EXECUTIVE SUMMARY

For

Expansion of Eloquent Steel Pvt. Ltd. for 336,000 TPA Billet Production along with Rolling Mill for production of 210,000 TPA Rolled Product, Installation of 150,000 TPA Briquette Plant, 100,800 TPA Sinter Plant and addition of Pig Iron as product from the Existing Submerged Arc Furnace

At

M/s Eloquent Steel Pvt Ltd
Village: NakraJoria, P.O: Salanpur
District: Paschim Burdwan, West Bengal

Study Period: Winter Season
(1st December to 29th February 2020)

Applicant
Mr. Deepak Kumar Agrawal
Eloquent Steel Private Limited
Mouza: Nakrojoria, P.O: Salanpur, District: Paschim Burdwan
West Bengal: 713357
Ph: 9233331111.
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Environment Consultant
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EXECUTIVE SUMMARY

i. Project Name and Location

Expansion of Eloquent Steel Pvt. Ltd. for 336,000 TPA Billet Production along with Rolling Mill for production of 210,000TPA Rolled Product, Installation of 150,000TPA Briquette Plant, 100,800 TPA Sinter Plant and addition of Pig Iron as product from the Existing Submerged Arc Furnaces at Village: NakraJoria, P.O.: Salanpur, District: Paschim Burdwan, West Bengal.

ii. Person to be employed:

The existing manpower of the plant is 400. Direct employment due to the proposed expansion will be 400. Total employment after the expansion will be 800. The manpower estimated have been based on production, technologies proposed, type of requirement for various units, level of mechanism and automation, layout of the plant etc. Approx. 50 persons will be employed during construction phase. Potential for indirect employment is more due to the proposed expansion and is likely in Transportation, Travel, Packaging, Information Technology, Telecom, Automobile, Courier Sector etc.

iii. Address for Correspondence (Name, Designation and complete address)

Mr. Deepak Kumar Agrawal
Eloquent Steel Private Limited
Mouza: Nakrojoria, P.O: Salanpur,
District: Paschim Burdwan, West Bengal- 713357
Ph: 9233331111, Email Id: esplmoef@shakambharigroup.in

iv. Products and capacities. If expansion proposal then existing products with capacities and reference to earlier EC.

M/s Eloquent Steel Pvt. Ltd. (ESPL) for the purpose of setting up Steel Plant, acquired two Steel Plants of M/s Hira Concast Ltd. and M/s Impex Steel Ltd., located adjacent to each other with common boundary wall in the village: Nakrajoria, P.O. Salanpur, Dist: Paschim Burdwan, West Bengal.

Possession of M/s Hira Concast Ltd was made through Auction from Official Liquidator of Hon'ble High Court, Calcutta on 01.09.2017. Possession of M/s Impex Steel Ltd was made through bidding in Auction Notice, issued by Stressed Asset Management Branch of State Bank of India, Kolkata. The unit was not in operation for about three years and was put up for auction by the authorities.

M/s Hira Concast Ltd. has initially installed 2x7 Ton Induction Furnaces for production of 53,000 TPA MS Ingots. Environmental Clearance (EC) was granted by Ministry of Environment, Forest and Climate Change (MoEF&CC) vide F.No J-11011/533/2008-IA.II(I) dated on 11.12.2008 for production of 15,225 TPA Ferro Manganese & 11,455 TPA Silico Manganese through 1x7.5MVA Submerged Arc Furnace (SAF). EC for the expansion of M/s Hira Concast Ltd. was granted by MoEF&CC vide F.No. J-11011/49/2010-IA.II(I) dated on 03.09.2012 for production of 12,330 TPA Ferro Manganese and 9,280 TPA Silico Manganese by installation of additional 1x5.5 MVA SAF.

