

Charge Chrome Plant, M/s Ferro Alloys Corporation Limited.

Environment Management Plan Compliance				
		Mitigation Measures	Actions Taken	Compliance Status
1	Water Environment	The plant would be designed on the concept of 'zero discharge' of plant effluent	The Plant follows Zero effluent discharge policy. No effluent is being discharged outside the plant.	Complied
2		The water used for furnace & gas cleaning plant operation are completely recycled with proper water treatment.	The cooling water is being recycled through pressure filters.	Complied
3		8235 Nos. of trees are planted & 3500 sq. m. Gardens developed inside the plant for soil & water conservation	6675 nos. of plants have been planted till date. Gardens also have been developed inside the plant premises.	Being Complied
4		The domestic effluents will be treated through STP of adequate size and the treated water shall be used for gardening. Canteen wastewater to soak pit through settling pit.	STP has been installed to treat domestic wastewater and treated water is being used for gardening purpose	Complied
5		The plant concrete drainage network system has been constructed for most of the areas & it is connected to 9 Nos. of water recharging pits (13 wells) to take care of storm water.	Concrete drainage network has been constructed and recharging pits have been constructed to take care of storm water. Photocopy is enclosed as Annexure 1	Complied
6		Developing a settling pond to collect storm water around the premises to prevent it from any contamination and recalcitrating by pumping system for plantation & water sprinkling for dust suppression. Also, for design and implementation of Roof-Top rainwater harvesting	Rainwater harvesting ponds have been developed to store storm water. The water is being used for plantation and dust suppression. Photocopy is enclosed as Annexure 2 .	Complied

M/s. Ferro Alloys Corporation Ltd. (A subsidiary of Vedanta Ltd.)

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(Signature)
C.S.K. Pattnaik

7	Air Environment	Bag filter with designed outlet dust concentration of 50 mg/Nm ³ ;	Outlet dust concentration is within the limit and analysis report has been attached as Annexure 3 .	Being complied
8		The event of failure of any pollution control equipment, automatic tripping in the control system, shall be provided	Air pollution control device (Gas cleaning plant) has been provided with interlocking system.	Complied
9		Attempt shall be made to use low sulfur coke to the possible extent	Coke with sulfur content of < 0.7 % (wt.) is used in the process. Total consumption for the year 2023-24 is 36102 MT. Testing report is enclosed as Annexure 4	Complied
10		Flame temperature will be maintained to ensure emission of less NOx	Emission of NOx from GCP bag filters are monitored through external NABL accredited lab. Report of the same has been attached with the Annexure 3	Complied
11		All vehicles and their exhausts would be well maintained and regularly tested for emission concentration	PUC certificate is maintained for all vehicles. Reference copy is enclosed as Annexure 5	Complied
12		Regular preventive maintenance of pollution control equipment;	It is being maintained regularly. Reference copy is enclosed as Annexure 6	Complied
13		Stack emissions shall be regularly monitored by FERRO ALLOYS CORPORATION LTD. / SPCB/external agencies on periodic basis as per statutory requirements.	It is being monitored regularly. Report for the same is enclosed as Annexure 3	Complied
14		Jet Pulse bag filters at all dry material conveying and transfer points	For controlling dust pollution in conveying and transfer points Dedusting unit with bag filter system has been installed. Photocopy is enclosed as Annexure 7	Complied
15		Regular dust suppression with water sprinkler on the haul roads;	Regular water sprinkling is being done through mobile sprinkler. Photocopy is attached for reference as Annexure 7	Being complied
16		Plant roads & approach roads shall be made of bitumen/concrete;	All internal road and connecting road from project site to main highway connected with PQC (Pavement Quality Concrete Road). Photocopy is attached for reference in Annexure 8	Complied
17		Areas between various sections and truck parking areas shall be made of concrete/bitumen/brickwork;	Photocopy attached for reference in Annexure 8	Complied
18		Open areas within the plant premises and along with boundaries of the plant premises shall be covered under greenbelt/plantation	PP have planted native species of trees around the plant boundaries. PP is currently having 34.84% of greenbelt coverage as per Greenbelt assessment by expert agency.	Complied
19		Construction materials such as sand etc. shall be fully covered during transportation to/from the plant site by road.	It is being followed and implemented	Complied
20		Installation of dust suppression system i.e. Dry Fog System near the fugitive dust generation sources in the Metal Recovery Plant.	Water sprinkling system has been installed in the fugitive dust generation points in metal recovery plant. Photographs to be attached	Complied
21		GCP stack emission monitoring	Stack emission monitoring is being carried out on monthly basis. Monitoring Report has been attached as Annexure 3	Complied

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22	Noise Environment	Plantation around the plant boundary will create a noise barrier for attenuating noise level.	Greenbelt along with stone patching boundary wall in the periphery of the plant boundaries has been developed to create a noise barrier for attenuating noise level.	Complied
23		Machinery design specifications of all the equipment in the Silico manganese plant will be to operate with noise level shall not exceed 85dBA as per the requirement of OSHA (Occupational Safety and Health Administration).	There is no silico manganese plant. So, this is not applicable.	Not applicable
24		Provision of acoustic enclosures to modulate the noise generated by machines.	Acoustic enclosures have been provided in the heavy noise generating equipment like DG sets, Compressors etc. Photographs enclosed as Annexure 9	Complied
25		Periodical lubrication of the heavy vehicles will help to keep the noise & vibration level at minimum.	It is being maintained.	Complied
26		Provision of Protective device like earmuff/plugs to the workers	Ear plugs have been provided to the workers working in high noise prone area. Reference copy is enclosed as Annexure 10	Complied
27		Post health check-ups of employees & contractual labourers working in the noise prone areas	Health check-ups is being carried out regularly for employees & contractual laborers working in the noise prone areas. PME attached as Annexure 11.	Being complied

