipments	**Satisfactory**
Response Time (In Hrs.)	2 Minutes
Total Control on Emergency situation	Within 10 Minutes
Deficiency (if any)	**Nil**
Corrective Action Procedure Modification Equipments Replaced Others	 N.A N.A N.A
Preventive Action	Periodical fire fighting training and awareness Programmes should be organized from time to time.
Remarks recommendations	Nil

Signature of
Incident controller

Shri Duleshwar Dadsena

M/S SKY ALLOYS AND POWER LIMITED
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Email :- skyalloys@yahoo.in

(III) MOCK DRILL/REHARSHAL SCHEDULE- III Dt.-27-06-2022

(1) MONITORING COMMITTEE

SN	Head Of Department	Name	Designation	Signature
1	Head of Plant	Mr. Vikas Agrawal	Director CIC	
2	Factory Manager	Mr. Vikas Agrawal	Manager WIC	
3	Head of Operation & Maintainance	Mr.Sanjay Tripathi	Gen. Manager	Head of Operation & Maintainance
4	Head of Mechanical	Mr.Anuj Saxena	Manager	Head of Mechanical
5	Head of P & Al	Mr.Digvijay Patel	Manager	Head of Electrical
6	Head of S afety	Mr.N.S. Kusvaha	Asst. Manager	Head of Personal Administration
7	Head of Quality Assurance	Mr.Rajkumar Patel	QC Officer	Head of Quality Assurance
8	Head of Security Service	Mr.Horilal Yadav	SO	Head of Security Service
9	Supervisor Furnace Section	Mr Rudrapal Patel	Supervisor	Supervisor Furnace Section

2) DETAIL OF MOCK DRILL/REHARSHAL SCHEDULE

Date & Time	27/06/2022 / 5.00 PM
Site / Location	Power Division
Situation	The Dummy Fire created on dumped waste cotton /coal .
Incident Controller	Shri Kamal Patel

contd.—106—

3) **ACTION OF COMMITTEE MEMBERS/WORKERS**

Response of Workmen's	As soon fire near Furnace Section Seen by Shri Kunal Sahuji. He shout FIRE- FIRE, and immediately inform to the head of Section Following action taken by them :- 1. By Mobile information passed of emergency (Fire) to WIC 2. He told to assistant to evacuated the section and most of worker Evacuatedwithin 2-3 minutes, only few worker are there for help. 3. Section head immediately rushed the place of fire by taking Fire Extinguisher placed in nearby (near TG Building). 4. With the help of Fire Extinguisher they have extinguished the Fire within 5 Minutes
Response of Equipments	**Satisfactory**
Response Time (In Hrs.)	2 Minutes
Total Control on Emergency situation	Within 10 Minutes
Deficiency (if any)	**Nil**
Corrective Action Procedure Modification Equipments Replaced Others	 N.A N.A N.A
Preventive Action	Periodical fire fighting training and awareness Programmes should be organized from time to time.
Remarks recommendations	Nil

Signature of
Incident controller

Shri Kamal Patel

M/S SKY ALLOYS AND POWER LIMITED
Vill.-Temtema, P.O.- Rabartson, Teh.-Kharsiya,
DISTT.- RAIGARH (C.G.)
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Email :- skyalloys@yahoo.in

(IV) MOCK DRILL/REHARSHAL SCHEDULE-IV Dt.-19-12-2022

1) MONITORING COMMITTEE

SN	Head Of Department	Name	Designation	Signature
1	Head of Plant	Mr. Vikas Agrawal	Director CIC	
2	Factory Manager	Mr. Vikas Agrawal	Manager WIC	
3	Head of Operation & Maintainance	Mr.Sanjay Tripathi	Gen. Manager	Head of Operation & Maintainance
4	Head of Mechanical	Mr.Anuj Saxena	Manager	Head of Mechanical
5	Head of P & Al	Mr.Digvijay Patel	Manager	Head of Electrical
6	Head of S afety	Mr.N.S. Kusvaha	Asst. Manager	Head of Personal Administration
7	Head of Quality Assurance	Mr.Rajkumar Patel	QC Officer	Head of Quality Assurance
8	Head of Security Service	Mr.Horilal Yadav	SO	Head of Security Service
9	Supervisor Furnace Section	Mr Rudrapal Patel	Supervisor	Supervisor Furnace Section

