Form 1

For

Amendment in Terms of Reference of "Expansion of Shakambhari Ispat & Power Limited plant for production of 0.7875 million tons per annum Crude Steel, 0.214272 million tons per annum Ferro-Alloys (maximum) along with allied facilities" for addition of production of Stainless Steel (SS) Billets and SS Rolled Products

at

Village: Parvatpur Radhamadhabpur Madandih,
P.O. Bortoria, District: Purulia,
West Bengal

Submitted to

Ministry of Environment, Forest and Climate Change
Govt. of India

Prepared By:

Environment Consultant

Vardan Environet

(QCI NABET Accredited EIA Consultant)

82-A, SECTOR-5, IMT MANESAR, GURUGRAM (HARYANA)

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(I) Basic Information

S. No.	Item	Details
	Whether it is a violation case and application is being submitted under Notification No. S.O.804 (E) dated 14.03.2017.	No
1.	Name of the Project Brief Summary of the Project Proposal No. Project Cost	Amendment in Terms of Reference of "Expansion of Shakambhari Ispat & Power Limited plant for production of 0.7875 million tons per annum Crude Steel, 0.214272 million tons per annum Ferro-Alloys (maximum) along with allied facilities" for addition of production of Stainless Steel (SS) Billets and SS Rolled Products at Village: Parvatpur, Madandih, Radhamadabpur, P.O.: Bortoria, Tehsil: Raghunathpur, District: Purulia, West Bengal. ***Attached*** Rs. 320 Crs
2.	S.No. in the schedule Project Sector	3(a) Metallurgical Industries (Ferrous and Non-Ferrous) Industrial Projects-1
3.	Proposed capacity/area/length/ tonnage to be handled/command area/ lease area/number of Wells to be drilled.	Change in Configuration of Iron Ore Beneficiation Plant –1000,000 TPA throughput, Change in Configuration of Iron Pellet Plant – 850,000 TPA, Capacity enhancement of existing 4x100 TPD, 2x350TPD & 1x600TPD DRI and installation of new 1x600TPD DRI, Capacity enhancement of existing Mini Blast Furnace 1x350m^3, Change in configuration of existing 1x20 m^2 Sinter Plant to - 1x90m^2, Capacity enhancement of existing 9x25Ton Induction Furnace, Rolling Mill- 1000TPD, Capacity enhancement of existing 4x9MVA and installation of new 4x9MVA SAFs, Briquetting Plant- 1x50 TPH, Sinter Plant for Ferro Division - 1x600TPD, Captive Power Plant-DRI based WHRB 18MW and Blast Furnace Gas based 9MW (additional)
4.	New/Expansion/Modernization Proposal Number MoEF file number (Previous EC)	Expansion Autofill J-11011/201/2013-IA.II(I)

	Uploaded EC letter	***Attached***
5.	Existing Capacity/Area etc	**71.71Ha**
6.	Category of Project i.e.' A' or 'B'	A
7.	Does it attract the general condition? If yes, please specify	NO
8.	Does it attract the specific condition? If yes, please specify	No
9.	Location of the project	Village: Parvatpur Madandih Radhamadhabpur, P.O. : Bortoria, Tehsil: Raghunathpur, District : Purulia, West Bengal
	Shape of Project Land	Block (Polygon)
	Upload GPS file	Attached
	Survey of India Toposheet	Attached
	Plot/Survey/Khasra No.	2-50, 51-100, 101-150, 151-200, 201-217, 3-20, 21-40, 41-57, 3/830, 139-147, 214-250, 251-300, 301-350, 351-400, 401-464 453, 454, 457, 458, 465-499, 592-602, 613-622, 631-634
	Town / Village	Parvatpur, Madandih, Radhamadhabpur
	State of the project	West Bengal

