



ELECTROSTEEL CASTINGS LIMITED

30, B.T. ROAD, KHARDAH, P.O. SUKCHAR, KOLKATA – 700115 (INDIA)

TEL : 91 -33 - 71014300, 71014450 FAX : 91- 33 - 71014501 to 4504

Web :www.electrosteel.com

CIN – L27310OR1955PLC000310

Ref : ECL/PCB/HALDIA/17-18

Dated : 10.01.2018

Mr. Sandeep Nandi
Research Officer Grade I
Ministry of Environment, Forest & Climate Change
Eastern Regional Office
A/3, Chandrasekharapur
Bhubaneswar – 751023.

Ref : Your File No. 102-576/16/EPE/3049 dated 02.11.2017

Sub : Proposed installation of the Ferro Alloy Plant through setting up of 1 x 6 MVA & 1 x 9 MVA submerged Arc Furnace for production of Ferro Manganese (38,156 TPA) or Silico Manganese (27,109 TPA) or Ferro Silicon (10,421 TPA) by M/s. Electrosteel Castings Ltd., located at Haldia, Dist. Purba Medinipur, West Bengal – Environmental Clearance regarding.

Respected Sir,

This has reference to the Environmental Clearance letter No. J-11011/02/2016-IA-II (I), dated 12.04.2017 issued by Ministry of Environment, Forest & Climate Change, New Delhi and your subsequent letter under File No.102-576-16-EPE/3049 dt. 02.11.2017.

We enclose herewith details of information required by you in Enclosure I & II along with EIA report.

Hope you will find the same in accordance with your requirement.

Thanking You,

Yours faithfully
For Electrosteel Castings Ltd

S.N Bhounmik
Vice President (Projects & Engineering)



- Enclo : a) enclosure I
b) enclosure II
c) EIA report
d) Consent to Establish from WBPCB

HEAD OFFICE : 19, CAMAC STREET, KOLKATA-700 017
TEL : 91-33-7103-4400, 2283-9990, FAX : 91-33-2289 4340
Regd. office :Rathod Colony, Rajgangpur, Orissa-770017



Ministry of Environment, Forest & Climate Change
Eastern Regional Office
BHUBANESWAR

PART - I

DATA SHEET

1. Project type : Item 3(a) of Category – 'A' of Schedule
2. Name of Project : Installation of the Ferro Alloy Plant though setting up 1*6 MVA and 1* 9 MVA Submerged Arc Furnaces for production of Ferro Manganese (38,156 TPA) or Silico Manganese (27,109 TPA) or Ferro Silicon (10,421 TPA) at Haldia, Medinipur (E), West Bengal
3. Clearance/Approval letter(s) No. & Date : J-11011/02/2016 – IA. II(I)
Dated 12.04.2017
4. Location
 - a. District(s) : Purba Medinipur
 - b. State(s) : West Bengal
 - c. Latitudes/Longitudes : Latitude 22°5'20.89" N and
Longitude 88°6'34.75" E
5. Address of Correspondence
 - a. Address of Concerned Head
Of Organization (with pin code
And Telephone/teles/fax no.) : Mr.S.N.Bhoumik,Vice President(P&E)
G.K.Tower; 19,Camac Street
Kolkata-700017, ph no:22839990
Fax: 03371014504
Mob : 9903976298
snbhoumik@electrosteel.com



b. Address of Head of Project
(with pin code And Telephone
/teles/fax no.) : Mr.S.N.Bhoumik,Vice President(P&E)
E-mail ID : G.K.Tower; 19,Camac Street
Kolkata-700017, ph no:22839990
Fax: 03371014504
snbhoumik@electrosteel.com

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6. Salient features

a. Of the project : Attached Annexure-III

b. Of the environmental
management plans : Attached Annexure-IV

7. Breakup of the project areas (in ha)

a. Forest area : Nil

b. Non-forest area : 3.19 acres

Total : 3.19 acres

8. Breakup of the project affected
Population : **Not applicable**
Village wise details along with
R&R package to be given

Number of oustees

Homestead	Land Ousteers	Landless Artisans

SC, ST/Adivasis Others

9. Financial Details

a. Project cost as originally
Planned and subsequent
Revised estimates and the
Years of price reference : Original project cost
50.0 crores (Ref 2016)



- b. Allocation made for environmental management plans, With item wise & year wise Breakup : Attached Annexure-V
- c. Benefit cost ratio/internal rate of return & the year of assessment : Internal rate of return 26.4%, 2017
- d. Whether(c) includes the cost Of environmental management As shown in (b) above : Included
- e. Actual expenditure incurred On the environment Management plans so far :

Project	EMP
<u>Expenditure</u>	<u>Expenditure</u>
Yet to be done	Yet to be done

10. Status of construction

- a. Date of commencement (actual and/or planned) : 01.02.2018 (Planned)
- b. Date of completion (actual and/ Or planned) : 31.12.2020 (Planned)
- c. Date of commissioning : Target: phase-1 - 31.12.2018
Phase-2 - 31.01.2021

11. Project process details

Components

1. Engineering and other project Components
2. Environmental Management and Pollution Control components

Dates of

Construction Completion Commissioning

Project work yet to start.

Not applicable

Date :

Signature



DETAILS OF INFORMATION REQUIRED

1. Name and address of the Nodal officer : Mr Satwik Kr Bhowmik
(with phone no/fax no/mobile no) East Medinipore, Haldia-721635
West Bengal
Ph: 03224277394
Fax no: 03224278107
Mob : 9476328055
2. Name and address of the concerned : Mr S.N Bhoumik
Project in-charge(with Ph. no/Fax no./ G.K.Tower
Mobile no) 19, Camac Street Kolkata-17
Ph: 0332283990
Fax no: 03371014504
Mob : 9903976298
3. Copy of the EIA report and EMP : Copy attached
4. Present status of the construction of the project: Construction work yet to start.

Date of commencement of construction : Not Applicable.
Work along with quantum of work completed :
Date of operation, Financial closure : Financial closure is under progress.

Final approval of the project from concerned : COE received from WBPCB (memo no.
authority 434-2N-54/2016(E) dt.24.08.17)
Copy attached.
5. Condition wise compliance status in case project : Project work is yet to start.
is under construction/operational phase : (EC Compliance report is
Otherwise compliance status of only those condition :
applicable at present should be submitted. : Furnished in Annexure-I)
6. Uploading of compliance report in company : Will be complied.
Website & name of the company website. : www.electrosteel.com
Inform status of project : Project is yet to start.
7. Monitored data displaying in front of main gate :
of company for information of public : Will be complied.
8. Public Hearing Report be sent to this office : Copy attached (Annexure II)



WEST BENGAL POLLUTION CONTROL BOARD

Memo No. 434-2N-54/2016(E)

Dated 24.08.2017

To: M/s. Electrosteel Castings Limited,
30, B.T. Road, Khordah, PO Sukchar, Kolkata - 700115, West Bengal.

Sub : Consent to Establish (NOC) from Environmental Point of View

Ref: 1. Your letter No. EC/PCR/HALDIA/17-18 Dated 19.06.2017
2. Your letter No. EC/PCR/HALDIA/17-18 Dated 28.07.2017

Dear Sirs,

In response to the application for consent to Establish and Operate the Electrosteel Casting Limited Ferro Alloy Plant and

for manufacturing/selling of Ferro Manganese - 3816421 TPA of Silico Manganese - 27109 TPA or Ferro Silicon - 10421 TPA.

Mpuza-Kashbele No. 100(P), 101, 102(P),
at 103(P), 105(P); No. 147-18(1) land area-3.19 acres
this is to inform you that this Board has established it from the environmental point
of the above subject to the following conditions and special conditions annexed.

*PS-Durgachak (Formerly Satahata), Haldia, Dist.-Purba Medinipur, West Bengal.

1. The quality of sewage and trade effluent to be discharged from your factory shall satisfy the permissible limits as prescribed in IS : 2490 (Pt. I) of 1974, and/or its subsequent amendment and Environment (Protection) Rules 1986.
2. Suitable measures to treat your effluent shall be adopted by you in order to reduce the pollutional load so that the quality of the effluent satisfies the standards mentioned above.
3. You shall have to apply to this Board for its consent to operate and discharge of sewage and trade effluent according to the provisions of the water (Prevention & Control of Pollution) Act, 1974. No sewage or trade effluent shall be discharged by you without prior consent of this Board.
4. All emission from your factory shall conform to the standards as laid down by this Board.
5. No. emission shall be permitted without prior approval of this Board and you shall apply to this Board for its consent to operate and atmospheric emission as per provision of the Air (Prevention & Control Pollution) act, 1981.
6. No industrial plant, furnace, flues, chimneys, control equipment, etc. shall be constructed/reconstructed/erected/re-erected without prior approval of this Board.

Amman 24/23.08.2017

CNO147041

7. You shall comply with
- (i) Water (Prevention and Control of Pollution) Cess Act, 1977, if applicable.
 - (ii) Water (Prevention and Control of Pollution) Cess Act, 1978, if applicable.
 - (iii) Environment (Protection) Act, 1986
 - (iv) Environment (Protection) Rules, 1986
 - (v) Hazardous Wastes (Management and Handling) Rules, 1989 and Amended Rules, 2000
 - (vi) Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Amended Rules, 2000
 - (vii) Manufacture, Use, Import and Storage and Hazardous Micro-Organisms, Genetically Engineered Organisms or Cell Rules, 1989
 - (viii) The Public Liability Insurance Act, 1991 and Amended Act, 1992
 - (ix) The Public Liability Insurance Rules, 1991 and Amended Rules 1993
 - (x) Biomedical Wastes (Management & Handling) Rules, 1998 and Amended Rules 2000 if applicable.
 - (xi) Recycled Plastics Manufacture and Usage Rules 1999, if applicable and
 - (xii) Ozone Depleting Substances (Regulation & Control) Rules, 2000, if applicable
8. You will have to abide by any other stipulations as may be prescribed by any authority/local bodies/Government Departments etc.