M/s Impex Steel Limited was also established for the production of 53,004 TPA MS Ingots through 2x7 Ton Induction Furnaces after obtaining NOC from WBPCB on 24.04.2006. Company obtained EC from MoEF&CC for the production of 17,076 Ferro-manganese and 11,394 TPA Silico Manganese through SAF of capacity 2x7.5MVA vide F.No: J-11011/183/2008-IA.II(I) on 28.07.2008. Later on, the company further obtained EC from MoEF&CC for production of 31,500 TPA Ferro-manganese or 22,500 TPA Silico-manganese or 9,000 TPA Ferro-silicon by installation of additional 2x7.5 MVA SAFs and 300 TPD Sinter Plant for production of 90,000 TPA Mn Ore sinter vide F.No.: J-11011/188/2011-IA.II(I) on 20.09.2012. However, these additional facilities are not installed till date in the plant premises. West Bengal Pollution Control Board (WBPCB) awarded Consent to Establish (CTE) and Consent to Operate (CTO) time to time.

Further, M/s ESPL. is granted permission by WBPCB vide memo no. 124-2N-29/2019(E) – PT dated 05.03.2020 for change in product mix within overall production capacity of Ferro-Alloy plant without increase in pollution load as per the provision of MoEF&CC Notification No. S.O.3518(E) dated 23.11.2016 for production of:

- Ferro-Manganese - 59,052 TPA OR
- Silico-Manganese - 43,236 TPA OR
- Ferro-Silicon - 22,680 TPA OR
- Ferro-chrome - 59,052 TPA OR
- Ferro-Silicon-chrome - 33480 TPA OR in combination of any.

Online application was submitted by ESPL for transfer of EC of M/s Hira Concast Ltd and M/s Impex Steel Ltd dated on 30.07.2020 and 04.08.2020. MoEF&CC transferred the EC's to ESPL vide lr no. J-11011/49/2010-IA-II(I) and J-11011/188/2011-IA-II(I) dated on 15.10.2020.

M/s ESPL is now seeking fresh EC for production of 336,000 TPA Billets through modification of existing 4x7 Ton Induction Furnace to 4x8 Ton, installation of new 2x8 Ton Induction Furnace with 1x8Ton LRF & CCM and 2x25Ton Induction Furnaces with 1x25Ton LRF & CCM and production of 210,000 TPA Rolled products (Long products- TMT Bar, MS Round & Wire Rod) by installation of 600 TPD Rolling Mill along with 1 x 25 TPH Reheating Furnace. Also, 1x25 TPH Briquette plant for production of 150,000 TPA Briquette, 1x300 TPD Sinter Plant for production of 108,000 TPA Sinter are also proposed under the proposed expansion with addition of "Pig Iron' as product from the existing 3x7.5 MVA + 1x5.5 MVA Submerged Arc Furnaces with maximum production capacity of 76,400 TPA within the existing premises of 9.089 Ha. (22.46 acres).

Table 1: Units and Production Capacity of the Existing & Proposed Project

Plant	Existing installed Units and Capacity		Proposed Units		Total after Expansion	
	Unit	Capacity in TPA	Unit	Capacity in TPA	Unit	Capacity in TPA
Steel Melting Shop -1	4x7 Ton Induction Furnace -	106,004 MS Ingots -	Modification of existing 4x7 Ton IF to 4x8 Ton + Installation of 2x8 Ton IF with LRF (1x8T) and CCM (1x4/7)	164,500	6x8 Ton Induction Furnace with 1x8 Ton LRF and 2x4/7 m CCM	336,000 Billets
Steel Melting Shop-2	--	--	Installation of new 2x25 Ton IF with 1x25 Ton LRF and 3x6/11m CCM	171,500	2x25 Ton IF with 1x25 Ton LRF and 3x6/11m CCM	
Rolling Mill	-	-	600 TPD	2,10,000	600TPD	210,000
Reheating Furnace	-	-	1 x 25 TPH	-	1 x 25 TPH	-
Ferro-Alloy Plant with metal recovery Plant	3x7.5 MVA + 1x5.5 MVA SAF with metal recovery Plant	Fe-Mn-59,052, or	Proposed for production of Pig Iron without adding any additional facilities	Pig Iron-76400	3x7.5 MVA + 1x5.5 MVA SAF with metal recovery Plant	Fe-Mn-59,052, or
		Si. Mn-43,236, or				Si. Mn-43,236, or
		Fe Si – 22680, or				Fe Si – 22,680, or
		High Carbon Ferro Chrome – 59052, or				High Carbon Ferro Chrome – 59,052, or
		Ferro Silico Chrome – 33480				Ferro Silico Chrome – 33,480, or
		Or in combination of any				Pig Iron-76,400, or in combination of any
Briquette Plant	--	--	1x 25 TPH	150,000	1x 25 TPH	150,000
Sinter Plant	--	--	1x300 TPD	108,000	1x300 TPD	108,000