Details of state of the project

No.	Item	Details	
	State Name	**District**	**Tehsil**
(i)	West Bengal	Purulia	Raghunathpur
10.	Nearest railway station along with Distance in kms.	The nearest Railway Station is Ramkanali – 4.23 km. from the project site	
	Nearest airport along with distance in kms.	Netaji Subhash Chandra Bose International Airport, Kolkata (205 kms). South East	
11.	Nearest Town, City, District Headquarters Along with distance in kms.	Raghunathpur 14.15km	
12.	Village Panchayats, Zila Parishad, Muncipal Corporation, Local body (Complete postal address with telephone nos. to be given)	Janardandih Gram Panchayat P.O. – Bortoria, Purulia, West Bengal	
13.	Name of the applicant	Deepak Kumar Agarwal	
14.	Registered Address	M/s. Shakambhari Ispat & Power Limited 41A, A.J.C. Bose Road, Diamond Prestige Building, 8th Floor, Room No. 801, Kolkata - 700017, West Bengal	
15.	Address for correspondence		
	Name of the Company	Shakambhari Ispat & Power Limited	
	Name	Mr. Deepak Kumar Agarwal	
	Designation (Owner/Partner/CEO)	Director	
	Address	M/s. Shakambhari Ispat & Power Limited	

No.	Item	Details
		41A, A.J.C. Bose Road, Diamond Prestige Building, 8th Floor, Room No. 801, Kolkata , West Bengal
	Pin Code	700017
	E-mail	siplmoef@shakambharigroup.in
	Telephone No.	033- 66255252
	Fax No.	-
	Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency	***Attached***
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet.	Not envisaged, since the project is expansion project.
17.	Whether part of Interlinked projects?	No
18.	Whether separate application of Interlinked project has been submitted?	NA
19.	If Yes, MoEF file number Date of submission	NA NA
20.	If No, Reason	NA
21.	Whether the proposal involves approval / clearance under: if yes, Details of the same and their status to be given.	
i.	Whether the proposal involves approval/clearance under the Forest (Conservation) Act, 1980?	No
ii.	Whether the proposal involves approval/clearance under the wildlife (Protection) Act, 1972?	No
iii.	Whether the proposal involves approval/clearance under the C.R.Z notification, 2011?	No
22.	Whether there is any Government Order/ Policy relevant/ relating to the site?	No
23.	Whether any Forest Land Involved? Area of Forest land Involved (hectares)	No NA
24.	Whether there is any litigation pending against the project and /or land in which the project is propose to be set up? (a) Name of the Court (b) Name of the Sub Court (c) Case No. (a) Orders/directions of the court, if any and relevance with the proposed project	No NA NA NA NA

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	Existing Plant area: 71.71Ha (under Industrial Use). After expansion plant area will be 81.103Ha. Additional land acquired for proposed expansion is under least agriculture use.
1.2	Clearance of existing land, vegetation and buildings?	Yes	At present there are few scanty trees which either will become a part of future greenbelt area or will be transplanted at the plant boundaries which will be covered under greenbelt. Bushes and meager vegetation in the proposed project area will be removed
1.3	Creation of new land uses?	Yes	Civil or Structural works in an area of 14.80Ha inside the plant premises, are involved for the installation of proposed units, building and other necessary infrastructure.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Soil testing shall be conducted before installation of the proposed facilities.
1.5	Construction works?	Yes	Construction works will be undertaken for the proposed plant. However, the extent of such activities is likely to be limited within the plant premises.
1.6	Demolition works?	No	Not envisaged
1.7	Temporary sites used for construction works or housing of construction workers?	No	No temporary sites or housing of construction workers are required since Approx. 150 workers required for the construction work will be sourced from the nearby villages. Provision for rest shelters, drinking water, washroom etc. will be made available at the proposed plant premises.
1.8	Above ground buildings, structures or earthworks including linear structures,	Yes	Approx. 1,439,400 m3 of earthwork, 143,940m2 of area built-up, 153,940m3