SPECIAL CONDITION :

See annexure.

Gross Capital Investment : Rs.456800000/-

Any violation of the aforesaid conditions shall entail cancellation of this Consent to Establish (NOC)

Yours faithfully,

[Signature] 23.08.2017
Member Secretary/SR. ENV. ENGR.
West Bengal Pollution Control Board (EIM CELL)

Memo No. 434-2N-54/2016(E) dtd. 24.08.2017 Dated 24.08.2017
Copy forwarded for information to :

1. Chief Inspector of Factories, Government of West Bengal, N. S. Building, Kolkata-700 001
2. Director of Industries/Director of Cottage & Small Scale Industries, Government of West Bengal, N. S. Building, Kolkata-700 001
3. Guard file, West Bengal Pollution Control Board.
4. Environmental Engineer, I/II/Alipur R.O./Howrah R.O./Hooghly R.O./B.R.O./D.R.O./Haldia R.O./S.R.O./Asansol/ Sub-R.O./WBPC Board

Himalaya Bhawan
Delhi Road, Dankuni
Dist. Hooghly

Vill, Panpur
Kalyani Expressway
P.O. Narayanpur
Dist. 24 Pgs. (N)

Sahid Khudiram Sarani
City Centre, Durgapur-16
Dist. Burdwan

10, Camac Street
2nd Floor
Kolkata-700 017

Paribesh Bhawan
10A, LA-Block, Sector-III
Salt Lake City,
Kolkata - 700 098

Block-05 at 40
Flats Complex
Adjacent to Priyambada
Housing Estate
P.O. : Khanjanchak,
P.S. Durgachak
Haldia-721602
Dist. : Purba Medinipur

Paribahan Nagar
Matigara, Siliguri
Dist.-Darjeeling

Satya Chowdhury
Indoor Stadium
Balurchar Bandh Road
Malda-732101

Asansol Sub-Regional Office
ADDA Commercial Market (2nd Floor)
Opposite Asansol Fire Station
G.T. Road, Asansol-713 301

Member Secretary/SR.E.E.
West Bengal Pollution Control Board
(EIM CELL)

Annexure II to NOC Sl. No. NO147041

Special conditions issued to M/s. Electrosteel Castings Limited (Ferro Alloy Plant), Mouza – Kashberia, JL no. 146, Plot nos. 77(P), 89(P), 100(P), 101, 102(P), 103(P), 105(P), 106(P), 147(P), 148(P) & 154(P), PS – Durgachak (Formerly Sutahata), Haldia, Dist - Purba Medinipur, West Bengal

A) Emission:-

Sl No	Emission sources	Air Pollution Control Device/System	Stack (Nos. & height from GL in m.)
01.	1X9 MVA Submerged Electric Arc Furnace (SEAF)	Bag Filter	35 m
02.	1X6 MVA Submerged Electric Arc Furnace (SEAF)	Bag Filter	35 m
02.	Raw Material Handling Plant	Bag Filter	30 m
03.	2X600 KVA DG Sets	To be equipped with acoustic enclosure & exhaust muffler	5 m (above DG room)

- 1) Stacks should have sampling port, platform and ladder as per the Emission Regulation Part-III of CPCB. Continuous stack monitoring facilities should be provided with, ferro-alloy plants.
- 2) The emission levels from all emission sources connected with Air Pollution Control devices should be kept below 100 mg / Nm³.
- 3) The National Ambient Air Quality Emission Standards issued by MoEF vide G.S.R 826(E) dated 16th November, 2009 should be complied with.
- 4) Dry fog system and water sprinklers to be installed to arrest fugitive emission.

B) Effluent :-

- 1) Process – Nil.
- 2) Cooling water to be recycled.
- 3) Domestic - to be discharged through septic tank to soak-pit within the unit premises.

C) Solid Waste :-

1. Ferro-Manganese slag to be reused in Silco-Manganese manufacturing process and Silco-Manganese to be used for land filling and road making.
2. Hazardous Waste to be collected and disposed of as per the Hazardous Wastes (Handling and Trans-boundary Movement) Rules, 2016.

D) General :-

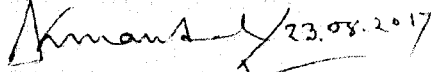
- 1) Noise Control – Ambient noise & D.G.Set noise level not to exceed the permissible limit.
- 2) No additional machinery / equipments can be installed without permission from this board.
- 3) Adequate arrangement for dust suppression in raw material handling section to be provided.
- 4) At least 33% of the project area should be under green belt.
- 5) Rain water harvesting must be done, however recharging of harvested rain water is not allowed under any circumstances.

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[Signature] 23.08.2017

Annexure II to NOC Sl. No. NO147041

Special conditions issued to **M/s. Electrosteel Castings Limited (Ferro Alloy Plant)**, Mouza – **Kashberia**, JL no. 146, Plot nos. 77(P), 89(P), 100(P), 101, 102(P), 103(P), 105(P), 106(P), 147(P), 148(P) & 154(P), PS – **Durgachak (Formerly Sutahata)**, Haldia, Dist - **Purba Medinipur**, West Bengal

- 6) Conditions laid down in the Environmental Clearance obtained for the expansion project from MoEF, Govt vide no. J-11011/02/2016-IA II (I) dated 12.04.2017 must be strictly followed.
- 7) The conveyor belt for transferring materials to day bins & skip hoist to be covered.
- 8) Good house-keeping to be maintained.
- 9) Land conversion certificate, if applicable, should be obtained from the competent authority.
- 10) Permission for extracting ground water must be obtained from the competent authority.
- 11) Project proponent should not undertake any activity on any portion of land which is not under their possession.
- 12) Statutory clearance/license from competent authorities, as applicable to be obtained.
- 13) This NOC is valid up to 31.08.2024 for setting up the proposed project.

 23.08.2017

Member Secretary/Sr. Environmental Engineer (EIM Cell)
West Bengal Pollution Control Board

ENVIRONMENT CLEARANCE SIX MONTHLY COMPLIANCE REPORT DECEMBER 2017

Project Name :- Proposed installation of the Ferro Alloy Plant through setting up of 1 x 6 MVA & 1 x 9 MVA submerged Arc Furnace for production of Ferro Manganese (38,156 TPA) or Silico Manganese (27,109 TPA) or Ferro Silicon (10,421 TPA) by M/s. Electrosteel Castings Ltd., located at Haldia, Dist. Purba Medinipur, West Bengal

Environment Clearance : J-11011/02/2016-IA-II (I), dated 12.04.2017

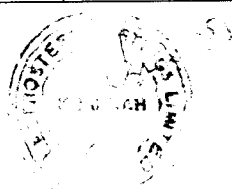
SL No.	CONDITION OF ENVIRONMENTAL CLEARANCE	STATUS OF COMPLIANCE
PART A- Specific Conditions		
i.	The project proponent should install 24x7 air monitoring devices to monitor air emission, as provided by CPCB and submit report to Ministry and its Regional Office	Will be complied on the commissioning of the project.
ii.	Bag filters to be installed to reduce the emission of Particulate Matter (PM). PM emission should not exceed 100 mg/m ³ . Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the permissible limits which have been most recently prescribed by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB should also be followed.	Will be complied on the commissioning of the project.
iii.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Will be complied.
iv.	Neurological Evaluation of workers exposed to Manganese should be monitored annually and the report should be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.	Will be complied.
v.	Measures shall be taken to reduce PM levels in the ambient air. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks should be provided. In addition, sufficient air pollution control devices viz. bag house, bag filters etc. should be provided.	Proper measures will be taken.
vi.	Dust extraction system comprising of pulse jet type bag filter, centrifugal fan and motor, duct work including suction hoods, dust supports, stack, duct hopper, rotary air lock valves etc. should be installed to control the primary and secondary emission	Adequate dust extraction system comprising of required equipment will be installed to control the primary and secondary emission.
vii.	Water sprinkling arrangements as well as dry fog system to control fugitive emission shall put up. Water sprinkling should be carried out at the raw material stockyard to control fugitive dust emissions.	Proper water sprinkling and dry fog system will be provided.



viii.	Efforts should be made to use maximum water from the rain water harvesting sources .If needed ,capacity of the reservoir shall be enhanced to meet the maximum water requirement .Only balance water requirement shall be met from others .Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption. Water requirement should be modified accordingly	Will be complied.
ix.	10-15 m wide green belt should be developed all along the boundary of the plant and in all 33% of the area should be developed green by planting native and broad leaved species in consultation with local DFO and local communities as per the CPCB guidelines. The entire plantation work should be completed in 3 years.	Proper green belt as mentioned will be developed in consultation with local DFO and local communities as per CPCB guidelines within stipulated time period.
x.	All the ferro alloy slag shall be used in the preparation of building materials.	Will be complied.
xi.	The Company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-alia address i) Standard operating process/procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and iii) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.	Environmental policy Copy attached (Annexure- VI A). Standard operating procedure will be followed as stated in EMP. Copy attached (Annexure – VIB) All the environmental issues are communicated to the top management in monthly MIS meeting and also to the Board of Directors quarterly through a systematic structured format by Head - Environment
xii.	An amount equal to Rs. 125 Lakhs, which is 2.5% of the total project cost (Rs. 50 Crores) shall be earmarked towards the Enterprise Social Commitment based on issues raised during the Public Hearing and needs of local people. Item-wise detailed plan with time bound action plan would be prepared as indicated by the project proponent and this plan shall be implemented. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	To be followed as per proposal given ref. SI No. 12.0 of EC (Separate page attached as Annexure-VII)
xiii.	The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.	Will be complied.
xiv.	The project proponent shall fully provide for LED lights in their offices and residential areas.	Will be complied.