2) DETAIL OF MOCK DRILL/REHARSHAL SCHEDULE

Date & Time	19/12/2022 / 4.00 PM
Site / Location	Power Division
Situation	The Dummy Fire created on dumped waste cotton /coal .
Incident Controller	Shri Duleshwar Dadsena

contd.—108—

3) **ACTION OF COMMITTEE MEMBERS/WORKERS**

Response of Workmen's	As soon fire near Rolling Mill Section Seen by Shri Ram Singh. He shout FIRE- FIRE, and immediately inform to the head of Section Following action taken by them :- 1. By Mobile information passed of emergency (Fire) to WIC 2. He told to assistant to evacuated the section and most of worker Evacuatedwithin 2-3 minutes, only few worker are there for help. 3. Section head immediately rushed the place of fire by taking Fire Extinguisher placed in nearby (near Control Room). 4. With the help of Fire Extinguisher they have extinguished the Fire within 5 Minutes
Response of Equipments	**Satisfactory**
Response Time (In Hrs.)	2 Minutes
Total Control on Emergency situation	Within 10 Minutes
Deficiency (if any)	**Nil**
Corrective Action Procedure Modification Equipments Replaced Others	 N.A N.A N.A
Preventive Action	Periodical fire fighting training and awareness Programmes should be organized from time to time.
Remarks recommendations	Nil

Signature of
Incident controller

Shri Duleshwar Dadsena

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(V) MOCK DRILL/REHARSHAL SCHEDULE- V Dt.- 24-06-2023

(1) MONITORING COMMITTEE

SN	Head Of Department	Name	Designation	Signature
1	Head of Plant	Mr. Vikas Agrawal	Director CIC	
2	Factory Manager	Mr. Vikas Agrawal	Manager WIC	
3	Head of Operation & Maintainance	Mr.Sanjay Tripathi	Gen. Manager	Head of Operation & Maintainance
4	Head of Mechanical	Mr.Anuj Saxena	Manager	Head of Mechanical
5	Head of P & Al	Mr.Digvijay Patel	Manager	Head of Electrical
6	Head of S afety	Mr.N.S. Kusvaha	Asst. Manager	Head of Personal Administration
7	Head of Quality Assurance	Mr.Rajkumar Patel	QC Officer	Head of Quality Assurance
8	Head of Security Service	Mr.Horilal Yadav	SO	Head of Security Service
9	Supervisor Furnace Section	Mr Rudrapal Patel	Supervisor	Supervisor Furnace Section

2) DETAIL OF MOCK DRILL/REHARSHAL SCHEDULE

Date & Time	24-06-2023 / 5.00 PM
Site / Location	Furnace Division
Situation	The Dummy Fire created on dumped waste cotton /coal .
Incident Controller	Shri Kamal Patel

contd.—110—

3) **ACTION OF COMMITTEE MEMBERS/WORKERS**

Response of Workmen's	As soon fire near Furnace Section Seen by Shri Ajay kumar. He shout FIRE- FIRE, and immediately inform to the head of Section Following action taken by them :- 1. By Mobile information passed of emergency (Fire) to WIC 2. He told to assistant to evacuated the section and most of worker Evacuatedwithin 2-3 minutes, only few worker are there for help. 3. Section head immediately rushed the place of fire by taking Fire Extinguisher placed in nearby (near Refractory Store). 4. With the help of Fire Extinguisher they have extinguished the Fire within 5 Minutes
Response of Equipments	**Satisfactory**
Response Time (In Hrs.)	2 Minutes
Total Control on Emergency situation	Within 10 Minutes
Deficiency (if any)	**Nil**
Corrective Action Procedure Modification Equipments Replaced Others	 N.A N.A N.A
Preventive Action	Periodical fire fighting training and awareness Programmes should be organized from time to time.
Remarks recommendations	Nil

Signature of
Incident controller

Shri Kamal Patel

ANNEXURE – IX: PHOTOGRAPH OF GREEN BELT

PHOTOGRAPHS OF GREEN BELT


पार्किंग

ANNEXURE – X: COMPLIANCE STATUS OF CREP GUIDELINES

COMPLIANCE STATUS OF CREP GUIDELINE

CIN : U27106CT2009PLC021164

SKY ALLOYS AND POWER LIMITED

STEPS TAKEN TOWARDS COMPLIANCE

CREP GUIDELINES

By M/S. SKY ALLOYS & POWER LTD.