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	cut and fill or excavations		of concreting will be involved for laying foundation and building structure.
1.9	Underground works including mining or tunneling?	Yes	Approx. 1000,000 cubic meter of UG work for drainage system, foundation and tanks construction shall be done. No tunneling or mining is envisaged. Excavated soil shall be used for back filling and green area development.
1.10	Reclamation works?	No	Not Applicable
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	Yes	Production and manufacturing process is given in ***Annexure- I***
1.14	Facilities for storage of goods or materials?	Yes	Storage facilities will be provided for 3 months of Raw Materials and 1 month of finished / Intermediate products at plant site. Storage capacity for approx. 14.435 lakhs tons of raw materials and approx. 5.45 lakhs tons of finished / Intermediate products will be developed at Site.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Approx. 60 m^3/hr. of industrial effluent shall be either recycled or reuse after treatment in treatment facilities with the individual Units. Domestic Effluent, approx. 5.0 m^3/hr. will be treated in Septic tanks followed by soak pit. **Zero Liquid Effluent Discharge shall be maintained.** Solid Wastes generation approx. 1,241,290TPA (maximum) shall be recycled/ reused or disposed as given in ***Annexure- II*** and in Section 3.8 of PFR.
1.16	Facilities for long term housing of operational workers?	No	No long-term housing facility will be required for operational workers as the manpower (approx. 1250 additional) at the time of full Plant Operation shall be

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			from nearby villages only.
1.17	New road, rail or sea traffic during construction or operation?	Yes	No new road or rail envisaged either during operation or construction. Traffic during construction and operation will increase on road and rail, however existing road and rail network is sufficient to take care of additional load. Approximately, 15 & 30 numbers of trucks will ply per day to and fro from plant site to nearby area during construction and during operation, respectively.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	Not Required. Existing facilities are adequate.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not Required
1.20	New or diverted transmission lines or pipelines?	No	Not Required
1.21	Impoundment, damming, culverting, realignment or other changes to the Hydrology of watercourses or aquifers?	No	Not Applicable
1.22	Stream crossings?	No	No stream crossing.
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	No abstraction of ground water envisaged. The requirement of makeup water for industrial and domestic purposes after the proposed expansion will be 13,738 m^3/day from DVRCC, including domestic use. Company is already having permission from DVRCC for drawing 1.69 MGD (7,683m3/day). Water shall be provided by DVRCC as when required by the project upon implementation. A dedicated 12 km pipe line from Lakhanpur point near Panchet Dam of

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			Damodar River to plant premises has been laid.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	No change envisaged.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	No decommissioning involved. Transportation of construction material and personnel shall be required during construction phase. During operation phase, most of the raw materials and finished products shall be transported by Rail. Materials shall be transported by 15 &30 number of Trucks during construction phase and operation phase respectively and trucks shall be covered.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not envisaged.
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	No decommissioning involved in the project
1.28	Influx of people to an area in either temporarily or permanently?	No	Most of the workers for the proposed project shall be from nearby villages, no permanent migration of people in the area expected.
1.29	Introduction of alien species?	No	None
1.30	Loss of native species or genetic diversity?	No	During plantation native species will planted for the greenbelt development in consultation with DFO.
1.31	Any other actions?	No	No

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No	Information/checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	Land is merely undeveloped with minimum agricultural use. Total plant area after proposed expansion will be