xv.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Will be complied.
PART B – General Conditions		
i.	The project authorities must strictly adhere to the stipulations made by the West Bengal Pollution Control Board and the State Government.	Will be adhered to .
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment Forest and Climate Change (MoEF&CC).	We will not do any further expansion or modification in the plant without prior approval of MoEF&CC.
iii.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , PM _{2.5} , SO ₂ , NO _x are anticipated in consultation with the SPCB . Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six month.	Four nos. proper monitoring stations will be installed with the consultation with SPCB before starting of operation, Data on ambient air quality and stack emission will be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six month.
iv.	Industrial waste water shall be properly collected treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May ,1993 and 31 st December ,1993 or as amended from time to time . The treated waste water shall be utilized for plantation purpose.	Will be complied.
v.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dbA) by providing noise control measures including acoustic hoods ,silencers , enclosures etc. on all sources of noise generation .The ambient noise levels should conform to the standards prescribed under EPA Rules ,1989 viz.75 db A (day time) and 70 dbA (night time)	Will be complied.
vi.	Occupational health surveillance of the worker shall be done on a regular basis and records maintained as per the Factories Act	Will be complied.
vii.	The company shall develop rain water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Proper rain water harvesting structure Will be developed.
viii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA /EMP report .Further the company must undertake socio –economic development activities in the surrounding village like community	Will be complied.



	development programme ,educational programme ,drinking water supply and health care etc.	
ix.	Requisite funds shall be earmarked towards capital cost and recurring cost /annum for environment pollution control measures to implement the conditions stipulated by the Ministry Of Environment, Forest and Climate Change (MoEFCC) as well as the State Government .An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provide shall not be diverted for any other purpose.	Requisite fund are earmarked as per Annexure-V. Implementation schedule will be provided. Funds allocated for this will not be diverted.
x.	A copy of clearance letter shall be sent by the proponent to concerned Panchayats, Zila Prishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the Company by the proponent	Clearance letter has been submitted to Haldia Municipality and Haldia Development Authority (Annexure – VIII A & VIII B)
xi.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically .It shall simultaneously be sent to the Regional Officer of the MoEF&CC at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely ; PM ₁₀ ,SO ₂ ,NO _x (ambient levels as well as stack emissions) or critical sectoral parameters ,indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain	Will be complied.
xii.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Officer of MoEF&CC, the respective Zonal Office of CPCB and the SPCB .The Regional Office of this Ministry at Bhubaneswar /CPCB/SPCB shall monitor the stipulated conditions.	Is being followed.
xiii.	The environmental statement for each financial year ending 31 st March in Form- V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MoEF&CC at Bhubaneswar by e-mail.	Will be complied



xiv.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and climate Change (MoEF&CC) AT http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office at Bhubaneswar.	Advertisement published in Times of India(English) and Ei Samay (Bengali) on 05/05/2017, copy of those sent to MoEF&CC regional office at Bhubaneswar on 11/05/2017 through courier. (Annexure-IXA & IXB)
xv.	Project authorities shall inform the Regional Office as well as the Ministry: i)The date of financial closure ii)Final approval of the project by the concerned authorities iii) The date of commencing the land development work.	Will be done. Consent to Establish already received from WBPCB (copy attached). 01.02.2018 (Planned)



PROCEEDINGS OF THE PUBLIC HEARING FOR THE PROPOSED INSTALLATION OF FERRO ALLOY PLANT BY SETTING UP OF 1X6 MVA & 1X9 MVA SUBMERGED ARC FURNACE AT VILL: KASHBERIA, BLOCK-SUTAHATA, PS: BHABANIPUR, HALDIA, DIST: PURBA MEDINIPUR, WEST BENGAL PROPOSED BY M/S. ELECTROSTEEL CASTINGS LTD. HELD ON 20.12.2016 AT 12:15 HRS AT THE HALDIA MUNICIPALITY CONFERENCE HALL, HALDIA, DIST - PURBA MEDINIPUR, WEST BENGAL.

M/s. Electrosteel Castings Ltd. submitted an application to West Bengal Pollution Control Board for conducting Public Hearing for the proposed ferro alloy plant by installation of 1x6 & 1x9 MVA Submerged Arc Furnace at Vill: Kashberia, Block-Sutahata, PS: Bhabanipur, Dist: Purba Medinipur, West Bengal. As per the EIA notification S.O. 1533 dated 14th September 2006 & its amendment thereafter of the MoEF, Govt. of India, Environmental Clearance of the said project is required to be obtained after conducting Public Hearing.

Accordingly, West Bengal Pollution Control Board conducted the Public Hearing on 20.12.2016 at 12:15 hrs at the Haldia Municipality Conference Hall, Haldia, Dist-Purba Medinipur, West Bengal, after observing all formalities. Panel members were present in the hearing. A considerable gathering was also present in the hearing. List of the panel members and the others present in the public hearing are enclosed.

The hearing started with a welcome note from Sri D.Sarkar, Senior Environmental Engineer, WBPCB. He briefly explained the provisions of EIA notification & necessity of public consultation process for obtaining Environmental Clearance. Then he requested the project proponent to deliver their presentation and requested the audience to raise their queries after the presentation is over.

M/s. Envirotech East Pvt. Ltd, Environmental Consultant of the project proponent welcomed the audience on behalf of the project proponent and explained the activity of the proposed unit through Power Point presentation. He covered the topics about the project details, land & site details, plant layout, raw materials requirement, manufacturing process flow chart, control measures for emission like bag filters & also adequate separate suction system for arresting tap hole emission and solid wastes, water quantity and sources of water, stack emission characteristics, EMP, occupational health services, corporate social responsibility, etc. It has been noted that proposed project will be installed within the existing land will be engaged in production of Fe-Mn-38156 TPA/Sillico Manganese-27109 TPA/Ferro-Silicon-10421 TPA. Water requirement for the proposed expansion project will be about 456m³/day and will be supplied by Haldia Development Authority (HDA). Waste water will be recirculated after cooling/necessary treatment and the proposed project will be designed as 'Zero discharge' plant. Slag generated from the unit will be used for road construction/land filling. It has also been stated that ambient air quality near the project area are within the national ambient air quality.

Sri D.Sarkar, Senior Environmental Engineer, WBPCB stated that earlier moratorium was imposed on Haldia for setting up of new/expansion of industrial activities which attracts EIA notification since the area is notified as critically polluted area and in recent past the moratorium was lifted by MoEF & CC due to improvement of environmental quality of the area. He then requested the audience to raise their questions and/or opinions, if any.

Sri Abinash Bhunia of Village Kashberia welcomed the project proponent for their upcoming project, which he expected, will help in overall development of the area at large. He requested the project proponent to ensure their commitments regarding air pollution control and development activities in the locality should come into reality as soon as the project established. He also requested that strict and consistent environmental vigil must be ensured by the local authorities. He also mentioned that the conditions of the connecting road between the village and HPL link road which was used the various industries of the locality, was very poor and creates air pollution in the surrounding area. He also requested for maximum local employment.



Sri Sukumar Pramanik of Village-Shivramnagar welcomed the upcoming project and requested the project proponent to initiate developmental work and implement Corporate Social Responsibility (CSR) proposals so that the area as a whole can be benefited from the same. He strongly recommended for maximum local employment generation, implementation of prevailing minimum wage rate for workers, protection of occupational health and safety of workers. He also requested that project proponent should provide drinking water supply and drainage facility to the local villages

Smt. Gouribala Maji of Village-Shivramnagar & Sri Suman Kalyan Mishra of Village-Anantapur requested the project proponent to emphasize on infrastructure development of the locality such as road network, supply of drinking water, installation of street lights to the local villages. They also demanded that land losers/ local villagers should be given priority regarding employment to the respective project.

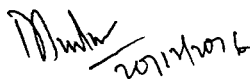
Sri Gangadhar Khara of Village-Kashberia requested the project proponent to ensure continuous and efficient operation of air pollution control device during process activities and implementation of CSR. He further expressed deep concern regarding effects of thermal pollution and effects of various pollutant gases generated from the furnace and water pollution to the local people.

ri D.Sarkar, Senior Environmental Engineer, WBPCB, informed the audience that there is a chance of particulate emission from the proposed activity. He requested the project proponent to take proper precautionary measures to arrest tap hole emission and fugitive emission during charging operation. He also requested that while finalizing the EIA and EMP, the Project Proponent should incorporate the outcomes of the opinions of the attendants of this public hearing. He further suggested that the unit should take up the programme for rain water harvesting, green belt development in a suitable manner to reduce dust & noise pollution.

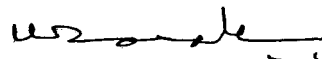
Sri A.K Dey & Sri S. Bhowmik on behalf of the project proponent appreciated the issues raised during hearing mentioned above and assured that they would take all possible measures for maintaining the Environmental Norms. The project proponent ensured that they will engage local people as much as possible and Corporate Social Responsibility program will be taken up in consultation with local administration.

Sri Madhab Bisai, Deputy Collector & Deputy Magistrate, Purba Medinipur expressed his hope that the project would be implemented as per the commitment made by the proponent and would be maintained in such a manner that the unit would comply with the environmental norms.

general, the public present in the hearing welcomed the project provided the Project Proponent incorporates all the pollution control measures proposed by the Project Proponent.