Solid Waste/Hazardous Waste Management:-

S. No.	Solid /Hazardous Waste	Water Management
1.	Miss cast/Defective Billets etc.	This is reused in Induction Furnace. Practically the generation is Zero.
2.	Defective Ingots	Are being used in own Induction Furnace.
3.	Used Oil and Lubricant	These are being collected in M.S. Drum and presently being used in civil work, sold to authorized parties.
4.	Slag	The slag is being given to metal recovery units.
5.	Coal Ash and other dust etc	Given for brick making etc. beneficial purpose
6.	Char/ Dolochar	Given to power plants as fuel.

Water Conservation/Water Pollution:-

- At present industries DRI Kiln, Induction Furnace does not required water other cooling purpose. The power plant required water for boiler.
- The cooling is being done in closed circuit cooling system where 100% water is being recycled. Only evaporation loss will be there. There is no effluent generation.
- The power plant is equipment with ETP/Neutralization Pit and, where water is regularly treated and reused in the process.
- The domestic waste water is being treated through septic tank followed with sock pit.
- Zero discharge is being always maintained.

Air Pollution Monitoring:-

- The DRI kilns have been equipped with ESP and Chimney and maintain PM emission within 50 mg/NM^3.
- Induction furnace process is operated with electrical energy. There is no fossil fuel required in process. The air pollution mainly is particular emission which is being control through Bag Filter and Chimney of 30 meter height. The emission level is being kept within norms.
- In the Rerolled steel products are being produced through hot charging.
- Online stack monitoring facility have been provided,
- Ambient air quality is being regularly monitored and is maintained within prescribed limited.
- Fugitive dust is being control through various measure
  - Pucca internal road
  - Regularly sweeping of road with sweeping machine
  - Speed limited control
  - No use of without PUC vehicles.
  - Water sprinkling in roads and dust prone areas.
  - Greenbelt also helps to control fugitive emission.

For, Sky Alloys And Power Limited

Director

Regd. Office : "SKY HOUSE" 16, Recreation Road, Choubey Colony, RAIPUR (C.G.) - 492001
Ph.: 0771-4915104, 4046097, | Fax : 0771-4046097 | E-mail : skyalloys@yahoo.in
Works : KHARSIA, TAH.- KHARSIA, Temlerma, RAIGARH (C.G.) - 496661

CREP

1. **Water Conservation/Water Pollution:-**

2. **Air Pollution Monitoring:**

Induction Furnace Bag Filter & Chimney

Water Sprinkler

Online stack monitoring

Green Belt

ANNEXURE – XI: PHOTOGRAPH OF CSR ACTIVITY

PHOTOGRAPHS OF CSR

ANNEXURE – XII: STACK MONITORING REPORTS

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	3	F

Report No.:BEPLTR20250515ST25		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/009	Customer Sample ID*	ST-01
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Power Plant	Date of Sampling	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with FBC & WHRB
Type of fuel used	: Coal, Char and Dolochar
Stack height above the ground	: 80 mtr.
Stack Inner dia at Port Hole	: 3.8 mtr
Material of construction	: RCC
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 38°C
Flue Gas Temperature	: 170°C
Velocity of Flue Gas	: 10.5 m/s
Volume of Flue Gas Flow Rate	: 287083.6 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	27.13	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	64.00	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	43.87	--	IS 11255 (P-7), RA 2022

Note:

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15/05/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	4	F

Report No.:BEPLTR20250515ST26	**Date of Issue:15.05.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/010	Customer Sample ID*	ST-02
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Kiln Stack	Date of Sampling	09.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with WHRB
Type of fuel used	: Coal, Dolomite & Iron Ore
Stack height above the ground	: 48 mtr.
Stack Inner dia at Port Hole	: 1.3 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: ESP
Ambient Temperature	: 38°C
Flue Gas Temperature	: 116°C
Velocity of Flue Gas	: 10.1 m/s
Volume of Flue Gas Flow Rate	: 36851.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	29.47	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	60.88	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	39.12	--	IS 11255 (P-7), RA 2022

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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BEPL

TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	7	0	5	F

Report No.:BEPLTR20250515ST27			Date of Issue:15.05.2025
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/011	Customer Sample ID*	ST-03
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Ferro-2	Date of Sampling	10.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_X as NO_2 x 01 Nos. NO_X Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Submerged-Arc Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 1.2 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 38°C
Flue Gas Temperature	: 75°C
Velocity of Flue Gas	: 9.4 m/s
Volume of Flue Gas Flow Rate	: 32508.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	17.47	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	11.80	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	19.51	--	IS 11255 (P-7), RA 2022