S.No	Information/checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			81.103Ha.
2.2	Water (expected source & competing users) unit: KLD	Yes	The requirement of makeup water for industrial and domestic purposes after the proposed expansion will be 13,738 m^3/day including domestic use. Company is already having permission from DVRCC for drawing 1.69 MGD (7,683m^3/day). Water shall be provided by DVRCC as when required by the project upon implementation.
2.3	Minerals (MT)	Yes	The details of minerals required for the project are. Iron Ore–533,062TPA, Iron Ore Fines-1,927,950TPA, Coking Coal-101,285TPA, Non-Coking Coal-1,986,693TPA, PCI Coal-54145TPA, Limestone-239,796TPA, Dolomite-144,258TPA, Quicklime-36,200TPA, Coke-274,751TPA, Bentonite-8,500TPA, Manganese Ore-465,738TPA, Quartz-113,136TPA, Magnesite-6,766TPA, Chrome Ore (Friable)–44,659TPA, Hydrated Lime–9,900TPA, Ferro-chrome chips–49,652TPA, Charcoal-64,282TPA, Calcined Dolomite-40950TPA
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Approximately 15,000m^3 Stones, 45,000m^3 aggregates, 60,000m^3 sand and 2,000 bags of cement will be used during construction phase of the proposed project will be sourced from the local market.
2.5	Forests and timber (source – MT)	No	Not Applicable
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Existing: 148.9MW, Proposed: 38.50 MW, Total: 187 MW Out of the total power requirement, approx. 126 MW will be met from Captive power generation and remaining power shall be taken from the grid. Plant has existing permission for drawl of 50MVA from DVC.

S.No	Information/checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.7	Any other natural resources (use appropriate standard units)	No	No other natural resources are used.

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	No hazardous substance as per MSIHC Rules is used in the proposed production process, except HSD: 69kl/year & LDO/LSHS: 810kl/year, which will be used as fuel in Reheating Furnace and during start-up in Sponge Iron Kilns.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not envisaged
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Approx. 150 persons will be employed during construction phase and approx. 2950 persons (total after expansion) during operation phase. It would generate employment opportunity to the local people and indirect to many more hence, the project is expected to have a positive impact on the socio-economic condition of the population in the area which is likely to improve the living condition of the local people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	Yes	Harmadih Rural Hospital at 0.56km in NE direction, Basbani High School at 1.6km in SW direction, Brinchinath Dhaam at 0.5km in West direction, Gar Panchkot temple at 2.06km in West direction
3.5	Any other causes	No	Nil

4. Production of solid wastes during construction or operation or Decommissioning (MT/Month)

Sl. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	Not applicable
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Canteen waste will be composted and will be used as manure in plantation. Municipal wastes will be disposed of suitably as per Solid Waste Management Rules, 2016, in consultation with the concerned Civic body.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	Tarry Wastes, approx. 1,782TPA and Used Oil approx. 20 kl/year. Tarry waste shall be given to M/s Bravo Sponge Iron plant for charging in coke oven plant along with Coal and Used Oil shall be used for DRI Kilns light up process and suitably burnt in CFBC boiler. Left over quantity, if any, will be sold to the registered recycler.
4.4	Other industrial process wastes	Yes	Industrial process waste generation and their management is given at ***Annexure-II (attached)*** and in Section 3.8 of PFR
4.5	Surplus product	Yes	107,428 TPA DRI ESP Dust will be given to bricks & cement manufacturing units, 375,000 TPA of Tailings from Beneficiation Plant will be sold to tile manufacturing company, 1,782 TPA Tar will be given to nearby coke oven plant, 16,038 TPA Cinder will be given to the brick manufacturing plants, 179,095 TPA BF Granulated Slag, 107,136 TPA Pig Iron Slag (from SAF) and 3,214 TPA Fe-Si. Slag will be used in the nearby Cement Plant.
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Sludge from Rolling Mill & its ETP, will have approx. 9,900 TPA (Mill Scale) and very small amount of sludge from Neutralization Pit shall be reused in Sinter plant. Domestic waste water is being/will be treated in septic tank followed with soak pit.