v. Project Implementation Schedule

The project shall be implemented within 48 months after grant of all statutory clearances.

vi. Cost of the Project

Total Project Cost is estimated as Rs. 120 Crs. Cost of the existing plant is Rs. 83.62 Crores. Hence, total approx. cost of the Plant after the proposed expansion will be Rs. 203.62 Crs.

vii. Descriptions of Environmental sensitivity in 10 km radius form the site. Selection of the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of is acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest, eco-sensitive zones, accessibility:

Sl. No.	Particulars	Details
1.	Site Location	Village- NakraJoria, P.O.- Salanpur, District- Paschim Burdwan, West Bengal
2.	Topo-sheet Nos.	73I/9, 73I/10, 73I/13 & 73I/14
3.	Center GPS Coordinates	Latitude: $23^0$46'33.04" N & Longitude: $86^0$51'42.92" E
4.	Height above MSL	152 meters
5.	Nearest Habitation	Salanpur-1.4kms
6.	Nearest Police Station	Salanpur- 2.01km
7.	Nearest Post Office	Salanpur Post Ofiice-1.52km
8.	Nearest Hospital	Masoom Hospital Salanpur -1.5 km
9.	Nearest water bodies	Barakar River at 3.75 kms. in West
10.	Nearest Airport	Netaji Subhash Chandra Bose International Air Port -250 km
11.	Nearest Port	Haldia Port 370 kms
12.	Biosphere Reserve / National Park / Wildlife Sanctuary / Ecological sensitive area	Not within 10 km radius of the project site
13.	Reserve Forest / Protected Forest	Protected Forest in buffer zone only
14.	Nearest Education Facilities	Kalyenswari High School Salanpur - 1.45km
15.	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	NH-2 Bypass (Delhi-Kolkata) and SH-5 (Asansol-Chittaranjan Road) is about 0.65 Km away from the existing site
16.	Monuments/Religious Place	Bajrangwali Temple at 1 km in North East
17.	Total Water Requirement	Existing: 640 m^3/day Proposed: 1500 m^3/day Total after Expansion: 2140 m^3/day

Sl. No.	Particulars	Details
		Source: DVRCC
18.	Total Power Requirement	Existing: 36 MW, Proposed: 28 MW Total: 64 MW, Source: DVC DG set 2 x 250 KVA has been installed. 2 x 500 KVA DG Set has been proposed to be installed.
19.	Manpower Requirement	Existing: 400, Proposed: 400, Total: 800
20.	Land Requirement	Expansion within the existing plant premises 9.089 Ha. (22.46 Acres)
21.	Project Cost	Existing: Rs.83.62 Crs., Proposed: Rs. 120 Crs. Total: Rs. 203.62 Crs.

viii. Requirement of land, raw material, water, power, fuel with source of supply

Land Requirement

The proposed expansion project will be installed within the existing plant premises of 9.089 hectares. No additional land is required for the proposed expansion.