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 15-05-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	0	7	0	6	F

Report No.:BEPLTR20250515ST28		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025051003/012	Customer Sample ID*	ST-04
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	SMS Area	Date of Sampling	10.05.2025
Environment Condition During Testing	Temp. (°C) - 24.7°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 26°C | Max.- 38°C Humidity(% RH) Min.- 33 % | Max.- 75 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	10.05.2025	Analysis Duration	10.05.2025 to 11.05.2025

ANALYSIS RESULT

Stack Attached to	: Induction Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 0.6 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 71 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 38°C
Flue Gas Temperature	: 62°C
Velocity of Flue Gas	: 8.4 m/s
Volume of Flue Gas Flow Rate	: 7477.5 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	14.36	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	5.91	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	11.47	--	IS 11255 (P-7), RA 2022

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 15-05-25
(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	6	F

Report No.:BEPLTR20250809ST017		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/007	Customer Sample ID*	ST-01
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Power Plant	Date of Sampling	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C Humidity(% RH) Min.- 60 % Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with FBC & WHRB
Type of fuel used	: Coal, Char and Dolochar
Stack height above the ground	: 80 mtr.
Stack Inner dia at Port Hole	: 3.8 mtr
Material of construction	: RCC
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 30°C
Flue Gas Temperature	: 156°C
Velocity of Flue Gas	: 10.1 m/s
Volume of Flue Gas Flow Rate	: 284329.1 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	26.81	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	61.94	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	47.42	--	IS 11255 (P-7), RA 2022

Note:

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(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, Bhoomi Envirotech Pvt. Ltd.

MSinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	1	1	0	7	F

Report No.:BEPLTR20250809ST018 | **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/008	Customer Sample ID*	ST-02
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Kiln Stack	Date of Sampling	03.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Kiln 100 TPD x 2 with WHRB
Type of fuel used	: Coal, Dolomite & Iron Ore
Stack height above the ground	: 48 mtr.
Stack Inner dia at Port Hole	: 1.3 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 33 Minute
Attached APCS	: ESP
Ambient Temperature	: 31°C
Flue Gas Temperature	: 128°C
Velocity of Flue Gas	: 9.5 m/s
Volume of Flue Gas Flow Rate	: 33526.8 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	30.24	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	69.68	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	41.50	--	IS 11255 (P-7), RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	1	1	0	8	F

Report No.:BEPLTR20250809ST019 — **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/009	Customer Sample ID*	ST-03
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	Ferro-2	Date of Sampling	04.08.2025
Environment Condition During Testing	Temp. (°C) – 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Submerged-Arc Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 1.2 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 67 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 30°C
Flue Gas Temperature	: 79°C
Velocity of Flue Gas	: 9.0 m/s
Volume of Flue Gas Flow Rate	: 30709.9 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	17.80	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	11.52	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	21.34	--	IS 11255 (P-7), RA 2022

Note:

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

MSinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

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TC-13412

Format No. - BEPL/QF/7.8/04

TEST REPORT

ULR	TC	1	3	4	1	2	2	5	0	0	0	0	0	1	1	0	9	F

Report No.:BEPLTR20250809ST020 | **Date of Issue:09.08.2025**

Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID.	BEPL/ST/2025080403/010	Customer Sample ID*	ST-04
Sample Description*	Stack	Sampling Done By	BEPL Staff
Sampling Location*	SMS Area	Date of Sampling	04.08.2025
Environment Condition During Testing	Temp. (°C) - 24.9°C Humidity (% RH)- 50 %	Environment Condition During Sampling	Temp.(°C) Min.- 24°C | Max.- 30°C Humidity(% RH) Min.- 60 % | Max.- 95 % Weather Condition- Sunny
Sample Quantity Received	PM (Thimble x 01 Nos.), SO_2 x 02 PVC Bottle , NO_x as NO_2 x 01 Nos. NO_x Apparatus		
Sampling Method	As Per CPCB Guideline (LATS/80/2013-2014)		
Date of Sample Received	04.08.2025	Analysis Duration	04.08.2025 to 05.08.2025