Sl. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
4.7	Construction or demolition wastes	Yes	No demolition waste generation. Construction waste approximately 7200m^3 will be disposed as per C&D Rules, 2016.
4.8	Redundant machinery or equipment	No	No Redundant machinery.
4.9	Contaminated soils or other materials	No	Not envisaged
4.10	Agricultural wastes	No	Not Applicable.
4.11	Other solid wastes	No	No other solid waste generation

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources.	Yes	Flue gases will be generated from combustion of fossil fuel, LDO/LSHS in Reheating Furnace, heating of BF Gas in BF Stoves, Coal in AFBC/CFBC boilers, Coal in DRI Kilns, Coke breeze in Sinter Plant and HSD in DG Set. Stack emissions shall be controlled within acceptable limits by installation of pollution control equipment like PTFE membrane bag filters, ESP etc. Average movement of a truck in the core area shall be 6 kms. and in study area 35 kms. per day.
5.2	Emissions from production processes	Yes	Primary & secondary emissions from Induction Furnaces, Stack emissions from Submerged arc Furnaces and Briquetting Plant. Emissions from the stacks shall be limited to 30 mg/Nm^3.
5.3	Emissions from materials handling including storage or transport.	Yes	Fugitive dust emissions during unloading, loading, stacking and transportation of raw materials.
5.4	Emissions from construction activities including plant and equipment.	Yes	Gaseous and dust emissions from construction equipment aided with fossil fuel (diesel) are Cranes, Compressor, Mortar mixing drums etc. and transportation of construction materials by Trucks and Trailor.

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust emission from handling of raw materials during operation is given at point 5.3 above and during construction at point 5.4. Fixed sprinklers, fogging systems and mobile sprinklers shall be deployed. Septic tank sludge will be disposed of in consultation with local authority. No odour problems.
5.6	Emissions from incineration of waste	No	Not applicable
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Not applicable
5.8	Emissions from any other sources	No	Not applicable

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	While placing the order for the equipment, it will ensure that overall noise level shall be limited to 90 dB(A) at 5 meters away from the Machines
6.2	From industrial or similar processes	Yes	High noise sources from industrial process are noise from Tuyeres of Blast Furnace, Cold / Hot Blast pipelines, Steam leakages, Sinter fans, ID fans, Compressors, DG Sets etc. Suitable measures shall be taken to control the noise at source. Ambient noise will be limited to 75 dB(A)
6.3	From construction or demolition	Yes	Noise from Dozer, JCB, Dumpers, operation of Cranes, movement of Trucks, operation of Construction machineries etc. The noise generated from the construction activities will be confined to the plant premises. The workers will be provided with PPEs.
6.4	From blasting or piling	No	Not Applicable.

6.5	From construction or operational traffic	Yes	Overall noise levels shall be limited to 85 dB (A).
6.6	From lighting or cooling systems	No	Not applicable
6.7	From any other sources	No	No other sources.

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea.

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	Hazardous Waste 'Used Oil' and 'Tarry Wastes' shall be suitably handled to avoid any risk or contamination due to handling, storage and spillage. Used Oil shall be suitably stored and used for DRI Kilns light up process and suitably burnt in CFBC boiler. Left over quantity, if any, will be sold to the registered recycler as per Hazardous and Other Wastes Rules, 2016. Tarry wastes shall also be temporarily stored on Concrete flooring for transporting to nearby Coke Oven Plant.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	There will no effluent or sewage discharge on water or land as ZLD will be followed. Effluent Treatment Plant with individual Units will be in closed loop for recycle or reuse in another Unit. Sewage effluent is being/ will be treated in Septic tanks followed by soak pits.
7.3	By deposition of pollutants emitted to air into the land or into water	No	State of art pollution control facilities will be installed. Stacks of adequate height of minimum 30 meters or as per the formula $H= 14 (Q)^{0.3}$, whichever is more will be is provided (where H = stack height and Q= SO_2 emission kg/hr.) will be provided for proper dispersion of pollutants. During the construction phase, proper care will be taken to reduce dust emission, wherever possible.
7.4	From any other sources	No	No

S.No.	Information/Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
7.5	Is there a risk of long-term buildup of pollutants in the environment from these sources?	No	No long term built-up of pollutants envisaged.

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment.