20/11/2016


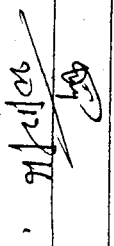

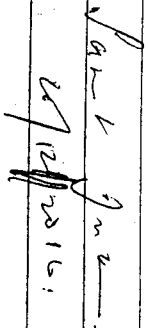
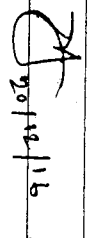
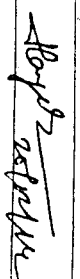
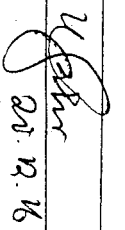
Sri D. Sarkar
Senior Environmental Engineer
West Bengal Pollution Control Board



Sri K. Basak, WBCS (Exe)
Additional District Magistrate(Dev), Purba Medinipur,
Government of West Bengal



Statement of attendance of Panel Members of the Full Hearing for the proposed installation of Ferro Alloys Plant through setting up of 1X6 MVA and 1X9 MVA submerg are furnaces for production of ferro Manganese (38156 TP Silico Manganese (37109 TP) & ferro Silicon (104) at Haldia, Dist-Purba Medinipur, WB by M/s. ~~Electro~~ Coatings Ltd. Public Hearing held on 20.12.2016 at 12:15 at the Haldia Municipality Conference Hall, Haldia, Dist Purba Medinipur, WB.

Sl. No.	Name of the Panel Members	Signature
01.	Sri. K. Basak, WBCE (Exe). Addl. District Magistrate Purba Medinipur.	
02.	Sri Mahab Bisai, Dy. Magistrate & Dy. Collector Purba Medinipur.	
03.	Sri D. Sarker, Sr. Environmental Engineer, WBCEB.	
04.	Sri S. Dutta, Asst. Environmental Engineer WBCEB	
05.	Sri MITUL Nayak, Industrial Dele. Officer, Dist, Purba Medinipur	
06.	Ms. Abu Fayez, WBCEB Dy Magistrate & Dy collector Haldia	
07.	Sri K. Saha, DEO, WBCEB	



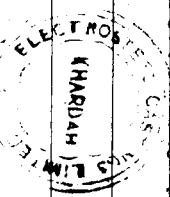
Other persons & Govt. officials present in the Public Hearing held on 20.12.2016.

Sl. No.	Name of the persons with address	Signature
1.	Abirash Bhumia, vill - Kashberia, Po - Shivram nagar, Dist - Purba Medinipur - 721635	[Signature]
2.	Pannalal Maji - vill - Kashberia Po - Shivram nagar Purba Medinipur.	[Signature]
3.	Suman Kalyan Mishra, vill - Anantapur Po - Anantapur. Purba Medinipur.	[Signature]
4.	Ananda Pandit - vill - D Shivram nagar. Po - Shivram nagar. Purba Medinipur.	Ananda Pandit
5.	S. K. Bultul - vill - Chaitanpur. Po - Chaitanpur. Purba Medinipur.	[Signature]
6.	Srimati Guribela Maji vill - D Shivram nagar, Po - Shivram nagar. Purba Medinipur.	[Signature]
8.	Sharadipada Maji vill - D. Shivram nagar. Po - Shivram nagar. Purba Medinipur.	[Signature]
9.	Gurupada Ashikari vill - D. Shivram nagar. Po - Shivram nagar. Purba Medinipur.	[Signature]
10.	Sri Dulal Bhumia, vill - Shivram nagar. Po - Shivram nagar. Purba Medinipur.	[Signature]
11.	Kali Padar Maji, vill - Shivram nagar. Po - Shivram nagar. Purba Medinipur.	Kali Padar Maji



Other persons & Govt. officials present in the Public Hearing held on 20.12.2016 at 12:15 P.M.

Sl. No	Name of the persons with address	Signature
84		
85	Pisabasa Juma. nu- Kismat Shiva. amnegu. Putha Meenidpur.	<u>10/12/2016</u> 10/12/2016
86		
87		
88	Sudipen Kumar Dalai nu- Dohin Gekinda Pur. Po. Svirnam- negu. Putha Meenidpur,	10/12/2016
89		
90		
91		
92		
93		
94		
13.		
14.	Sh. Arinwain. nu- Chakkhi's bar Po- Svirnamnegu, Putha Meenidpur.	SK. Aruddin
15.	Sh. Subin. nu- Chakkhi's bar, Po- Svirnam negu. Putha Meenidpur	SK. Subin
16.	Sabojm mail, nu- Kajram Pur. Po- Svirnam negu, Putha Meenidpur	10/12/2016
17	Abhijit Doloi nu- D. Chakinda- pur. Po- Svirnamnegu. Putha- Meenidpur.	Abhijit Doloi
18	Narain Kuteal. nu- Barabari. Po- Barabari, Putha Meenidpur	Narain Chandel
19.	Purnendu Bhosmik, nu- Amaldi Pur Po- Amaldi Pur. Putha Meenidpur	Purnendu Bhosmik
20.	Sudipen Kumar Dalai nu- Amaldi Pur. Po- Amaldi Pur. Putha Meenid- pur.	Sudipen Kumar Dalai
21.	SuPriya Maity nu- D. Svirnam- negu. Po- Svirnam negu.	SuPriya Maity



Other persons & Govt. officials present in the Public Hearing held on 20.12.2016 at 12:15 P.M.

Sl. No	Name of the persons with address	Signature.
22.	Sanjay Mahey ul - D'Shakti. am nagar. Po - Shivram nagar. Purba Medinipur.	5/3/17/6
23.	Sukumar Pramanik. ul - R. Shivram nagar. Po - Shiv ram nagar. Purba Medinipur.	Sukumar Pramanik
24.	Jagadish Jena. ul - Kishor Shiv ram nagar. Po - Shivram nagar. Purba Medinipur.	11/5/17/10/11
25.	Raghu Pati Pramanik. ul - Dilli Shiv ram nagar. Po - Shivram nagar. Purba Medinipur.	Raghu Pati Pramanik
26.	Sukumar Jena ul - Keshberia Po - Shivram nagar. Purba Medinipur.	Sukumar Jena
27.	Purni Kuti, ul - Keshberia Po - Shivram nagar. Purba Medinipur.	Purni Kuti
28.	Madan Das. ul - Keshberia. Po - Shivram nagar. Purba Medinipur.	Madan Das
29.	Ganga Khar. ul - Keshberia Po - Shivram nagar. Purba Medinipur.	20/12/16/13/17/17



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C2 - 1
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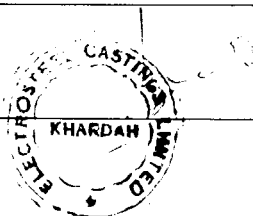
CHAPTER-2.0

PROJECT DESCRIPTION

2.1 PROJECT HIGHLIGHTS

The principal features or highlights of the proposed Project of **M/s Electrosteel Castings Ltd. (ECL)** under study are as follows:

Location	Haldia, District Purba Medinipur in West Bengal. The geographical coordinates are Latitude 22°5'20.89"N and Longitude 88°6'34.75"E with mean sea level 12 ft.
Land requirement	Proposed project will be installed on 3.19 acres of vacant Industrial land.
Raw water requirement & source	The raw water will be supplied by Haldia Development Authority (HDA). As per an initial estimate, water to the tune of 456 cu.m/day will be required for industrial as well as domestic purpose in the proposed project.
Power requirement	The estimated power requirement for the proposed project is 12.5 MW, which will be sourced from Captive Power Plant of the company, operating in the adjacent land and partly from the supply system of WBSEDCL.
Effluent generation & disposal	<ul style="list-style-type: none"> ➤ There will be no industrial effluent generation from the proposed plant (zero discharge plant). Furnace cooling water will be recycled. ➤ Domestic wastewater will be treated in Septic tank-Soak pit system.
Air pollution control	Adequate control measures like installation of Dry Fog Dust Suppression System, Dust Extraction System, Bag Filters, and stacks of adequate height at relevant points.
Solid Waste Management	<ul style="list-style-type: none"> ➤ Slag generated during Ferro Manganese production will be used as a raw material for Silico Manganese production. ➤ Slag generated during Silico Manganese production will be used for road construction / land filling. ➤ Domestic solid waste from the plant and staff quarters will be disposed of suitably in consultation with the concerned Authority.
Manpower	178 persons
Project cost	Rs. 50 Crores



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C2 - 2
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2.2 LOCATION OF PROJECT SITE

The proposed project of **ECL** shall be located at Haldia, district Purba Medinipur in West Bengal. The geographical coordinates are Latitude 22°5'20.89"N and Longitude 88°6'34.75"E with mean sea level 12 ft. The terrain is reasonably flat and without much undulation and without forestation or settlement.

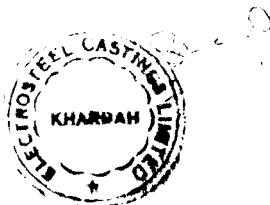
The proposed site area is well developed. All necessary infrastructure facilities such as motorable road, nearness to rail head, telephone facilities and electric-power with electric sub-station are available in the area. Durgachak Railway Station is about 4.5 km from the project site. National Highway-41 passes at a distance of 4.0 km. Important Town like Haldia is about 3.0 km; Tamluk Town (district H.Q), about 31.0 km.

2.2.1 Connectivity

The site is well connected by roads and railways. It is approachable from the Kolkata-Haldia National Highways (NH-41 starts at Haldia near the Haldia refinery and meets NH-6 linking Kolkata to Mumbai at Mecheda). It is also connected with Howrah through Panskura-Haldia branch of the South-Eastern Railways. Panskura-Durgachak Road is another road, which connects Haldia to Main South-Eastern Railway line at Panskura. Haldia is about 130 km from Kolkata by road (Through NH-41 and NH-6). Haldia is also connected with Kolkata through the shortest route of Diamond Harbour Road and regular ferry services operating from Raichak to Kukrahati over the Hooghly river. The nearest commercial airport is in Kolkata.