Raw Material Requirement

List of raw material required is presented below:

Table 2: Raw Material Requirement after the Proposed Expansion

Sl. No.	Raw Material	Existing (TPA)	Total after proposed expansion (TPA)	Source	Distance from Source	Mode of Transport
A	**Ferro Division**					
A-01	Manganese ore	1,44,914	1,44,914	Imported/ Domestic	1500 km	Ship/Road
A-02	Coke	33,955	33,955	Imported/ Local	150 km	Ship/Road
A-03	Coke Breeze	-	8,640	Local	100 km	Road
A-04	Steam coal	-	16,810	Eastern Coal Field	50 km	Road
A-05	Charcoal	6,700	6,700	Local	100 km	Road
A-06	Quartzite	40,030	42,190	Local	300 km	Road
A-07	Dolomite	5,188	15,988	Imported	--	Rail
A-08	Limestone	-	28296	Imported	--	Rail
A-09	Electrode paste	1,675	1,675	local	1000 km	Road
A-10	Mill Scales	8,618	21,545	In-house / Purchased	50 km	Road
A-11	Chrome ore	19,840	19,840	Odisha	700 km	Rail/Road
A-12	Magnesite	2,953	2,953	Imported	--	Rail/Road
A-13	Iron ore Fines	-	70,200	Jharkhand/ Odisha	200/450km	Rail/Road

Sl. No.	Raw Material	Existing (TPA)	Total after proposed expansion (TPA)	Source	Distance from Source	Mode of Transport
A-14	Ferro Chrome Chips	18,748	18,748	Imported/ Odisha	450 km	Ship/Road
A-15	Chrome Fines	--	1,62,360	Imported/ Odisha	450 km	Ship/Road
A-16	Fe Mn Slag	12,971	12,971	In-house	--	--
A-17	Hydrated Lime	-	4,950	local	800 km	Road
A-18	Molasses	-	7,920	Local	500 Km	Road
	Sub Total of A"	**295592**	**620655**			
B	**Steel Division**					
B-01	Sponge iron	94,325	300,125	Local market	50 km	Road
B-02	Pig Iron	20,644	65,684	Local market	50 km	Road
B-03	Scrap	13,615	43,326	Local market	50 km	Road
B-04	Ferro Alloys	1294	4116	In-house	--	--
	Sub Total of "B"	**129,878**	**413,251**			
Total		**425,470**	**1033906**			

Water requirement

The requirement of makeup water for industrial and domestic purposes after the proposed expansion will be 2140 m^3/day. The raw water will be sourced from DVRCC. West Bengal Industrial Development Corporation Limited (WBIDC) has recommended 2240 KLD (0.49MGD) of water in favour of M/s ESPL Limited vide letter no WBIDC/DVRCC/08-09/2162 dated 05.02.2020.

Table 3: Total Water Requirement for the Existing and Proposed Plant

S.No.	Particulars	Existing (KLD)	Total after Expansion (KLD)
1.	SMS -1	420	650
2.	SMS-2	--	740
3.	Rolling Mill	--	400
4.	Ferro-alloy Plant	200	200
5	Briquette Plant	--	110
6.	Domestic Use	20	40
	TOTAL	**640**	**2140**

Power Requirement

Hourly power requirement for operation of the existing plant is 36 MW. Power is being taken from Damodar Valley Corporation (DVC) through 33 KV Sub-station for operation of the plant. Power requirement for the after proposed expansion will be 64 MW. Additional Power requirement shall also be met from DVC. 2 nos. of 250 KVA silent type DG set have been installed to provide power to the auxiliaries of plant when DVC power is not available. Another 2x500 KVA will be installed under the expansion.

ix. Process description in brief

The existing Plant is having 4x7 Ton Induction Furnace for production of 106,004 TPA MS Ingots. The Raw Material like Sponge Iron, Pig Iron, scrap & Ferro-Alloys are being melted in Induction Furnace and the refined liquid metal is cast into Pencil Ingots.

