SUMMARY ON

ENVIRONMENTAL IMPACT ASSESSMENT

REPORT

OF

V.A. POWER & STEELS PVT. LTD.

Expansion of Ferro Alloys unit
at
OP Jindal industrial Park , Sector -E,
Punjipathra Village, Gharghoda Tehsil, Raigarh District, Chhattisgarh

Submitted to

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Chhattisgarh

1.0 **V.A. POWER & STEELS PVT. LTD.** is operating a Ferro Alloy plant having 1 x 9 MVA Submerged Electric Arc Furnaces at OP Jindal industrial Park, Sector -E, Punjipathra Village, Gharghoda Tehsil, Raigarh District, Chhattisgarh. Now it is proposed to expand the existing plant capacity & also proposed to install another 1 x 9 MVA Submerged Electric Arc Furnace. Proposed expansion will be taken up in the existing plant of 12.05 acres (Plot Nos. 143,144 & 145 of SECTOR –E for which Consent to Establish (CTE) & CTO (Consent to Operate) have been obtained from Chhattisgarh Environment Conservation Board to manufacture Ferro Manganese & Silico manganese of 14,400 TPA capacity.

As per the Ministry of Environment, Forest & Climate Change (MOEF&CC), New Delhi notification, dated 14th September, 2006 and its subsequent amendments, all the Ferro Alloy units are considered under Primary Metallurgical units and falls under Sl. No. 3 (a) & classified as Category 'A' project for the grant of Environmental Clearance at Central Level. MOEF&CC, New Delhi has accorded Terms of Reference (TOR) for the proposed expansion project vide letter no. **J-11011/239/2016-IA.II(I)** dated **31st January 2017**. The EIA Report has been prepared considering the TOR issued by MOEF&CC.

Pioneer Enviro Laboratories & Consultants Private Limited, Hyderabad, which is accredited by NABET, Quality Council of India, vide certificate No. NABET/ EIA/ 1619/ RA 026, for preparing EIA report for Metallurgical Unit, have prepared Environmental Impact Assessment (EIA) report for the proposed expansion project by incorporating the TOR approved by Ministry of Environment, Forests & Climate Change, New Delhi. The report contains detailed description of the following:

- Characterization of status of environment with in an area of 10 km radius from the plant for major environmental components including air, water, noise, soil, flora, fauna and socio-economic environment.
- Assessment of air emissions, liquid waste and solid waste from the proposed expansion project along with the noise level assessment.
- Environmental Management Plan comprising of emission control measures proposed to be adopted in the proposed expansion project, solid waste management, Greenbelt development.
- Post Project Environmental Monitoring & Budget for Environmental Protection Measures.

1.1 ENVIRONMENTAL SETTING WITHIN 10 Km. RADIUS OF THE PLANT SITE

S.No.	Salient Features / Environmental features	Distance w.r.t. site / Remarks
1.	Type of Land (for Expansion)	The plant is situated in Industrial Park developed by O.P. JINDAL GROUP. The expansion project will be taken up in the existing plant premises only.
2.	Type of Land (Study Area)	As per LULC the land use within 10 Km. is as follows: Settlements – 2.9 %; Industrial Area- 6.6 %; , Water Bodies – 8.8 %; Scrub Forest& Dense Forest area – 34.4 %; Single crop land –19.2 %; Double Crop Land – 5.2 %; Plantation-1.1 %; Land with scrub – 15.6 %; Land without scrub – 4.1 % & Gullied land – 2.1 %.
3.	National Park/ Wild life sanctuary / Biosphere reserve / Tiger Reserve / Elephant Corridor / migratory routes for Birds	There are no notified National Park/ Wild life sanctuary / Biosphere reserve / Tiger Reserve/ migratory routes for Birds with in 10 Km. radius of the plant. However, movement of Elephants is observed within 10 Kms. radius of the plant, as per the secondary source. Conservation plan is being prepared.
4.	Historical places / Places of Tourist importance / Archeological sites	Banjari Mata temple is situated at a distance of 3.0 Kms. from the plant.
5.	Industrial areas / cluster (MoEF&CC Office Memorandum dated 13thJanuary 2010) and its subsequent amendments	Nil
6.	Defence Installations	Nil
7.	Nearest village	Punjipathara is the Nearest habitation - 0.8 Kms.
8.	No. of Villages in the Study Area	41
9.	Nearest Hospital	within the Industrial Park
10.	Reserved forests	Taraimal RF (0.3 Kms.), Samaruma RF (3.5 Kms), Suhai RF (5.8 Kms.), Rabo RF (6.4 Kms), Urdana RF (6.0 Kms.) Punjipathra PF (0.7 Kms.), Pajhar PF (4.5 Kms.), Maghat P.F. (5.3), Kharidungri PF (9.0 Kms.), Lakha PF's (8.0 Kms.) are exist within 10 Km. radius of the plant site.
11.	Water body	Kelo river (6.0 Kms.) & Kurket River(7.0 Kms.), Rabo Dam back water (7.0 Kms.) & Few seasonal nalas, ponds exists with in 10 Km. Radius of the plant site.
12.	Crops in the Study Area	Major Crops - Paddy, Arhar, Mung, Groundnut Minor crops - Wheat, Maize, Gram, Masur, Urad etc. Horticulture crops – Lemons, Papaya, Banana, Leechie, Potato, Mango, Tomato, Onion, Cabbage,