2.3 THE PROJECT

M/s Electrosteel Castings Ltd. (ECL) is pioneer of manufacture of Ductile Iron Pipes and Fittings with variety of linings and coatings to suit site conditions and customer's requirements and is a Water infrastructure company, which provides techno-economic solutions for water supply and sewerage systems. Considering own captive requirement and the future growth potential of ferro-alloys market at domestic and international level, ECL has decided to install a ferro-alloy plant at Haldia in West Bengal through installation of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces. The proposed units along with their capacities are presented in **Table-2.1**.



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C2 - 4
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Table-2.2
LIST OF RAW MATERIALS

SL. NO.	RAW MATERIALS	ANNUAL REQUIREMENT (IN TPA)	SOURCE
For Fe-Mn production (38,156 TPA):			
1.	Manganese Ore	81654	Mines in Orissa/M.P./Imported
2.	Coke	19078	Durgapur Steel Plant, DPL Coking Plant at Haldia & other Major Steel Plants
3.	Iron Scrap	3816	Local Rolling Mills, Local Market
For Si-Mn production (27,109 TPA):			
1.	Manganese Ore	13283	Mines in Orissa/M.P./Imported.
2.	Coke	13555	Durgapur Steel Plant, DPL Coking Plant at Haldia & other Major Steel Plants
3.	Iron Scrap	2711	Local Rolling Mills, Local Market
4.	Quartzite	8133	Mines in Chattisgarh, Bankura in W.B.
5.	Fe-Mn Slag	37953	Inhouse
6.	Dolomite	7455	Mines in North Bengal
For Fe-Si production (10,421 TPA):			
1.	Quartzite	19956	Mines in Chattisgarh, Bankura in W.B
2.	Coke	13287	Durgapur Steel Plant, DPL Coking Plant at Haldia & other Major Steel Plants
3.	Iron Turnings	2501	Local Rolling Mills, Local Market

Raw materials will be received at plant site both by rail and road. All the trucks for raw material and finished product transportation shall comply with the applicable environmental norms.

The Process Flow Diagram of the proposed Ferro Alloy Plant is shown in **Figure-2.4.1**. The Material flow diagram for the proposed project is depicted in **Figure-2.4.2**.



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C2 - 3
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Table 2.1
Proposed Units

Sl. No.	Facilities	Proposed Unit	Production Capacity
1.	Ferro Alloys Plant	1x6 MVA Submerged Arc Furnace & 1x9 MVA Submerged Arc Furnace	Ferro Manganese – 38,156 TPA or Silico Manganese – 27,109 TPA or Ferro Silicon– 10,421 TPA

2.4 RAW MATERIALS

The major raw materials, which will be handled, consist of Manganese Ore, Quartzite, Dolomite and Coke Breeze for the proposed project. The annual requirement of raw materials, which will be required for the proposed project, is presented in **Table-2.2**.



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C2 - 5
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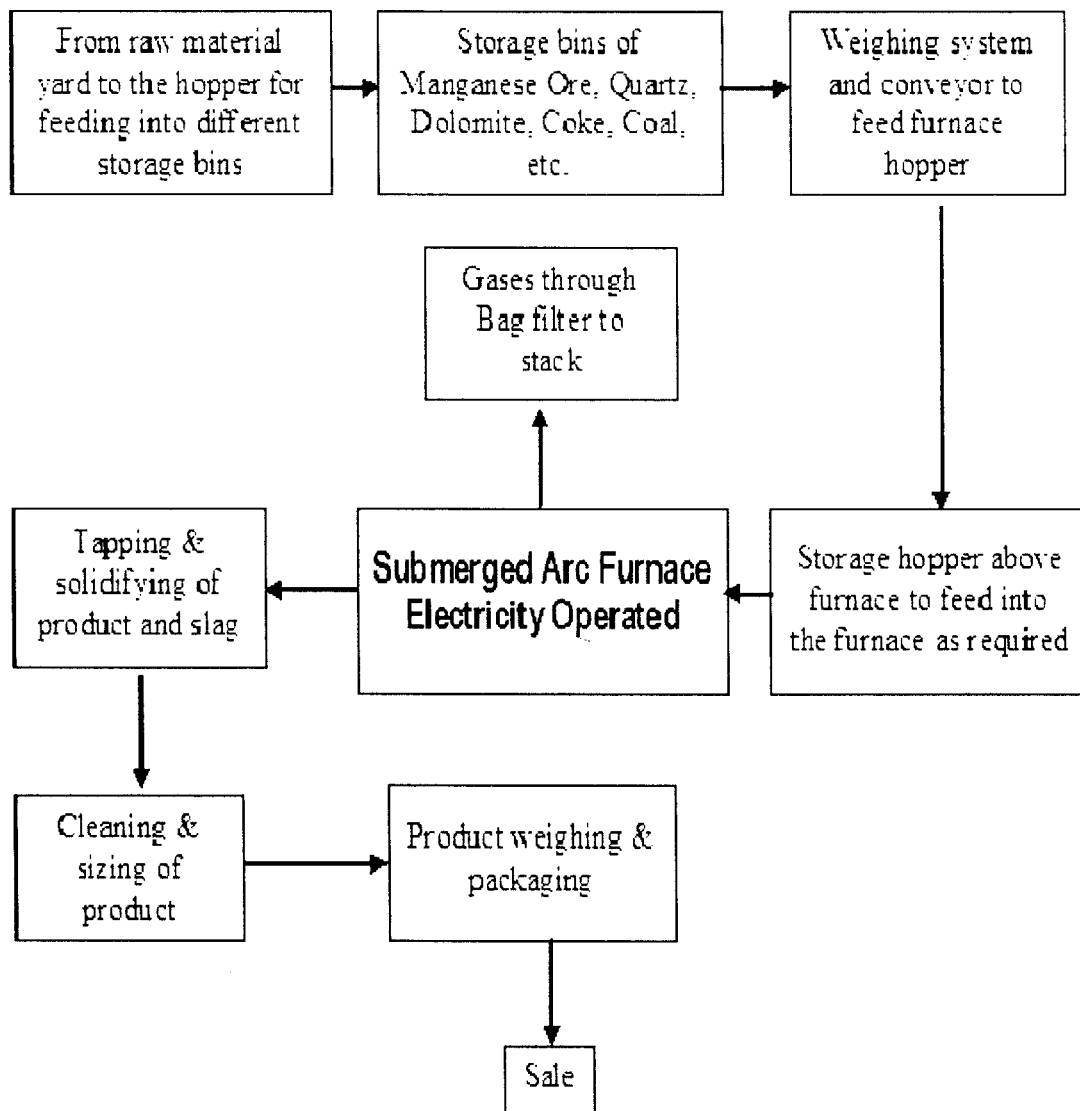


FIGURE 2.4.1: PROCESS FLOW DIAGRAM



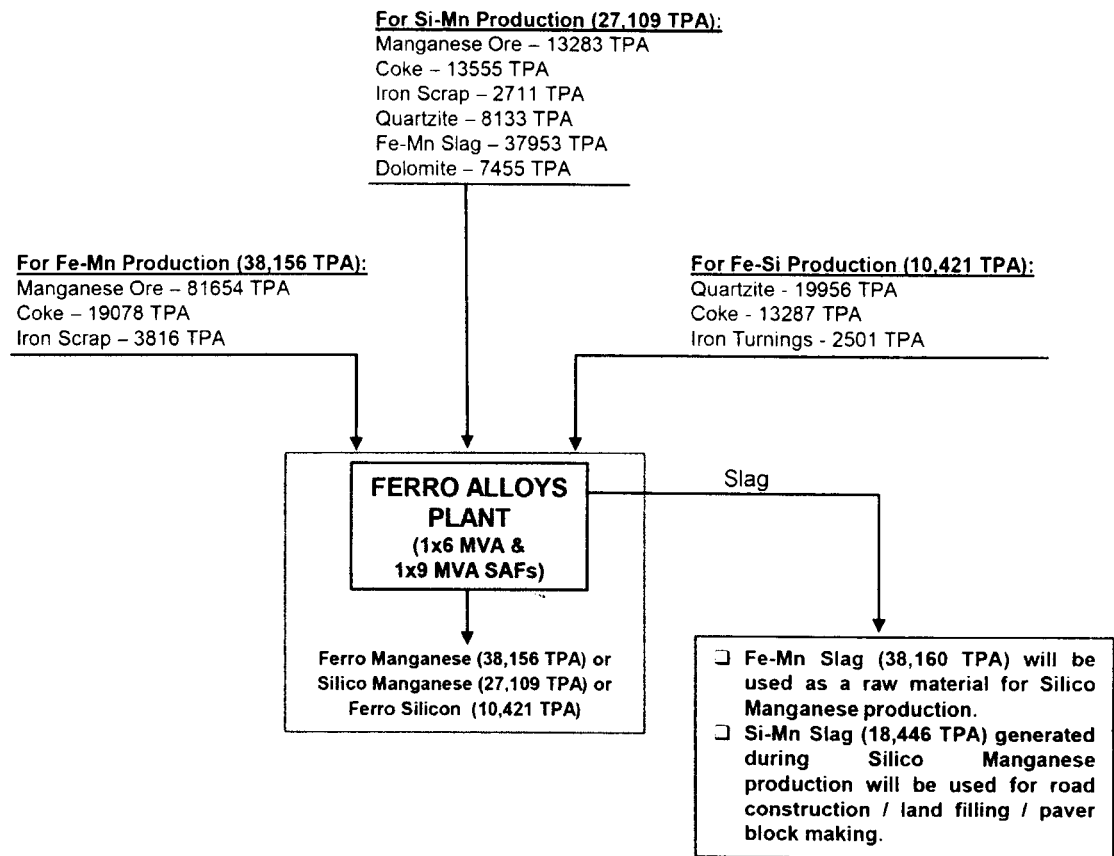


FIGURE 2.4.2: MATERIAL FLOW DIAGRAM



CHAPTER-7.0

ENVIRONMENTAL MANAGEMENT PLAN

7.1 BASIC CONTENTS

Environmental Management Plan is the key to ensure a safe and clean environment. A plant may have taken proper pollution control measures but without a management plan to assure its proper function, the desired results may not be obtained.