28	Water Resources	Continuous attempt shall be made to optimize/reduce the use of water;	Water Policy has been framed and implemented along with that VSAP (Vedanta Sustainability Assurance Program) is maintained. Regular trainings have been given to the employees to use the water in a sustainable way. Details are enclosed as Annexure 12	Being complied
29		The wastewater generation from cooling tower blow down shall be minimized when COC is maintained at 6.	It is being complied & maintained	Complied
30		The makeup water for the cooling tower will be minimum, thereby facilitating water conservation.	There is minimal water requirement as makeup water in cooling tower. Raw water is treated through treatment unit and used in cooling purpose. To minimize makeup water requirement recirculation water is filtered through pressure filters and again used in cooling purpose.	Complied
31		Continuous attempt shall be made to avoid wastage and leakage of water	Leakage points & wastage areas are regularly identified & rectified. Regular awareness sessions have been conducted to sensitize employees about water conservation. Training program photographs are enclosed with Annexure 13	Complied
32		100% wastewater shall be recycled back after treatment	All wastewater is being treated through treatment unit and recycled in process.	Complied
33		Regular record of water consumption on daily basis shall be maintained	Digital water flowmeter with telemetry system has been installed for this purpose. Reference copy is enclosed as Annexure 14	Complied
34		Toilets and bathrooms shall be provided at site	It has been provided at site. Annexure 14	Complied
35		Water harvesting shall be carried out.	Rainwater water harvesting initiatives has been implemented. 3nos of recharging ponds have been developed to water harvesting purpose. Photographs attached as Annexure 2	Complied

36	Ecology	The species proposed to be planted shall be selected based on the criteria prescribed by CPCB as "Guidelines for Developing Greenbelts"	Native species have been selected for plantation as per guidance of forestry office. Details of the species is enclosed as Annexure 15 .	Complied
37		Local species shall be preferred	Plantation of local native species have been preferred. Details of the species is enclosed as Annexure 15 .	Complied
38		A qualified horticulturalist shall be deployed for proposed greenbelt development/plantation	A horticulturalist has been deployed for proposed greenbelt development/plantation	Complied
39		Proper fencing shall be carried out around the area where plantation is being carried out	Being followed in the required areas while plantation.	Complied
40		Necessary clearance shall be obtained from the statutory authorities due to the proposed plant on the ecological sensitive areas and proper management plan as suggested in the conservation plan shall be implemented seriously	The plant area is not coming under ecological sensitive area. The plant is established within the predefined industrial area. So, this point is not applicable	Not applicable

41	Solid Waste	Attempt shall be made to utilize the waste to maximum possible extent	100% of High-Volume Low Toxicity of waste is being utilized. Waste Utilization report is attached as Annexure 16.	Complied
42		Proper records of the solid waste to be generated and their usages for different purposes shall be maintained	Solid waste generation & utilization records are maintained. Waste Utilization report is attached as Annexure 16	Complied
43		Area used for storage of solid waste, if required at plant site shall be fenced properly. Continuous water spray shall be made for dust suppression and pucca road shall be constructed up to storage yard	As 100% of High-Volume Low Toxicity of waste is being utilized, so there is no storage area that to be fenced.	Not applicable
44		Dumping of solid waste shall be made in systematic manner and shall be levelled and compacted from time to time with layer of earth. At the end, the site shall be reclaimed by appropriate species of trees	As 100% of High-Volume Low Toxicity of waste is being utilized, so there is no solid waste dump.	Not applicable
45		Suitable drainage system shall be developed for surface runoff water during monsoon and at places settling/catch pits shall be provided to arrest any solid particles before it shall be flowing over to natural drainage system of the area	Drainage systems has been provided to transfer natural drainage water to collection pit for further treatment in SRTP. Photographs enclosed as Annexure 17	Complied
46		Dumping site shall be properly fenced and surrounded by green belt	As 100% of generated slag is being utilized so there is no requirement of fencing	Not applicable
47		Regular ambient air quality for dust and water monitoring shall be carried out around the dumping site	Monitoring of air quality and water quality is being carried out around the plant on regular basis. Report enclosed with Annexure 18	Complied
48		Lubricating waste oil shall be collected separately in drums and shall be sold to authorized external agency for further treatment	Separate drums are used to store lubricating waste oil and it is sold to SPCB authorized agency. Form 10 copy enclosed with Annexure 19	Being Complied

For Ferro Alloys Corporation Limited

KSM

Chief HSE Officer

Krutisunder Mohapatra

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MS Ferro Alloys Corporation Ltd. (FACOR)
Charge Chrome Plant

	Sl. No.	Particulars	EIA Commitment		Compliance	
			Capital Investment (INR in lacs)	Recurring Investment (INR in lacs)	Capital Investment (INR in lacs)	Recurring Investment (INR in lacs)
COST OF ENVIRONMENT MANAGEMENT PLAN	1	Air Pollution Control	1950	105	1729	11.46
	2	Water pollution	325	28	233.05	14.9
	3	Noise pollution	55	8	-	0.5
	4	Environmental Monitoring & Management	140	70	179.2	10.39
	5	Occupational health	35	25	5.6	52
	6	Risk Control Measures	30	20	133.1	5.1
	7	Green belt	25	25	14.12	7.38
		Total	2560	281	2294.06	101.73