S.No.	Salient Features / Environmental features	Distance w.r.t. site / Remarks
		Chilly, Ginger etc.
13.	Nearest Railway station	Nil (Bhupdeopur R.S. –12 Kms.)
14.	Nearest Port facility	Nil
15.	Nearest Airport / Airstrip	Nil (Jindal Air strip – 13 Kms.)
16.	Nearest Interstate Boundary	No interstate boundary within 10 Km radius of the plant site. (Nearest interstate boundary is Odisha at a distance of 22 kms. from the plant site).
17.	Seismic zone as per IS-1893	Seismic zone – II
18.	R & R	There is no rehabilitation and resettlement issue, as the proposed expansion will be taken up in the existing plant premises only.
19.	List of Industries / Mining activity	The following industries are situated in O.P. Jindal Industrial Park.

List of Industries with the Industrial Park [Gen.TOR # 4 (viii)]

S.No.	Name of the Industry	Type
1.	M/s. Alok Ispat Pvt. Ltd.	Steel Plant
2.	M/s. Ganga Ispat Pvt. Ltd.	Steel Plant
3.	M/s. G.P.Global India Pvt. Ltd.	Steel Plant
4.	M/s. Narmada Iron and steel Pvt. Ltd.	Steel Plant
5.	M/s. Epic Alloys Steel Pvt. Ltd.	Steel Plant
6.	M/s. Eureka Iron and Energy Pvt. Ltd	Steel Plant
7.	M/s. Harsh Vinimay Pvt. Ltd.	Steel Plant
8.	M/s. Jagdamba Sponge Pvt. Ltd.	Steel Plant
9.	M/s. Maa banjari Ispat Pvt. Ltd.	Steel Plant
10.	M/s. Mamta Electrocasting Pvt. Ltd.	Steel Plant
11.	M/s. Sri Nirmalan and Steel Casting Pvt. Ltd.	Steel Plant
12.	M/s. R.S. Ispat Pvt. Ltd.	Steel Plant
13.	M/s. Radhe Govind Steel and Alloy	Steel Plant
14.	M/s. Raigarh Iron and industries	Steel Plant
15.	M/s. Rajat Ispat Pvt. Ltd.	Steel Plant
16.	M/s. Satguru Ispat Pvt. Ltd	Steel Plant
17.	M/s. Sai Ram Steel Pvt. Ltd	Steel Plant
18.	M/s. Shova Ispat Pvt. Ltd	Steel Plant
19.	M/s. Sri Banke Bihari Ispat Pvt. Ltd.	Steel Plant
20.	M/s. Shree Ram Hi Tech Steel and Power Pvt. Ltd.	Steel Plant
21.	M/s. Sri Balaji Ispat	Steel Plant
22.	M/s. Shree Consultant Pvt. Ltd.	Steel Plant
23.	M/s. Suryoday Steel Plant Pvt. Ltd.	Steel Plant
24.	M/s. Zeon Steel Pvt. Ltd.	Steel Plant
25.	M/s. Siddhi Vinayak Oxygen Pvt. Ltd	Oxygen Plant

S.No.	Salient Features / Environmental features	Distance w.r.t. site / Remarks		
		26.	M/s. Orion Ferro Alloys	Ferro Alloys
		27.	M/s. Vandana Energy Pvt. Ltd	Ferro Alloys
		28.	M/s. Tirumala Balaji Alloys Pvt. Ltd	Ferro Alloys
		29.	M/s. Ajay Ingot Rolling mills Pvt. Ltd.	Steel Plant
		30.	M/s. Subh Project Brick Plant	Brick Plant