The present proposal is for;

Steel Melting Shop-1: Modification of existing 4x7 Tons Induction Furnaces to 4x8 Tons Furnaces and Installation of new 2x8 Ton Induction Furnace with 2x4/7 Billet caster and 1x8 Ton Ladle Refining Furnace for 164,500 Billet Production

Steel Melting Shop-2: Installation of and 2x25 Ton Induction Furnaces with 3x6/11m Billet caster and 1x25 ton Ladle Refining Furnace for production of 171,500 TPA Billets.

Total Billet production from SMS-1 & SMS-2 will be 336,000 TPA

Submerged Arc Furnace: No additional Submerged Arc Furnace shall be installed under the expansion. However, in addition to the production of 59,052 TPA of Fe-Mn Or 43,236 TPA Si-Mn Or 22,680 Fe-Si Or 59,052 TPA High Carbon Ferro Chrome Or 33,480 TPA Ferro Silico Chrome production or in combination of any, it has been proposed to produce 76,400 TPA Pig Iron from the existing 3x7.5MVA+1x5.5MVA SAFs. Ferro-alloy division has been provided with Metal Recovery plant from recovery of metals from the slag.

Rolling Mill: Installation of 600 TPD Rolling Mill for production of 210,000 TPA Rolled products (TMT Bar), MS Round & Wire Rod). It has been proposed to directly rolled the hot billets from CCM (Continuous Casting M/cs). However, 1 x 25 TPH Reheating furnace has been proposed to reheat the billets which couldn't be rolled directly.

Briquette Plant: Additionally, 1x25 TPD Briquette Plant for production of 150,000 TPA briquettes from Ferro-Chrome fines shall be installed. Briquettes shall be used for production of Ferro-chrome.

Sinter Plant: 1x300 TPD Sinter Plant shall be installed for production of 108,000 TPA Sinter from iron ore fines, to be used in SAFs for production of Pig iron.

x. Baseline environmental data– air quality, surface and ground water quality, soil Characteristic, flora and fauna, socio-economic condition of the nearby population:

Baseline Environmental Study

To predict the impact of the proposed activities on the surrounding environment, the current baseline environmental status was studied by collecting the data and carrying out monitoring for the period of 1st December to 29th February, 2020**.** The baseline data for ambient air quality, surface and ground water quality, noise and soil quality was collected and analyzed for various parameters are as per norms.

Table 4: Baseline data vis-à-vis Permissible Limits

Parameters	No. of Sites	Description	Permissible Level
Air Quality	8	• $PM_{2.5}$ 29.6 to 49.2µg/m^3 • PM_{10} 49.1 to 81.1µg/m^3 • SO2 11.4 to 23.5 µg/m^3 • NO2 20.2 to 35.4µg/m^3 • CO 0.52 to 1.07mg/m^3	60 µg/ m^3 100 µg/ m^3 80 µg/ m^3 80 µg/ m^3 2 mg/m^3
Ground Water Quality	8	• pH varies from to 7.15 to 8.22 • Total Hardness varies from 128.0 to 250.0mg/l • Total Dissolved Solids varies from 342 to 468 mg/l. • Chlorides varies from 53.8 to 97.42 mg/l • Fluoride varies from 0.22 to 0.48 mg/l	6.5-8.5 200-600 mg/L 500-2000 mg/L 250-1000 mg/L 1.0-1.5 mg/L
Surface Water Quality	8	• pH varies from 7.36 to 7.72 • Dissolved Oxygen varies from 4.99 to 6.2 mg/l. • BOD varies from 6.0 to 13.0 mg/l. • COD varies from 18.0 to 41.0 mg/l.	IS:2296 Class C Norms
Soil Quality	8	• pH varies from 6.2 to 6.49 • EC varies from 0.428 to 0.922 mS/cm • Potassium varies from 119.30 to 140.26 (Kg/ha) • Available nitrogen varies from 198.21 to 240.18 (Kg/ha) • Organic matter varies from 0.42% to 0.64%	----
Noise Level	8	• Day Time (6:00 a.m. to 10:00 p.m.) 45.1Leq dB(A) and 67.5 Leq dB(A) • Night Time (10:00 p.m. to 6:00 a.m.) 34.9Leq dB(A) and 56.2Leq dB(A)	75 Leq dB (A) 70 Leq dB (A)

xi. Likely impact on air, water, land and measures for mitigating the impact on the environment

Impact on Air Environment and Mitigation Measures

During operational phase air pollution shall be from gaseous and dust emissions arising from different activity like Raw Material Handling and other process in Steel Melting Shop, Reheating Furnace, SAF, Sinter Plant and Briquetting Plant.