ANALYSIS RESULT

Stack Attached to	: Induction Furnace
Type of fuel used	: Electrically Operated
Stack height above the ground	: 40 mtr.
Stack Inner dia at Port Hole	: 0.6 mtr
Material of construction	: MS
Time of Sampling (in Minute)	: 71 Minute
Attached APCS	: Bag Filter
Ambient Temperature	: 31°C
Flue Gas Temperature	: 68°C
Velocity of Flue Gas	: 7.8 m/s
Volume of Flue Gas Flow Rate	: 6807.7 Nm^3/hr

Sr. No	Parameter	Unit	Result	Limits as per Consent	Test Method
1	Particulate Matter (PM)	mg/Nm3	12.63	50	IS 11255 (P-1), RA 2019
2	Sulphur Dioxide (SO2)	mg/Nm3	6.10	--	IS 11255 (P-2), RA 2019
3	Oxides of Nitrogen (NOx as NO2)	mg/Nm3	11.38	--	IS 11255 (P-7), RA 2022

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09/08/25

(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**

M Sinha 09-08-25

(Meman Kumar Sinha)
Authorized Signatory

.....End of test report.....

ANNEXURE – XIII: NOISE LEVEL MONITORING REPORTS

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ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
Certified Company

TEST REPORT

Report No.:BEPLTR20250515N006		**Date of Issue:15.05.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/N/2025051003/001-004	Customer Sample ID	N-01-04
Sample Description*	Ambient Noise	Monitoring Done By	BEPL Staff
Monitoring Procedure	As Per IS 9989 & CPCB Guidelines		
Weather Condition	Sunny	Environment Condition During Sampling	Temp.(°C) Min.- 26°C Max.- 38°C; Humidity(% RH) Min.- 33 % Max.- 75 %
Date of Sampling	09.05.2025	Duration of Sampling	24 hr.

MONITORING RESULT OF NOISE LEVEL

Sr. No.	Location	Observed Value dB(A)	
		Day Time	Night Time
1	Near Main Gate	71.3	59.0
2	Near Canteen	66.9	55.2
3	Near TG Building	73.0	62.7
4	Near Store Room	71.8	60.5
Limit as per CPCB Standard (Industrial Area)			
Day Time - 75		**Night Time - 70**	

Note:

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15/05/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**
15-05-25
Meman Kumar Sinha
Authorized Signatory

.....End of test report.....

Bhoomi Envirotech Pvt. Ltd.

D-1, Sector-3, Priydarshini Nagar,
Behind Vijeta Complex, Raipur-492006
Email- info.bhoomienvirotech@gmail.com
Web Site: www.bhoomienvirotech.co.in

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
Certified Company

TEST REPORT

Report No.:BEPLTR20250809N005		**Date of Issue:09.08.2025**	
Name and Address of Customer*	**Sky Alloys & Power Limited, Khasra No. 166, Temtema Road, Village - Temtema, Tehsil - Kharsia, Raigarh (C.G.)**		
Lab Sample ID	BEPL/N/2025080403/001-004	Customer Sample ID	N-01-04
Sample Description*	Ambient Noise	Monitoring Done By	BEPL Staff
Monitoring Procedure	As Per IS 9989 & CPCB Guidelines		
Weather Condition	Sunny	Environment Condition During Sampling	Temp.(°C) Min.- 24°C Max.- 30°C; Humidity(% RH) Min.- 60 % Max.- 95 %
Date of Sampling	03.08.2025	Duration of Sampling	24 hr.

MONITORING RESULT OF NOISE LEVEL

Sr. No.	Location	Observed Value dB(A)	
		Day Time	Night Time
1	Near Main Gate	71.9	60.4
2	Near Canteen	68.2	57.8
3	Near TG Building	72.4	62.1
4	Near Store Room	70.5	60.9
Limit as per CPCB Standard (Industrial Area)			
Day Time - 75		**Night Time - 70**	

Note:

- *The results given above are related to the tested sample, as received & mentioned parameters.*
- *The customer asked for the above tests only.*
- *When the information is supplied by the customer these can affect the validity of results.*
- *Asterisk mark(*) provided by the customer*
- *This test report shall not be reproduced without the permission of Bhoomi Envirotech Pvt. Ltd. (BEPL)*
- *The test report will not be used for any publicity/legal purpose.*
- *Responsibility of the BEPL is limited to the invoiced amount only*

09/08/25
(Ritesh Kurhade)
Reviewed By

BHOOMI ENVIROTECH PVT. LTD.

For, **Bhoomi Envirotech Pvt. Ltd.**
MSinha 09-08-25
Meman Kumar Sinha
Authorized Signatory

.....End of test report.....