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	Yes	LDO/LSHS will be be used as fuel in Reheating Furnace and during start-up in Sponge Iron Kilns. LDO/LSHS considered to be hazardous material will be stored in MS tanks with Oil Catch Pit arrangement in fenced area at a safe distance from other facilities.
8.2	From any other causes	No	Construction activities will be carried with all safety measures and will be regularly monitored by SIPL Safety Team. To avoid any accident during plant operation, hazards identification and Risk Assessment study shall be done and mitigation measures suggested will be effectively implemented.
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, Cloudburst etc)?	No	No such event is known to have occurred in the area. Area falls under Seismic Zone III as per Indian Standard Seismic Zoning Map.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the	Yes	The proposed expansion will bring opportunity for direct as well as indirect employment for the local area people. Under different corporate

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	environment e.g. • Supporting infrastructure (roads, power supply, waste or waste water treatment etc.) • housing development • extractive industries • supply industries • other		responsibilities the company will work on development or improvement of health, educational and social infrastructure.
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not envisaged at this moment.
9.3	Set a precedent for later developments	Yes	Expansion of the project will bring employment potential and will improve the socio-economic status in the region which will lead to later developments.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	Yes	Industries with similar operations are in the proximity. Impact of these operations will reflect in the baseline data and impact of the project with suitable mitigation measures shall be provided in the EIA Report, to keep the impact minimum.

(III) Environmental Sensitivity

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Yes	Archeological Site- Durga mandir, Para at 7.1km in East
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Damodar River at 6.0 km in North Uttala Nadi at 5.10km in West Khudiya Nadi at 8.0km in North Barakar River at 9.1km in North Panchet Reservoir at 5.35km in NW Ramchandrapur Reservoir at 4.27km

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
			in SE
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Yes	Panchet Reserve Forest at 30 m in West direction.
4	Inland, coastal, marine or underground waters	Yes	Damodar River at 6.0 km in North Uttala Nadi at 5.10km in West Khudiya Nadi at 8.0km in North Barakar River at 9.1km in North
5	State, National boundaries	Yes	West Bengal and Jharkhand Border is at 6.0 km. distance from the project in North direction
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Yes	SH-5 (Asansol Purulia Road) is at 700 m SH-8 (Durgapur Purulia Raghunathpur Road) is at 10.15kms in south direction NH-2 (Delhi Kolkata Highway) is at 16km in north direction
7	Defense installations	No	None
8	Densely populated or built-up area	Yes	Raghunathpur 14.15km
9	Areas occupied by sensitive man-made land uses (*hospitals, schools, places of worship, community facilities)*	Yes	Harmadih Rural Hospital at 0.56km in NE direction Basbani High School at 1.6km in SW direction Brinchinath Dhaam at 0.5km in West direction Gar Panchkot temple at 2.06km in West direction Netaji Eye Hospital at 3.4km in SW Muradi Girls high School at 4km in SW
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals*)*	Yes	Damodar River at 6.0 km in North Uttala Nadi at 5.10km in West Khudiya Nadi at 8.0km in North Barakar River at 9.1km in North
11	Areas already subjected to pollution or Environmental damage.	No	None

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	No	Area comes under Seismic Zone-III

Detailed Description is provided in Section 3.5 of the attached PFR

Production from Coal Washery (Existing)

The Capacity of the Coal Washery is 0.74 million tons throughput. Out of which, 0.33 million tons per annum is washed coal having 27% ash, 0.283 MTPA is middling and 0.05 MTPA reject. No change is proposed in the configuration or production of existing coal washery.

Production from Lime Plant (Existing)

Lime plant of 250TPD for the production of 80,000TPA Lime which will be dispatched to SMS through a system of belt conveyors. No change is proposed in the configuration or production of existing lime plant.

Production from Iron Ore Beneficiation Plant (Proposed with changed configuration)

Increasing the through put capacity of Iron ore Beneficiation from 630,000 TPA to 1,000,000 TPA by changing the configuration.