Emission from Point Source (Stack)

Stack emissions will be from Steel Melting shop, Reheating Furnace, Submerged Arc Furnace, Sinter Plant, Briquetting Plant and DG sets.

Emission from Area Source (Fugitive Emission)

Fugitive emissions are expected during Material & Product Handling area, operation of Steel Melting Shop, SAF, Sinter Plant & Briquetting Plant and due to vehicular movement.

Details of existing and proposed pollution control facility are provided below in table. For adequate dispersion of gases, stacks of adequate height have been provided. For heat

dissipation in the work zones arising from furnaces adequate ventilation systems has been provided.

Table 5: Details of the Air Pollution Control facilities with Existing and Proposed Units

Sl. No.	Unit	Type of Pollution Control Facility	Nos.	Connected with Stack	Emission* mg/Nm^3
1.	Induction Fce. 3x8Ton	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
2.	Induction Fce. 3x8Ton + 1x8 Ton LRF	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
3.	Induction Fce. 2x25Ton + 1x25 Ton LRF	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
4.	SAF #1 (7.5MVA)	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
5.	SAF #2 (7.5MVA)	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
6.	SAF #3 (7.5MVA)	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
7.	SAF #4 (5.5MVA)	Cyclone cum spark arrester + Pulsejet type Bag Filter	1	1	< 50
8.	Reheating Fce. (25TPH)	Cyclone Separator	1	1	< 50
9.	Briquetting Plant (25TPH)	Pulse Jet Type Bag Filter	1	1	< 50
10.	Sinter Plant (300TPD)	Pulse Jet Type Bag Filter	1	1	< 50
Total number of Bag Filters and Stacks			**7**	**10**	
1	Material Handling Area	Dust suppression system	All transfer points, screens etc.		

Impact on Water Environment and Mitigation Measures

Wastewater generation shall take place in the form of blow downs from cooling towers, back wash from Softening Plant, wastewater from cooling of rollers in Rolling mill and domestic waste water. Water in the plant premises will be re-circulated for reuse after treatment by using below mentioned processes.

Process Wastewater: Neutralization Pit for treatment of backwash water from Softening Plant for SMS units, Settling Pits with oil collection system for Rolling Mill effluent shall be provided. Mill scales will be sent into sinter plant (in-house) and oil collected will be sold to authorized recycler. Wastewater streams comprising cooling tower blow down and

Neutralization Pit will be collected and utilized in metal recovery plant, Sinter plant, dust suppression and slag cooling.

Domestic Wastewater: The sewage & sanitary wastewater generated from toilets, washrooms and canteen buildings in the plant will be conveyed to the septic tank. The effluent from the septic tank will be disposed in soak pit. Effluent discharge from Soak Pit, if any, will be used for plantation. Sludge will be removed occasionally and shall be used as manure.

Total wastewater generation during operation of all existing and proposed units shall be **225 KLD,** break of which is provided in table below:

Table 6: Details of the Water Pollution Control facilities

S.No.	Unit	Type of Pollution Control System	Quantity (KLD)	Usages
1.	Softening Plant for SMS	Neutralization Pit	25	Slag cooling, Metal Recovery Plant, Sinter Plant & Dust suppression
2.	Cooling Tower blow down from SMS	-	115	
3.	Cooling Tower blow down from Rolling Mill	Effluent Treatment Plant	45	
4.	Cooling Tower blow down from Ferro-alloy Plant	-	20	Plantation
5.	Domestic waste water	Septic tank with Soak Pit	20	
Total Discharge			**225 KLD**	

Thus, no plant effluent will be discharged in to public water ways or drains. Hence, the plant will be designed for **zero liquid discharges (ZLD).**

Storm Water Drainage

Rain water will be collected in drains constructed around production facilities as well as all roads. Rain water harvesting pits are provided at number of locations for ground water recharge. Excess water during heavy rains flowing through trunk drains along the roads will be discharged in to the rainwater harvesting pits through silt traps pits to prevent washed silt from plant to enter into the pits.