ANNEXURE – XIV: PHOTOGRAPH OF OCCUPATIONAL HEALTH CENTER

Occupational Health


Bio Medical Waste Contain

ANNEXURE – XV: ECO-DEVELOPMENT MEASURES DETAILS

ECO-DEVELOPMENT MEASURES DETAILS

CIN : U27100CT2009PLC021184

SKY ALLOYS AND POWER LIMITED

DETAILS OF POLLUTION EQUIPMENTS EXPENSES YEAR 2020-21 TO 2024-25				
S.NO	YEAR	EQUIPMENTS	AMOUNT in Lac.	Total Amount in Lac.
1	2019-20	INSTALLATION OF CEMS & (3 NOS.) BAG FILTER - SID	60.00	65.00
2	2019-20	CONSTRUCTION OF WHEEL WASH	5.00	
3	2020-21	INSTALLATION OF AAQMS - MAIN GATE	8.00	18.00
4	2020-21	PURCHASE OF WATER TANKER	10.00	
5	2021-22	INSTALLATION OF CEMS & BAG FILTER - FERRO	40.00	80.00
6	2021-22	INSIDE ROAD CONSTRUCTIONS	40.00	
7	2023-24	CEMS - E.T.P	7.00	87.00
8	2023-24	CONSTRUCTION & INSTALLATION OF E.T.P. CAPACITY 80 KLD	30.00	
9	2023-24	INSTALLATION OFCEMS & BAG FILTER - SMS	50.00	
10	2020-24	PLANTATION EVERY YEAR (LAST 4 YEARS)	35.00	40.00
11	2020-24	SPRINKLERS ON ROAD SIDE	5.00	
12	2024-25	INSTALLATION OF CEMS - S.T.P.	6.00	28.00
13	2024-25	CONSTRUCTION & INSTALLATION OF S.T.P. CAPACITY 30 KLD	22.00	
14	2024-25	HIGH VOLUME SAMPLER & OTHE MONITORING EQUIPMENT ONLINE MONITORING SYSTEM.	9.25	9.25
15	2024-25	ESTIMATED COST OF OLD APCD INSTALLED ALONG WITH THE SPONGE IRON PLANT- ESP, BAG FILTER, CHIMNEY ETC.	815.00	815.00
16	2024-25	PIEZO METER, FLOW METER	2.00	2.00
17	2024-25	DRAINAGE SYSTEM	125.00	125.00
18	2024-25	19 WATER HARVESTING SYSTEM	2.00	2.00
		Total Amount in Lac.		1271.25

For, Sky Alloys And Power Limited

Director

Regd. Office : "SKY HOUSE" 16, Recreation Road, Choubey Colony, RAIPUR (C.G.) - 492001
Ph.: 0771-4915104, 4046097, | Fax : 0771-4046097 | E-mail : skyalloys@yahoo.in
Works : KHARSIA, TAH.- KHARSIA, Temtema, RAIGARH (C.G.) - 496661

ANNEXURE – XVI: ENVIRONMENT MANAGEMENT CELL

HIERARCHY


GENERAL MANAGER
Mr. Susanta Kumar Dehuri
HR MANAGER
Mr. Atanu Sarkar

ANNEXURE – XVII: ENVIRONMENTAL POLLUTION CONTROL MEASURES DETAILS

ENVIRONMENT POLLUTION CONTROL MEASURES DETAILS

INDIA

JAIN SURBHI & ASSOCIATES

CHARTERED ACCOUNTANTS

CERTIFICATE

We have checked and verified books of accounts (Un-audited) and other documents of M/s. Sky Alloys and Power Pvt. Ltd. having its registered office at 16, Recreation Road, Choubey Colony, Raipur (C.G.) and factory at Village Temtema, Tehsil Kharsia, Dist. Raigarh (C.G.) have created following Gross Fixed Assets as on 30.03.2024 for their Plant.