1.2 Plant Configuration and Production Capacity

The following table shows the existing & proposed production capacities:

S.No.	Product	Plant Configuration & Production Capacity		
		Existing (1 x 9 mVA SEAF)	Proposed Expansion (1 x 9 mVA SEAF)	After Expansion (2 x 9 mVA SEAF)
1	SiMn	14,400 TPA (In Operation)	14,400 TPA	28,800 TPA (96 TPD)
		or		
2	FeMn	14,400 TPA (In Operation)	14,400 TPA	28,800 TPA (96 TPD)
		or		
3	FeCr	15,000 TPA **(Proposed Now)**	15,000 TPA	30,000 TPA (100 TPD)
		or		
4	FeSi	7,000 TPA **(Proposed Now)**	7,000 TPA	14,000 TPA (47 TPD)

1.2 Raw Materials

The following will be the raw material requirement for the proposed expansion project:

S.No.	RAW MATERIAL	QUANTITY (TPA)	SOURCE	MODE OF TRANSPORT
For Ferro Silicon unit (in the EXISTING FURNACE - 1 x 9 mVA)				
1.	Quartz	8,450	Chhattisgarh / Andhra Pradesh	By Rail & Road (covered trucks)
2.	Coke	2,800	Chhattisgarh / Bihar	By Rail & Road (covered trucks)
3.	MS Scrap	175	Raipur	By Road (covered trucks)
4.	Electrode paste	420	Maharashtra / West Bengal	By Rail & Road (covered trucks)
For Ferro Chrome unit (in the EXISTING FURNACE - 1 x 9 mVA)				
1.	Chrome ore	40,000	Sukinda (Odisha) Import (Indonesia)	By Road (Covered Trucks) From Port By Road (Covered Trucks)
2.	Coke	15,750	Chhattisgarh / Bihar	By Road (Covered Trucks)
For Ferro Silicon unit (in the PROPOSED FURNACE - 1 x 9 mVA)				

S.No.	RAW MATERIAL	QUANTITY (TPA)	SOURCE	MODE OF TRANSPORT
1	Quartz	8,450	Chhattisgarh / Andhra Pradesh	By Rail & Road (covered trucks)
2	Coke	2,800	Chhattisgarh / Bihar	By Rail & Road (covered trucks)
3	MS Scrap	175	Raipur	By Road (covered trucks)
4	Electrode paste	420	Maharashtra / West Bengal	By Rail & Road (covered trucks)
For Ferro Manganese unit (in the PROPOSED FURNACE - 1 x 9 mVA)				
1	Manganese Ore	26,650	MOIL / OMC	By Rail & Road (covered trucks)
2	Coke	15,350	Chhattisgarh / Bihar	By Rail & Road (covered trucks)
3	MS Scrap	1,030	Raipur	By Road (covered trucks)
4	Electrode Paste	3,000	Maharashtra / West Bengal	By Road (covered trucks)
For Silico Manganese unit (in the PROPOSED FURNACE - 1 x 9 mVA)				
1	Manganese Ore	15,850	MOIL / OMC	By Rail & Road (covered trucks)
2	Mn. Slag	9,000	In house generation	----
3	Quartz	3,900	Chhattisgarh / Andhra Pradesh	By Rail & Road (covered trucks)
4	Coke	1,600	Chhattisgarh / Bihar	By Rail & Road (covered trucks)
For Ferro Chrome unit (in the PROPOSED FURNACE - 1 x 9 mVA)				
1	Chrome ore	40,000	Sukinda (Odisha) Import (Indonesia)	By Road (Covered Trucks) From Port By Road (Covered Trucks)
2	Coke	15,750	Chhattisgarh / Bihar	By Road (Covered Trucks)

1.3 Manufacturing Process

Ferro manganese, silicon-manganese will be produced using manganese ore as main raw material, Ferro silicon will be produced using Quartz as main raw material & Ferro Chrome will be produced using Chrome Ore as main raw material in a sub-merged arc furnace using reducer (Coke) under high voltage.

1.4 Water Requirement

Water required for the proposed expansion project will be 29 KLD and same will be sourced from Ground water source. Water drawl permission will be obtained from CGWA. Water consumption in the existing plant is 31 KLD. Total water requirement after expansion will be 60 KLD. The following is the break-up of the water requirement for proposed expansion project.