Production from Pellet Plant (Proposed with changed configuration)

It proposed to increase the production capacity of pellet plant from 582,000 TPA to 850,000 TPA by changing the configuration.

Production of Sponge Iron (Existing + Proposed)

It is proposed to increase the production of Sponge Iron from 544,000 TPA to 910,800 TPA by installing additional 1x600TPD DRI Kiln and enhancing the productivity and number of operating days of already installed 4x100 TPD+2x350 TPD+1x600 TPD DRI Kilns.

Production of Sinter (Proposed with changed configuration)

It is proposed to change the configuration of Sinter plant to 1x90m^2 for total production of 795,600 TPA sinter, to be used in Blast Furnace for production of hot metal.

Production of Pig Iron (Proposed with changed configuration)

It is proposed to increase the production capacity of to be implemented 1x350m^3 MBF from 249,900 TPA to 416,500 TPA by increasing the productivity from 2.4 t/d m^3 to 3.4 t/d m^3.

Production of MS / SS Steel (Proposed with changed configuration)

Proposal is for increasing the production capacity of MS Billets from 523,950 TPA to 787,500 TPA of Billets (Mild Steel through 9x25 Ton Induction Furnace and 1x30Ton LRF, VOD & 3x6/11 CCM by increasing transformer rating with revision in Charge mix leading to enhance Heats per Day per Furnace.

It is also proposed to produce 787,500 TPA MS Billets or Stainless-Steel Billets or in combination of any for which 1x25 Ton AOD and 2x40 Ton Reheating Furnace shall be installed in place of 1x25 Ton Reheating furnace, proposed earlier.

Production of Rolled Long Products (Existing + Proposed)

Installing additional 1000 TPD Rolling Mill (addition to already installed 1000 TPD Rolling Mill) for production of total of 660,000 TPA either MS Steel or SS steel or in combination of any.

Production of Ferro-Alloys (Existing + Proposed)

Enhancement of Ferro Alloy Production from 63150 TPA to 214,272 TPA by installing additional 4x9MVA SAFs and increasing capacity from existing 4x9MVA SAFs for enhancing the production of Ferro Alloys to Si-Mn 142,848 TPA or Fe-Mn 194,058 TPA or Fe-Si 64,285 TPA or High Carbon Fe-Cr 135,330 TPA or Fe-Si-Cr 88,664 TPA or Pig Iron 214.272 TPA or Combination of any with maximum of 214,272 TPA.

Metal Recovery Plant of 25 TPH with Jigging facility proposed for recovery of metal from slag, before disposal.

Production of Chrome Briquettes (Proposed)

1x50 TPH Briquetting plant has been envisaged for production of 300,000TPA Ferro chrome briquettes using chrome ore fines, lime and molasses as binder. The green briquette formed from briquetting press will be cured naturally, in briquetting shed at the raw materials storage area for production of ferro chrome inside the ferro alloy plant.

Production of Sinter (Proposed-Ferro Alloy Division)

1x600TPD Sinter Plant has been proposed for production of 216,000 TPA Sinter from Iron Ore fines / Sinter or Manganese dust and coke fines. Sinter will be used in Submerged Arc Furnace to produce Ferro Alloys/ Pig Iron**.**

Captive Power Generation (Existing + Proposed)

Proposal is to generate captive power of 126MW based on Blast Furnace Gas, DRI WHRB, AFBC & CFBC, the breakup of power generation is as follows:

A). Waste Heat Recovery Boiler (WHRB) based on DRI: 37MW of power is generated by utilizing the sensible heat of waste gases coming from installed 4x100TPD+2x350TPD+1x600TPD DRI Kilns. Additional, 2MW of captive power will be generated through the WHRB of already installed 1x600TPD and 16MW from the proposed 1x600TPD DRI Kiln**.**

B). Atmospheric Bubbling Fluidized Bed Combustion (AFBC) Boiler: The Boiler selected for Coal & Char firing is atmospheric bubbling type fluidized bed combustion boilers of 36TPH steaming capacity to ensure total 8.5MW Power even when the DRI kilns are in operation.