(Rs. In Lakhs)

Sl.No.	DESCRIPTION	EXISTING UNIT SPONGE IRON, WHRB BASED POWER PLANT 16MW, INDUCTION FURNANCE, FERRO ALLOYS PLANT AND ROLLING MILL PLANT	NEW POWER PLANT (CWIP)	TOTAL (GROSS FIXED ASSETS)
1.	Land & Site development	401.85		401.85
2.	Factory Shed & Building	3297.70		3297.70
3.	Plant & Machinery	29191.63	182.35	29373.98
4.	Office Equipment	64.08		64.08
5.	Furniture & Fixture	88.28		88.28
6.	Vehicles	438.23		438.23
7.	Computer and Peripherals	18.43		18.43
	TOTAL	**33498.20**	**182.35**	**33680.55**

FOR JAIN SURBHI & ASSOCIATES
CHARTERED ACCOUNTANTS

Surbhi Jain
(Partner)
Mem No. 429518
ICAI FRN: 021566C

Place: Raipur
Date: 27.04.2024
UDIN: 24429518BKADEY2976

No. 3, First Floor, Anand Tower, Opp. Rang Mandir, Gandhi Chowk, Raipur - 492001 (C.G.)
CA Surbhi Jain - +91 8319992356
CA Sarthak Jain - +91 8889377718
[illegible]@gmail.com
[illegible]@gmail.com

ANNEXURE – XVIII: PHOTOGRAPH OF DISPLAY BOARD

Photograph of Display Board of AAQMS

ANNEXURE – XIX: NEWSPAPER ADVERTISEMENT

NEWSPAPER ADVERTIZEMENTS

(Devi Chand Shrishrimal)
(Vivek Shrishrimal)
(Aparna Moghe)
Names of Applicants

Central Chronicle, Date-20.01.2011

NOTICE

This is to inform all the concerned peoples that M/s Sky Alloys & Power (P) Limited had awarded Environmental Clearance by Ministry of Environment & Forest, Government of India vide their letter F.No. J-11011/380/2009 IA II (I) dated 22.12.2010 for their proposed Integrated Steel Plant (Sponge Iron Unit 1,20,000 Tons / Year, Induction Furnace with Concast Unit 1,00,000 Tons / Year, Rolling Mill 1,00,000 Tons / Year, Ferro Alloys unit 30,000 Tons / Year, WHRB based Power Plant 8 MW, FBC based Power Plant 50 MW) to be installed at Village : Temtema, Tehsil : Kharasia, District : Raigarh (C.G.). The aforesaid letter is available at Ministry of Environment & Forest website http://envfor.nic.in/ and Chhattisgarh Environment Conservation Board at its Head Office 1 Tilak Nagar, Avanti Vihar, Raipur.

Sky Alloys Private Ltd.
Sd/-
Director

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सेन के साथ होगी गुहा की य

बिलासपुर। पीयूसीएल नेता विनायक सेन के साथ पीजूष गुहा की याचिका पर सुनवाई होगी। सूत्रों के अनुसार देशद्रोह का आरोप सिद्ध होने के बाद द्वितीय अपर सत्र न्यायालय रायपुर ने पीयूसीएल नेता विनायक सेन, नारायण सांन्याल व पीजूष गुहा को आजीवन कारावास की सजा सुनाई है। निचली अदालत

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सर्वसाधारण को सूचित किया जाता है कि मै.स्काय एलॉयज एण्ड पावर प्रायवेट लिमिटेड को ग्राम टेमटेमा, तहसील खरसिया, जिला रायगढ़ (छ.ग.) में मिनी इंटिग्रेटेड स्टील उत्पादन इकाई (स्पंज आयरन इकाई - 1,20,000 टन/वर्ष,स्टील मैल्टिंग शॉप-1,00,000 टन/वर्ष, रोलिंग मिल-1,00,000 टन/वर्ष, फैरो एलॉज इकाई-30,000 टन/वर्ष, डब्लू. एच. आर. बी. आधारित विद्युत उत्पादन 8 मैगावॉट, एफ. बी. सी. आधारित विद्युत उत्पादन 50 मैगावॉट) कि स्थापना के लिये पर्यावरण एवं वन मंत्रालय, भारत शासन के पत्र क्रमांक F. no. J -11011/ 380/ 2009 - IA II (I) दिनांक 22. 12. 2010 द्वारा पर्यावरण स्वीकृति प्रदान की गई है, जिसे पर्यावरण एवं वन मंत्रालय कि वेबसाईट (http://envfor.nic.in)पर देखा जा सकता है साथ ही छत्तीसगढ़ पर्यावरण संरक्षण मण्डल के मुख्य कार्यालय, 1-तिलक नगर, अवंति विहार, रायपुर में भी उपलब्ध है।

कृते
स्काय एलायज प्राइवेज लिमिटेड
डायरेक्टर

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