Various pollutants' generation, their control & disposal for the proposed projects have been discussed in **Chapter-2**. In this chapter, various mitigatory measures, to be taken by **M/s Electrosteel Castings Ltd. (ECL)**, Haldia to ensure the overall Environmental Management System of the plant is discussed. The company is already having a well defined Environmental Policy (attached as "**Appendix I**").

7.2 GREEN BELT DEVELOPMENT PLAN

The potential value of vegetation in controlling air pollution has been well recognized. Trees can filter particulates and are effective pollutant sink. Vegetation also reduces noise level and regulates the oxygen balance in the area by consuming released carbon dioxide. In order to improve the aesthetic look of the area and enhance the land use as well as to compensate for any loss in ecology during construction, adequate plantation programmes around the project site have been planned and will be adopted. Development of green belt will include plantation of trees along boundary of the factory, roads, raw material yard and other available spaces. The plant species will be selected on the basis of their growth and morphological characteristics (height, crown and ornamental values) and factors like availability of local species, resistance to pollutants, location of sources, plant layout, meteorological conditions, water availability etc.

ECL has earmarked 1.05 acres (0.425 hectares) out of total 3.19 acres of land for Green Belt Development for the entire project at Haldia, District Purba Medinipur, West Bengal. The species, selected for such green belt development in the plant area is presented in **Table-7.1**.



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C7 - 2
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TABLE: 7.1
LIST OF SELECTED TREES FOR PLANTATION

Tree species	Common Name
Pongamia Pinnate	Karanj
Cassia Siamea	-
Acacia Catechu	Katha
Boswellia Serrata	Lobaw
Butea Monosperma	Palash
Casaea Fistula	Amaltas
Albizia Amara	
Dalbergia Latifolia	Eastern Rosewood
Erythrina Indica	Coral Tree
Ficus Bengalensis	Banyan
Ficus Religiosa	Peepal
Madhuca Latifolia	Mahua
Acacia Auriculiformis	-
Dendrocalamus Strictus	Bamboo
Moringa Oleifera	Drumstick
Terminalia Arjuna	Arjun
Azadirachta India	Neem
Tectona Grandis	Teak
Mangifera Indica	Mango
Albizzia Lebbeck	Siris
Artocarpus Heterophyllum	Jackfruit
Polyalthia Longifolia	Ashok

7.3 HAZARDOUS WASTE MANAGEMENT

The hazardous waste generation from the factory will be Used/ Spent Oil. Used oils removed from machineries, gear boxes, compressors etc. and sludge will be collected in drums and temporarily stored in specifically earmarked areas. They will be disposed through the approved agencies.

7.4 ENTERPRISE SOCIAL COMMITMENT

M/s Electrosteel Castings Ltd. plans to have well established guidelines for ESC. The company has identified certain areas, to be considered for imparting activities under ESC in the context of the local scenario of the area. For this purpose, the company proposes to invest 1.25 Crores, which is 2.5% of the total project cost (Rs. 50 Crores). This fund shall be utilized over a period of 5 years. The break-up of the investment under ESC is presented in **Table-7.2**.



ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C7 - 4
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to mitigate such impacts and restrict them within tolerable levels, the Authorities would adopt the following measures:

Traffic Safety

- ❖ Vehicle shall not exceed the speed limit of 25 km/hr inside the plant premises.
- ❖ All vehicles shall be maintained.
- ❖ The contractor shall avoid traffic congestion and abide by the traffic rules by deploying trained and licensed drivers.
- ❖ All vehicles shall have valid PUC

Fuel and Sanitation

- ❖ The project management shall take adequate steps to ensure suitable sanitary facilities for the workers. These facilities include water supply, sanitary toilets and waste treatment etc.
- ❖ Contractors shall arrange for the supply of fuel to the construction workers so that the local trees are not felled to meet the fuel requirement.

Handling & Storage of Hazardous Chemicals

- ❖ Hazardous chemicals/materials like oils, paints, and other chemicals etc., which are hazardous in nature shall be stored as per stipulated HCM&H Rule 1989.

Emission & Noise Control

- ❖ During construction, ECL shall take adequate measures (e.g. water spraying) to avoid dust emissions.
- ❖ ECL shall ensure proper maintenance of the construction equipments.
- ❖ Construction material/ the debris shall be transported with proper cover to avoid the fugitive emissions of dust.
- ❖ The equipment shall comply with the Statutory limit of 85 dB(A) (at 1 m. from the source) for noise.

Waste Collection & Disposal

- ❖ Waste has been categorized as: wood, metal, chemicals, paper, plastic etc.
- ❖ The impact of waste shall be reduced through segregated collection.
- ❖ Besides, during mobilization, construction, demobilization and commissioning of the project, the contractor shall minimize the waste burden through proper material selection.
- ❖ ECL shall provide sufficient number of metal containers on-site to store trash and debris resulting from their operations.
- ❖ No waste, regardless of composition, shall be drained to sewers, trenches, ditches or channels.
- ❖ Hazardous waste disposed off during the construction activities shall be registered in a Waste Log by the contractor. Waste shall

ELECTROSTEEL CASTINGS LIMITED	Environmental Impact Assessment for proposed installation of Ferro Alloy Plant through setting up of 1x6 MVA & 1x9 MVA Submerged Arc Furnaces at Haldia, District Purba Medinipur in West Bengal	C7 - 3
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Table-7.2 : Proposed Activities under ESC

SL. NO.	ACTIVITY	CAPITAL COST (RS. IN CRORES)
1.	Infrastructure Development <ul style="list-style-type: none"> ➤ Drinking Water Infrastructure ➤ Development of Community Hall, Bus Shelter etc. ➤ Local Village Pond Maintenance ➤ Lighting provision at suitable public places 	0.70
2.	Education <ul style="list-style-type: none"> ➤ Financial Support to the Local School ➤ Scholarship for students ➤ Provision of computers in schools ➤ Donation of Books to local Schools 	0.40
3.	Health <ul style="list-style-type: none"> ➤ Organizing Health and Eye check-up camp ➤ Awareness related to infant care 	0.15
Total		1.25

7.5 ENVIRONMENTAL MANAGEMENT CELL

Establishment of an environmental management cell will be a positive step towards protection of environment. For effective pollution control and environmental protection measures, following functions of environmental management cell shall be recommended:

7.5.1 Functions of Environmental Management Cell

- Responsible operation related to collection, treatment and disposal facilities for air emissions, waste water and solid wastes.
- Routine monitoring of relevant parameters to determine pollution levels.
- Ecological monitoring and green belt maintenance.
- Implementation of environmental management plan.
- Data handling, reporting, liaison with statutory bodies and future planning regarding environment management.

7.6 MITIGATORY MEASURES DURING CONSTRUCTION

The impacts of the proposed construction phase on the environment would be basically of transient nature and are expected to wear out gradually on completion of the construction programme. However, once the construction of the units will be completed and its operations started, these operation stage impacts would overlap the impacts due to the construction activities.

The impacts in different aspects of environment due to the construction programmes have been elucidated in **Chapter-4**. In order

be stored in such a way that it is not accessible to unauthorized persons.

- ❖ Waste handling shall be in compliance with applicable Legislation.

Personal Safety

- ❖ ECL shall provide his workers with Personal Protective Equipment (PPE) (e.g. Helmet, Goggles, Dust Mask, Ear Plug/ Muff, Hand Gloves etc.).
- ❖ ECL shall maintain First-aid Facility at the site & also an ambulance for proper medical care of his workers.

Review of Contractor's HSE performance

- ❖ ECL shall submit the HSE performance periodically.
- ❖ Based on the review by ECL, the contractor shall make suitable changes in the plan and take corrective & preventive actions.

7.7 FIRE AND SAFETY MANAGEMENT

Full-fledged fire fighting facilities will be provided in the plant to tackle any fire contingency. Regular safety audits will be carried out for improving safety performance. Onsite and Offsite Disaster Management Plans shall be developed and mock drills will be conducted at regular intervals to keep the disaster management team in a state of full preparedness.

7.8 ENVIRONMENTAL AWARENESS CAMPAIGN

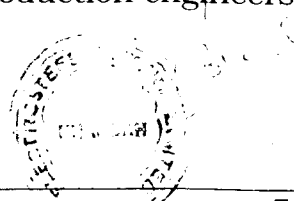
In addition to training of employees in various aspects of pollution control activities of the plant, programmes like celebration of World Environment Day, World Safety Day, screening of films on environment, tree plantation etc. will be regularly carried out in order to create greater awareness towards environment protection amongst employees and the people in the neighbouring areas.

7.9 LEGAL AND STATUTORY COMPLIANCE

All the environmental standards/ stipulations will be fully maintained by ECL.

The plant will obtain yearly clearance from the State Pollution Control Board for liquid, gases & solid wastes disposal. Specific information in prescribed forms will be submitted as per Water (Prevention & Control of Pollution) Act, Air (Prevention & Control of Pollution) Act etc. It will be supervised that all requirements under these Acts and Rules shall meet.