Land Environment

Land contamination may occur due to unsystematic disposal of solid and hazardous waste or spillage of oil. Suitable solid wastes management plan will be adopted so that no contamination of land is envisaged due to the project.

Solid waste generation and utilization from the existing and proposed plant is given below:

Solid Waste Generation and Management

Solid waste generation and utilization from the existing and proposed plant is given below:

Table 7: Solid Waste Generation & Utilization for Existing and Proposed Plant

Type of Waste	Quantity in Tons (TPA)		Mode of Disposal
	Existing	Total after the proposed Expansion	
IF Slag	18,326	58,310	After metal recovery (approx. 12%), remaining slag shall be used as aggregates
IF Bag Filter Dust	3,773	12,005	Shall be used in Sinter Plant
Scale from CCM	---	140	Shall be used for production of Fe-Si or Fe-Si-Cr. Or will be used in Sinter Plant
End Cut / Crop from CCM	--	6,860	Will be charged in Induction Furnace as return scrap
Mill Scale from Rolling Mill	--	3,150	Shall be used for production of Fe-Si or Fe-Si-Cr.
End Cut / Cobbles Rolling Mill	--	5,250	Will be charged in Induction Furnace as return scrap
Fe-Mn Slag	59,052 or	59,052 or	Will be used for production of Si-Mn
Si-Mn Slag	36,750 or	36,750 or	Shall be used for construction or filling of low-lying area
Fe-Cr. Slag	53,247 or	53,247 or	• Chrome from Ferro-chrome slag will be recovered at Metal Recovery Plant. • After chrome recovery, the tailing material will be used as stone chips (8 to 25 mm) & land filling purpose (0 to 8 mm). • TCLP Test of the slag will be carried before filling of low-lying areas. • Ground water quality around the dumping area shall be checked regularly.
Fe-Si. Slag	1,134 or	1,134 or	Ferro Silicon Slag will be used for cement industries as a raw material & used for medium carbon silico manganese production purpose
Fe-Cr.-Si	1,674 or	1,674 or	Ferro Silico Chrome Slag will be used for cement industries as a raw material as well as for construction and Road filling material after undergoing TCLP Test.
Pig Iron Slag	--	38,200, or in any combination not exceeding 59,052	Pig Iron Slag will be used in cement industries as a raw material

Type of Waste	Quantity in Tons (TPA)		Mode of Disposal
	Existing	Total after the proposed Expansion	
		TPA	
Bag Filter Dust from SAFs	1,358 (maximum)	1,358 (Maximum)	Ferro-chrome dust will be used in Briquette Plant. Fe-Mn & Fe-Si dust will be used in Sinter plant.
Sinter Plant Dust from Pollution Control	---	5,940	Shall be recycled
Dust from Briquette Plant	--	8,250	Shall be recycled

xii. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk:

Hazardous waste Management: Generation of 'Used Oil', after the proposed expansion shall be approx. 2 kilolitres per annum and will be sold to the registered recyclers. Used oil will be collected in dedicated drums and stored on impervious concrete floor for maximum 90 days before disposal.