C). Circulating Fluidized Bed Combustion (CFBC) Boiler: 53.5MW of captive power will be generated through the proposed CFBC boiler**.**

D). Based on Blast Furnace Gas: It has been proposed to produce 9MW captive power based on utilizing the part of Blast furnace gas coming out from Blast Furnace. Out of total 42,400 Nm^3/hr will be used for power generation.

Solid Wastes Generation & Management

Type of Waste	Quantity in Tons (TPA)		Mode of Disposal
	Existing	Total after the proposed Expansion	
Induction Furnace Slag	76,015 (After metal recovery)	114,251 (After metal recovery)	Total Slag generation shall be 126945 TPA, however after recovery of 12695TPA of metal, remaining slag of approx. 114251 TPA will be used as aggregates after crushing
IF Bag Filter Dust	16,347	24,570	Will be recycled in Sinter Plant
MS Scale - CCM	6,290	9,828	MS Scale shall be used for production of Fe-Si or Fe-Si-Cr. Or will be used in Sinter Plant SS scale will be recycled in the Induction furnace
Mill Scale - RM	4,950	9,900	MS scale will be recycled in the Sinter Plant. SS scale will be recycled in the Induction furnace
Dolochar from DRIs	136,000	233,196	Will be used in AFBC/CFBC Boiler for power generation
Wet Scrapper Sludge	13,600	23,354	Will be used in CPP for power generation
DRI ESP Dust	65,280	107,428	Will be bricks & cement manufacturing units
Coal Washery Rejects	50,000	50,000	Will be used in Briquetting Plant
Tailings from Beneficiation Plant	236,250	375,000	Will be sold to tile manufacturing company
Pellet Plant Dust	29,680	43,350	Will be Reused in Pellet Plant or Sinter Plant
Tar from Producer Gas Plant	--	1,782	Will be given to nearby coke oven plant
Ash (Cinder) from Producer Gas Plant	--	16,038	Will be given to the brick manufacturing plants
BF Granulated Slag	107,450	179,095	Will be used in the nearby Cement Plant
BF Flue Dust	2,750	10413	Will be used in the Sinter Plant
Sinter Plant ESP Dust	10,890	43,758	Recycled in Sinter Plant
Return Sinter	17,820	69,500	Recycled in Sinter Plant
Fly-ash from CFBC	272,450	272,450	Will be given to nearby Cement plant or

Type of Waste	Quantity in Tons (TPA)		Mode of Disposal
	Existing	Total after the proposed Expansion	
& AFBC			Brick manufacturing Unit
Bottom ash from CFBC & AFBC	68,110	68,110	Will be given to the brick plants
Ferro-alloys			
Fe-Mn Slag	51,475	174,662	Will be used for production of Si-Mn
Fe-Mn Bag Filter Dust	1,315	4,463	Will be used in Ferro-alloys Sinter Plant
Si-Mn Slag	35,785	121,421	Slag is non-hazardous and will be used for construction of roads or filling of low-lying area
Si-Mn Bag Filter Dust	380	820	Will be used in Ferro-alloys Sinter Plant
Fe-Cr. Slag	35,896	121,797	Slag shall be further processed in grinding and Metal Recovery Plant and shall be used for construction purpose after TCLP test
Fe-Cr. Dust	800	2,710	Will be used in Briquette Plant
Fe-Si. Slag	947	3,214	Ferro Silicon Slag will be used for cement manufacturing/ industries as a raw material & used for medium carbon silico manganese production purpose
Fe-Cr.-Si Slag	--	4,433	Slag is non-hazardous and will be used in cement manufacturing industries as a raw material as well as for construction and Road filling material after undergoing TCLP Test.
Pig Iron Slag	31,575	107,136	Pig Iron Slag will be used for cement manufacturing as a raw material
Briquette Plant Dust	---	15,300	Recycled in the plant