The engineer-in-charge for the Environmental Cell will prepare these reports with the help of the production engineers.



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7.10 DOCUMENTATION

All the monitoring data, environmental and health related should be stored in systematic manner so that the specific records will be easily available as required.

7.11 INFORMATION DISSEMINATION AND PUBLIC RELATIONS

Everybody now a day is concerned about environmental pollution. A Metallurgical plant is, therefore, susceptible to people as a source of local pollution. It is, therefore, needed that people should be provided with environmental data related to the plant so that wrong apprehensions can be removed. This requires a well-planned public relation and information dissemination process so that unnecessary public intervention is avoided. In this connection, ECL will organize different programmes with participation from local bodies, encouraging local community in environmental projects (like tree plantation) etc.

7.12 OCCUPATIONAL HEALTH ACTIVITIES

7.12.1 Introduction

The Occupational Health and Safety Management System is a vital part in Industrial Sectors. In this, Management Health and Safety are taken into consideration. The purpose of the Occupational Health and Safety Management System is as follows:

- Minimize risk to employees and others
- Improve business performance
- Assist the organization to establish a responsible image for health and safety.

7.12.2 Approach

The basic approach for the establishment and implementation of the occupational health and safety management system will involve the following steps:

- ❖ Identify the hazards involvement in the activities of the organization.
- ❖ Evaluate the risks which are involved in the performance of these activities.
- ❖ Control these risks to an acceptable level.

All contractor personnel and temporary staff will also be advised to use safety equipment. Even the visitors will be advised to use helmet and nose mask during plant visit.



7.12.3 Standards for the Occupational Health and Safety Management System

As per the standards OHSAS 18001: 1999 / OHSAS 18002 / 2002, the following specification is applicable to the organization as given below:

- The establishment of an Occupational Health and Safety Management System to eliminate risk to employees and other interested parties.
- Implement, Maintain and continually improve the occupational health and safety management system.
- Assign itself of its conformance with its stated occupational health and safety policy.

7.12.4 Core Elements of the Occupational Health and Safety Management

The basic core elements are:

- ❖ Occupational Health and Safety Policy
- ❖ Planning
- ❖ Implementation and operation
- ❖ Checking and corrective action
- ❖ Management review

7.12.5 Occupational Health and Safety Policy

It sets an overall direction of the system. It lays down the principles involved as responsibilities, performance requirement, commitments, framework for setting objective and targets.

- In ECL, the hazards' places shall be identified and the nameplates will also be placed for the safety precaution to the relevant equipment.
- All the operational parts of the various departments will be identified and assessed.
- In the operational area, the broad categories of hazards could be mechanical, electrical, substance fire and explosions, which will be carefully monitored.

ECL is already having its own Corporate OH&S policy (Attached as "**Appendix II**").

7.12.6 Structure and Responsibilities

In ECL, the following structure and responsibilities will form occupational health and safety management system:

- All HODs of the respective departments will lay down the safety rules and safety status of their work places and they will have the authority to place the manpower accordingly.

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- The communication between the worker and management will be clear about the position of hazards situation.
- The top management of the company provides resources such as human resources, technological resources and financial resources for the implementation and control of the situation.
- There is a quarterly evaluation of the improvement of the safety and occupational health of the employees.
- Safety officer monitors the compliance of safety rules.

7.12.7 Training Awareness

In ECL, the workers, selected by their departmental head, training will be given. During training, the following topics will be discussed:

- ❖ The occupational health and safety consequences of their activities.
- ❖ The emergency preparedness and response
- ❖ Importance of the occupational health and safety management system.
- ❖ Training to be taken into account the responsibility, ability and literacy of the person concerned and the nature and the extent of risk involved.

In ECL, there will be a periodic internal audit.

7.12.8 Management Review

In ECL, there will be continuing suitability, adequacy and effectiveness of the established Occupational Health and Safety Management System. The necessary information about the system will be collected and reviewed.



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TABLE: 7.2
PERSONAL PROTECTIVE EQUIPMENTS

Protection for	Equipment	Protection Against
Head	Safety helmet	Fall of objects/hitting against objects during construction, maintenance, etc.
	Special Safety Helmet	For working in Hot Metal Area
	Electrical resistance helmet	Electrical shock.
	Welder's leather cap	Splashing of liquid etc.
Eye	Panorama goggles with clear plastic vision	Oil and paint splashes, dust and chips.
	Spectacle-type goggles with blue lens	High temperature flame during furnace work.
Ear	Ear plugs or muffs	High noise level.
Nose	Dust, fume mask Oxygen mask & Air mask	Fine dust particles, fumes & gas
Face	Welding helmet and shield	Welding fumes, sparks and UV rays.
Body	Apron	Falling of hot chips, slag's, etc.
	Safety belt	Falling of persons from height.
	Hand gloves	Heat radiation.
	Electrical resistance gloves	Electric shock.
	Canvas gloves	Contact with oil, grease, etc.
Leg	Safety Shoe	Striking by objects, fall of objects and stepping on sharp or hot objects.



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CHAPTER-8.0 ENVIRONMENTAL COST OF THE PROJECT

8.0 ENVIRONMENTAL COST

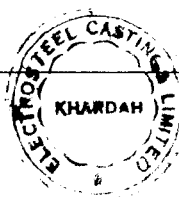
8.1 Environmental Cost Component

The total project cost for the proposed expansion project has been estimated to be 50 Crores. The capital cost of environmental mitigation measures is estimated to be Rs. 4.32 Crores, which includes:

Item	Cost (in Crores)
Cost of Air Pollution Control Systems	3.00
Cost of Water conservation & Pollution Control	0.50
Cost of Solid/hazardous Waste Management System	0.10
Green belt development	0.10
Environmental Monitoring & Lab Development	0.10
Noise Reduction Systems	0.07
Occupational Health Management	0.15
Risk Mitigation & Safety Plan	0.15
Environmental Management Department	0.15
GRAND TOTAL	4.32

The estimated annual cost of environmental mitigation measures for the proposed project has been estimated to be Rs. 26.4 Lakhs. The annual estimated environmental mitigation costs include:

Item	Cost (in Lakhs)
Air Pollution Control Systems	10.0
Water conservation & Pollution Control	3.0
Solid/hazardous Waste Management System	2.0
Green belt development	1.2
Environmental Monitoring & Lab Development	1.5
Noise Reduction Systems	0.5
Occupational Health Management	5.0
Risk Mitigation & Safety Plan	2.0
Environmental Management Department	1.2
GRAND TOTAL	26.4





ELECTROSTEEL CASTINGS LIMITED

30, B.T. ROAD, KHARDAH, P.O. SUKCHAR, DIST.24 PARGANAS(N)PIN : 700115

TEL : (91) (33) 25532958/2987/2991/3476, FAX : (91) (33) 25531893/0588

E-Mail : vm.ralli@kdh.ecl.co.in , jchowdhury @kdh.ecl.co.in

ENVIRONMENTAL POLICY

Electrosteel is committed to -

- ❖ Meet applicable legal and other requirements related to environmental aspects on an ongoing basis with an aim to improve environment.
- ❖ Strive for prevention of pollution through continual improvement of process, technology and equipment, wherever applicable.
- ❖ Set and review environmental objectives and targets
- ❖ Promote conservation of resources
- ❖ Communicate Environmental Policy to all persons working for or on behalf of the organisation and make this policy available to all interested parties, on demand.

Dated : August 29, 2005

UMANG KEJRIWAL

MANAGING DIRECTOR



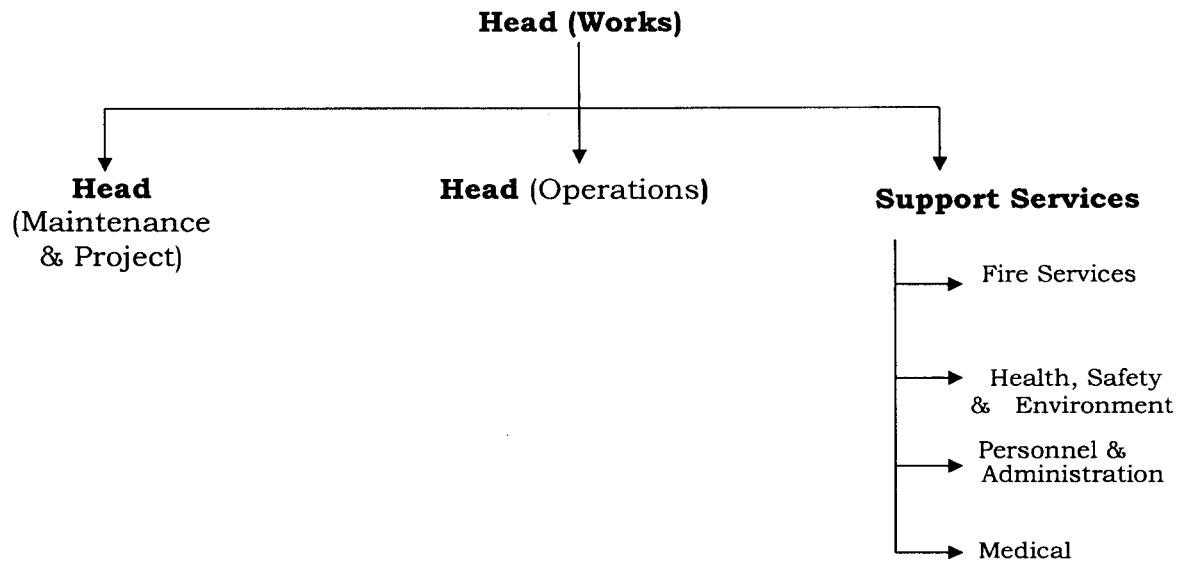
HEAD OFFICE : 40,STEPHEN HOUSE, 4, B.B.D. BAG (EAST), CALCUTTA -700 001.