Workers will be informed, kept aware and trained about occupational health hazards, due to any activity. Workers health related problem if any, will be properly addressed.

xiii. Emergency preparedness plan in case of natural or in plant emergencies:

On-site and Off-site Emergency Preparedness Plan has been developed to control emergency situations. The emergency control room and Assembly area shall be set up at a safe location and marked on the site plan and will be manned round the clock. The control room will be activated in case of an emergency to direct and co-ordinate the operations to handle the emergency. It will be furnished with external and internal telephone connections etc; list of essential telephone numbers; list of key personnel and their address; fire fighting system and site plan. Depending upon site requirements, additional control room will be considered.

xiv. Issues raised during public hearing and response given:

The public Hearing Issues and its action plan to address issues raised during public hearing along with budget will be incorporated in the Final EIA report after conduct of Public Hearing by West Bengal Pollution Control Board.

xv. Budget for commitments made to address issues raised during Public hearing:

Office Memorandum issued by Ministry of Environment, Forest & Climate Change on 30th September, 2020 states that EAC will deliberate on the commitments made by the project proponent to address the concerns raised during the Public Hearing. Therefore, action plan to address the issues raised in the public hearing along with its budget for implementation of the activities proposed based on the issues raised during the Public Hearing and Social need assessment during SIA Study shall be prepared..

xvi. Occupational Health & Safety (OH&S) Measures:

The project proponent strongly believes in the safety and health of the workers. The company will conduct regular medical checkup of the worker and on the safer side there will always be a rotation of the job for the worker who are exposed to dust and high noise. Safety being the first policy of the company.

M/s Eloquent Steel Pvt Ltd shall establish procedures and systems for reporting and recording of Occupational accidents and diseases and dangerous occurrences and incidents. All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses shall be investigated with the assistance of a person knowledgeable/competent in occupational safety.

A budget of **Rs. 41.5 lakhs** is allocated for OH&S.

xvii. Greenbelt Development

As the unit was not in operation for almost 3 years and no maintenance of greenbelt was been done during that period, at present only 2.72 Ha. area (approx. 30%) is covered under plantation and plantation in the remaining area is under plantation to cover 33%. Total approximately 4000 number of trees was planted till the year 2020 with spending an amount of Rs. 35 lakhs. In order to achieve 33% greenbelt area, ESPL has proposed for plantation of additional 3500 number of trees on remaining 0.28 Ha. area and also for gap filling, as per CPCB guidelines. A budget of **Rs. 10.5 Lakhs** is allotted for carrying 3-tier plantation along the boundary wall of the Manufacturing Unit. Also, Rs. 2.2 lakhs will be kept for yearly maintenance.

xviii. Environment Monitoring Program

Environmental Monitoring is an essential tool for sustainable development and ensuring effective most implementation and monitoring of Environmental Management Plan and mitigation measures. Monitoring involves periodic checking to ascertain whether activities are going according to the plans. A detailed monitoring plan has been prepared to keep regular check on Ambient Air quality, to keep check on Stack emissions, ground water quality, surface water quality and effluent discharges, once in each quarter.

A budget of Rs. 8,75,000 per year has been kept for the Environmental Monitoring Program.

xix. Project Benefits:

The proposed project would have the following advantages:

- Direct employment to approx. 400 persons and indirect employment is expected to be much more in the area of transport, ancillary development etc.
- Improvement in infrastructure like road, market, installation of hand pump, dug well etc.
- Improvement in Education & Healthcare facilities
- Land is available with the project proponent, hence no procurement of land or displacement of people.

- Revenue for the State.
- Socio-economic benefits and consequent improvement in the living conditions of local population in the study area and in region.

xx. Implementation of Environment Management Plan:

M/s Eloquent Steel Pvt. Ltd. is responsible for implementation of all the mitigation and management measures. A separate department "Environment Management Cell" (EMC) headed by EHS Head exists to look after all environmental related matters of the plant. The EMC supervises the reported activity time to time for smooth implementation of Environmental Mitigation and Management measures and also take necessary actions if required. It also ensures to meet all the Statutory Requirements.

The estimated capital expenditure for implementation of EMP will be Rs. 222 lakhs (excluding cost for activities to address public hearing issues) and recurring cost Rs. 16.2 lakhs/year.