Break-up of Water requirement

S.No.	Description	Water requirement Existing (in KLD)	Water Requirement Proposed (in KLD)
1.	Make-up water for Ferro Alloys	28	27
2.	For Domestic requirement	1	1
3.	For Greenbelt development	2	1
	TOTAL	**31**	**29**

1.4 Waste Water Generation

There will be no effluent generation in the process of Ferro alloy manufacturing as closed circuit cooling system will be adopted. The sanitary wastewater (0.8 KLD) generated will be treated in Septic Tank followed by Subsurface dispersion. In the existing plant zero liquid effluent discharge system is maintained in the existing plant and similar practice will be continued after expansion also. The following are the Characteristics of Sanitary wastewater.

1.5 Wastewater Characteristics

PARAMETER	Sanitary waste water untreated
pH	7.0 – 8.5
BOD (mg/l)	200 – 250
COD (mg/l)	300 – 400
TDS (mg/l)	800 – 900

2.0 DESCRIPTION OF ENVIRONMENT

Base line data has been collected on ambient air quality, water quality, noise levels, soil quality, flora and fauna and socio economic details of people within 10 km radius of the plant.

2.1 Ambient air quality

Ambient air quality was monitored for $PM_{2.5}$, PM_{10}, SO_2, NOx & CO at 8 stations including project site during 1st March 2017 to 31st May 2017. The following are the concentrations of various parameters at the monitoring stations:

Parameter		Concentration
$PM_{2.5}$	:	17.5 to 41.3 $\mu g/m^3$
PM_{10} *	:	31.8 to 72.6 $\mu g/m^3$
SO_2	:	6.9 to 20.5 $\mu g/m^3$
NO_X	:	7.2 to 27.1 $\mu g/m^3$

CO	:	460 to 1205 µg/m^3

2.2 Water Quality

2.2.1 Surface Water Quality

6 nos. of surface water samples have been collected, 2 from Kelo river (6.0 Kms.), one sample from Kurket River (7.0 Kms.) & 3 nos. of other samples are collected. The analysis of samples shows that all the parameters are in accordance with BIS-2296 specifications.

2.2.2 Ground Water Quality

8 Nos. of ground water samples from open wells / bore wells have been collected from the nearby villages to assess ground water quality impacts and analyzed for various Physico-Chemical parameters. The analysis of samples shows that all the parameters are in accordance with BIS: 10500 specifications.

2.3 Noise Levels

Noise levels were measured at 8 locations during day time & Night time. The noise levels at the monitoring stations are ranging from 41.95 dBA to 58.10 dBA.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 Prediction of impacts on air quality

The likely emissions from the proposed expansion project are PM_{10}, NOx & CO. The predictions of Ground level concentrations have been carried out using Industrial Source Complex (ISC-3) model. Meteorological data such as wind direction, wind speed, max. and min. temperatures collected at the site have been used as input data to run the model.

A stack of 30 m height (minimum as per CPCB norms) will be provided for effective dispersion of emissions from 9 MVA Submerged Electric Arc Furnace .

The predicted max. Incremental PM_{10} concentrations (24 hourly) due to the proposed expansion project will be 0.78 µg/M^3 at a distance of 500 m from the stack in the down wind direction over the baseline concentrations.

The predicted incremental rise in Particulate Matter concentration due to the Vehicular emission will be 0.15 µg/m^3.

Hence the total predicted incremental rise in Particulate Matter concentration due to the emission from proposed expansion and due the vehicular emissions will be 0.78 $\mu g/m^3$ + 0.15 $\mu g/m^3$ = 0.93 $\mu g/m^3$.

There will not be any incremental SO_2 concentrations (24 hourly) due to the proposed expansion project.

The predicted max incremental NOx concentrations (24 hourly) due to the proposed expansion project will be 7.8 $\mu g/m^3$ at a distance of 500 m from the stack in the down wind direction over the baseline concentrations.

The predicted incremental rise in NOx concentration due to the Vehicular emission will be 1.2 $\mu g/m^3$.

Hence the total predicted incremental rise in NOx concentration due to the emission from expansion project and due the vehicular emission will be 7.8 $\mu g/m^3$ + 1.2 $\mu g/m^3$ = 9.0 $\mu g/m^3$

The predicted incremental rise in CO concentration due to the Vehicular emissions will be 0.7 $\mu g/m^3$.

The net resultant concentrations (Maximum baseline conc. + predicted incremental rise in conc.) of PM, NO_X & CO are shown in Table below by considering the emissions from other industries in the area will be well within the National Ambient Air Quality Standards (NAAQS) when the expansion project commences the operation. Hence there will not be any adverse impact on air environment due to the proposed expansion.

Net Resultant maximum concentrations due to the proposed expansion project

Item	PM_{10} («g/m^3)	SO_2 («g/m^3)	NO_X («g/m^3)	CO («g/m^3)
Maximum baseline conc. in the study area	72.4	20.4	27.0	1195
Maximum predicted incremental rise in concentration due to proposed expansion project (Point Sources)	0.78	Nil	7.8	Nil
Maximum predicted incremental rise in concentration due to proposed expansion project (Vehicular emissions)	0.15	Nil	1.2	0.7
Net resultant concentrations during operation of the expansion project	73.33	20.4	36.0	1195.7
National Ambient Air Quality Standards	**100**	**80**	**80**	**2000**

3.2 Prediction of impacts on noise quality

The major noise generating sources are Furnace & DG set. Silencer has already been provided to the existing DG Set. The ambient noise levels will be within the standards prescribed by MoEF&CC i.e. the noise levels will be less than 75 dBA during day time and less than 70 dBA during night time. **4.0 acres** of extensive greenbelt has already been developed covering more than 1/3rd of the total area helps in further attenuating the noise levels. Hence there will not be any adverse impact due to noise on population in surrounding areas due to the proposed expansion project.

3.3 Prediction of impacts on Water Environment

In the existing plant zero liquid effluent discharge system is being maintained. There will be no effluent generation from the process of manufacturing Ferro Alloys in expansion project as closed circuit cooling system will be adopted. Sanitary waste water will be treated in septic tank followed by sub-surface dispersion. Rain water harvesting helps in augmenting the water table. Hence there will not be any adverse impact on water environment due to the proposed expansion project.

3.4 Prediction of Impacts on Land Environment

Zero effluent discharge will be adopted. All the required air pollution control systems will be provided to comply with CPCB / CECB norms. All solid wastes will be disposed / utilized as per CPCB / SPCB norms. **4.0 Acres** of greenbelt has already been developed as per guidelines. Hence there will not be any adverse impact on land environment due to the proposed expansion project.

3.5 Prediction of Impacts on Biological Environment

- There are no National Parks, Wild life Sanctuaries and Bird Sanctuaries within 10 Km. radius of the plant site. The area is known to have Elephant movement. Conservation plan under preparation.
- Taraimal RF (0.3 Kms.), Samaruna RF (3.5 Kms), Suhai RF (5.8 Kms.), Rabo RF (6.4 Kms), Urdana RF (6.0 Kms.) Punjipathra PF (0.7 Kms.), Pajhar PF (4.5 Kms.), Maghat P.F. (5.3), Kharidungri PF, Lakha PF's are exist within 10 Km. radius of the plant site.

- All the required Air emissions control systems in the expansion project will be installed and operated to comply with MOEF/CPCB/CECB norms.
- Zero liquid effluent discharge is being maintained in the existing plant and similar practice will be maintained after expansion also.
- All solid waste disposal will be in accordance with the norms.
- Extensive Greenbelt of **4.0 Acres** has already been developed in the plant premises.

When all norms are complied and with proper implementation of Environment Management Plan, there will not be any adverse impact on flora & Fauna due to the proposed expansion.

3.6 Socio - Economic Environment

There will be lot of opportunities in employment to local people during construction as well as in operation phase. There will be further upliftment in Socio Economic status of the people in the area. 2.5% of the expansion project is allocated for CSR activities which will be implemented in the nearby villages. Hence there will be further development of the area due to the proposed expansion project.

4.0 ENVIRONMENTAL MONITORING PROGRAMME

Post project monitoring will be conducted as per the guidelines of CECB and MoEF&CC are tabulated below:

MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS

S.No.	Particulars	Frequency of Monitoring	Duration of sampling	Parameters required to be monitored
1. Water & Waste water quality				
A.	Water quality in the area	Monitored on quarterly basis.	Grab sampling	As per IS: 10500
B.	Sanitary waste water	Once in a month	Grab sampling	As per EPA Rules1996
2. Air Quality				
A.	Stack Monitoring	Once in a month		PM & NOx
B.	Ambient Air quality	Once in a month	24 hours continuously	$PM_{2.5}$, PM_{10}, SO_2 , NOx & CO
C.	Fugitive emissions	Once in a Month	8 hours	PM
3. Meteorological Data				
	Meteorological data to be monitored at the plant.	Daily	Continuous monitoring	Temperature, Relative Humidity, rainfall, wind direction & wind speed.

4. Noise level monitoring				
	Ambient Noise levels	Twice in a year	Continuous for 24 hours with 1 hour interval	Noise levels

5.0 ADDITIONAL STUDIES

No rehabilitation and resettlement is required as proposed expansion will be taken up in the existing plant premises and the plant is located in O.P. Jindal Industrial Park.

6.0 PROJECT BENEFITS

With the establishment of the proposed expansion project employment potential will increase. Land prices in the area will increase. The economic status of the people in the area will improve due to the proposed project. Top priority will be given to locals in employment. **2.5 %** of the expansion project cost is earmarked for CSR activities to be taken up in the village. These activities will help in contributing to the development of villages in the nearby areas.

7.0 ENVIRONMENT MANAGEMENT PLAN

7.1 Air Environment

The following are air emission control systems proposed in the expansion project:

S.No.	Source	Control Equipment	Maximum Particulate emission at the outlet
1.	Submerged Electric Arc Furnace (SEAF)	Fume Extraction system with bag filters	50 mg/Nm^3

The following air pollution control systems/ measures are proposed in the expansion project:

- All conveyors will be completely covered with G.I. sheets to control fugitive dust.
- All bins will be totally packed and covered so that there will not be any chance for dust leakage.
- All the dust prone points material handling systems will be connected with de-dusting system with bag filters.
- All discharge points and feed points, wherever the possibility of dust generation is there a de-dusting suction point will be provided to collect the dust.

- The Fugitive emissions from the Submerged Electric Arc Furnace will be sucked through hoods and will pass through a fume extraction system with bag filters and then the treated gases will be discharged into the atmosphere through a stack of 30 m height for effective dispersion of emissions from the Furnace. The outlet dust emission in the exhaust gases will be limited to 50 mg/Nm^3. The dust will be pneumatically carried to covered bins.

7.2 Water Environment

There will be no effluent generation from the expansion project for manufacturing of Ferro Alloys as closed circuit cooling system will be adopted. Sanitary waste water will be treated in septic tank followed by sub-surface dispersion .

7.3 Noise Environment

The major sources of noise generation in the proposed expansion project will be Furnace & DG set, etc. Silencer is already provided to existing D.G. set. All the machinery will be manufactured in accordance with MoEF&CC norms on Noise levels. The employees working near the noise generating sources will be provided with earplugs. The extensive greenbelt has already been developed within the plant premises and will help in attenuating the noise levels further.

7.4 Land Environment

There will be no effluent generation from the manufacturing process of Ferro Alloys as closed circuit cooling system will be adopted. Sanitary waste water will be treated in septic tank followed by sub-surface dispersion.

Solid wastes will be disposed off as per norms. Extensive greenbelt is already been developed in the plant premises. Hence there will not be any impact due to the proposed expansion project.

Solid waste generation and disposal

The following will be the solid waste generation & proposed method of disposal.

S.No.	SOLID WASTE	QUANTITY (TPA)		DISPOSAL METHOD
		Existing plant	Expansion	
1.	Slag from Ferro Silicon Manufacturing Process	238 **(Proposed**	238	Will be given to cast iron foundries of M/s. Taj Traders & M/s.

		Now)		Kapilansh Dhatu Udyog Pvt. Ltd.
2.	Slag from Silico Manganese Manufacturing Process	11300	11300	Is being given to M/s. Taj Traders & M/s. Kapilansh Dhatu Udyog Pvt. Ltd. and same practiced will be continued in the proposed expansion also and also will be used in road construction. Kindly refer to Annexure - 15 for letter of interest
3.	Slag from Ferro Manganese Manufacturing Process	9000	9000	Is being and will be used in manufacture of Silico manganese as it contains high MnO_2.
4.	Slag from Ferro Chrome Manufacturing Process	12000 **(Proposed Now)**	12000	Ferro chrome slag generated will be further processed in Zigging plant for Chrome recovery the non-chrome contents will be sent to common disposal yard within the Industrial Park.

TCLP test will be carried out for the slag generated during Ferro chrome production, if it is within the permissible concentrations, then it will be sent to common waste disposal yard of O.P. Jindal park. If the concentration exceeds, then secured landfill will be provided.

7.5 Greenbelt Development

Extensive Greenbelt of **4.0 Acres** has already been developed in the existing plant premises covering more than 1/3rd of the total area.

Capital cost for environment protection for the total project is **Rs. 4.5 Crores.**

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