TEL : (91) (33) 2207008/9, 2214770/2, 2484071/72 FAX : (91) (33) 2209634/2481803

Regd. Office : Rajgangpur, Orissa.

ORGANISATION SET UP

Organizational structure is as below:



protection of occupational health and safety of workers, infrastructure development of the locality such as road network, supply of drinking water, installation of street lights to the local villages.

11.0 The capital cost of the project is Rs. 50 Crores and the capital cost for environmental protection measures is proposed as Rs. 4.32 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 26.4 Lakhs. Manpower requirement for the project is 178 persons.

12.0 The company proposes to invest on the Enterprise Social Commitment (ESC) activities. For this purpose, the company has allocated Rs. 125 Lakhs, which is 2.5% of the total project cost (Rs. 50 Crores). This fund shall be utilized over a period of 5 years. Company has identified certain areas, to be considered for implementing the ESC activities in the context of the local scenario of the area:

Sl. No	Activity	YEARWISE INVESTMENT (Rs. IN LAKHS)					TOTAL INVESTMENT (Rs. IN LAKHS)
		1 st Yr.	2 nd Yr.	3 rd Yr.	4 th Yr.	5 th Yr.	
1.	Drinking Water Infrastructure (Tubewell in nearby villages – 10nos. @ Rs. 1.0 Lakhs)	2.0	2.0	2.0	2.0	2.0	10.0
2.	Development of Community Hall – 4 nos.	7.5	7.5	7.5	7.5	-	30.0
3.	Local Village Pond up gradation -5 ponds	4.0	4.0	4.0	4.0	4.0	20.0
4.	Street Lighting (solar) provision at suitable public places – 50 nos.	5.0	5.0	5.0	5.0	5.0	25.0
5.	Financial Support to the Local School for extension of building /class room	6.0	6.0	6.0	6.0	-	24.0
6.	Scholarship for BPL category students	1.2	1.2	1.2	1.2	1.2	6.0
7.	Construction of Charitable Dispensary -1 No.	5.0	5.0	-	-	-	10.0
Total		30.7	30.7	25.7	25.7	12.2	125.0

13.0 The proposal was considered during the 15th meeting of Expert Appraisal Committee [EAC] (Industry-I) held on 2nd – 3rd February, 2017 and recommended the project for Environmental Clearance and stipulated Specific Conditions along with other environmental conditions while considering for accord of environmental clearance.

14.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to grant environmental clearance to the above mentioned proposal for installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x9 MVA submerged Arc Furnaces for production of Ferro Manganese (38,156 TPA) or Silico Manganese (27,109 TPA) or Ferro Silicon (10,421 TPA) by M/s Electrosteel Casting Limited, located at Haldia, District Purba Medinipur in West Bengal under the provision of





Annexure-VIII A

ELECTROSTEEL CASTINGS LIMITED

30, B.T. ROAD, KHARDAH, P.O. SUKCHAR, KOLKATA – 700115 (INDIA)

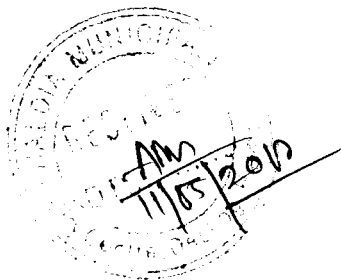
TEL : 91-33-71014300, 71014450 FAX : 91-33-71014501 to 4504

Web : www.electrosteel.com

CIN - L27310OR1955PLC000310

File
Ferro Alloy10th May'17

To,
The Chairman,
Haldia Municipality,
Dr. B. R. Ambedkar Bhawan,
Administrative Building, City Centre,
P.O. Debhog, Haldia,
Purba Midnapur, West Bengal



Subject: Submission of copy of Environmental Clearance, issued by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India, dated 12th April'17 (Ref. File No. J-11011/02/2016-IA.II(I)) for proposed installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x9 MVA submerged Arc Furnaces at Haldia, Dist. Purba Medinipur in West Bengal

Sir,

In compliance with the General Conditions Serial No. x of the Environmental Clearance letter, issued by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India for our proposed installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x9 MVA submerged Arc Furnaces at Haldia, Dist. Purba Medinipur in West Bengal, we hereby submit the copy of the said Environmental Clearance for your kind reference.

Thanking you,

Yours faithfully,
for **Electrosteel Castings Limited**

S. N. Bhoumik**Vice President (Projects & Engineering)**

Encl.: As above



HEAD OFFICE : 19, CAMAC STREET, KOLKATA-700 017
TEL : 91-33-7103-4400, 2283-9990, FAX : 91-33-2289 4340
Regd. office :Rathod Colony, Rajgangpur, Orissa-770017





copy Ammexure-VIII B

ELECTROSTEEL CASTINGS LIMITED

30, B.T. ROAD, KHARDAH, P.O. SUKCHAR, KOLKATA – 700115 (INDIA)

TEL : 91 -33 - 71014300, 71014450 FAX : 91- 33 - 71014501 to 4504

Web :www.electrosteel.com

CIN - L27310OR1955PLC000310

10th May'17

To,
The Chief Executive Officer,
Haldia Development Authority,
Haldia,
Purba Midnapur, West Bengal

File
Ferro Alloy

Subject: Submission of copy of Environmental Clearance, issued by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India, dated 12th April'17 (Ref. File No. J-11011/02/2016-IA.II(I)) for proposed installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x9 MVA submerged Arc Furnaces at Haldia, Dist. Purba Medinipur in West Bengal

Sir,

In compliance with the General Conditions Serial No. x of the Environmental Clearance letter, issued by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India for our proposed installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x9 MVA submerged Arc Furnaces at Haldia, Dist. Purba Medinipur in West Bengal, we hereby submit the copy of the said Environmental Clearance for your kind reference.

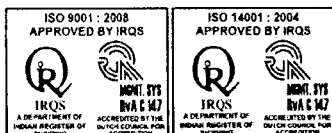
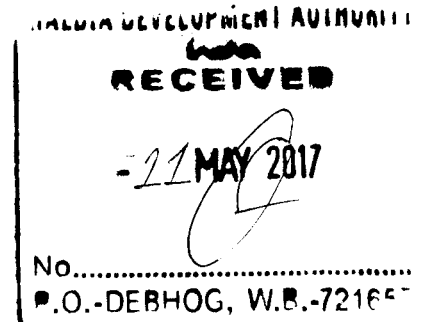
Thanking you,

Yours faithfully,
for **Electrosteel Castings Limited**

S. N. Bhoumik

Vice President (Projects & Engineering)

Encl.: As above



HEAD OFFICE : 19, CAMAC STREET, KOLKATA-700 017
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TIMES OF INDIA, 5/5/17
Kolkata

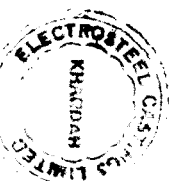
PUBLIC NOTICE

We hereby inform the public that our Proposed Project i.e., Proposed installation of the Ferro Alloy Plant through setting up of 1x6 MVA and 1x8 MVA Submerged Arc Furnaces for production of Ferro Manganese (38.156 TPA) or Silico Manganese (27.109 TPA) or Ferro Silicon (10.421 TPA) at Haldia, District Purba Medinipur in West Bengal has been accorded Environmental Clearance (EC) by Ministry of Environment, Forest & Climate Change (MOEFCC), Government of India vide its Letter dated 12th April, 2017 (Ref. File No. J-11011/02/2016-IA.III(1)). The copy of the Environmental Clearance Letter is available with West Bengal Pollution Control Board and may also be seen at Website of the Ministry of Environment, Forest & Climate Change at <http://envfor.nic.in>.

Project Proponent:

Electrosteel Castings Limited

30, BT Road, Khardah, P.O. Sukchar, Kolkata-700 115



E1 SHOMOYE, 5/5/17

জনসাধারণের জন্য বিজ্ঞপ্তি

এতদ্বারা সকল জনসাধারণকে জানানো যাইতেছে যে, আমাদের প্রস্তাবিত প্রকল্পটি অর্থাৎ পশ্চিমবঙ্গের পূর্ব মেদিনীপুর জেলার হলদিয়াতে ফেরো-ম্যাঙ্গানিজ (৩৮,১৫৬ টি.পি.এ.) বা সিলিকো-ম্যাঙ্গানিজ (২৭,১০৯ টি.পি.এ.) বা ফেরো সিলিকন (১০,৪২১ টি.পি.এ.) উৎপাদনের জন্য ১×৬ এম.ভি.এ. এবং ১×৯ এম.ভি.এ. সাবমারজড আর্ক চুম্বী স্থাপনের মাধ্যমে একটি প্রস্তাবিত ফেরো-অ্যালয় কারখানা স্থাপনের জন্য পরিবেশগত ছাড়পত্রটি (ই.সি.) পরিবেশ, বন এবং জলবায়ু পরিবর্তন মন্ত্রক বিভাগ (MoEFCC), ভারত সরকার ১২ই এপ্রিল, ২০১৭ সালে মঞ্জুর করেছেন (তথ্যনির্দেশ সংখ্যা : J-11011/02/2016-IA.II(I))। পরিবেশগত ছাড়পত্রের অনুলিপি পশ্চিমবঙ্গ দূষণ নিয়ন্ত্রণ পর্ষদে পাওয়া যাবে। পরিবেশ, বন এবং জলবায়ু পরিবর্তন মন্ত্রক বিভাগের ওয়েবসাইট <http://envfor.nic.in> থেকে পরিবেশগত ছাড়পত্রের অনুলিপিও পাওয়া যাবে।

প্রকল্পকারী :

মেসার্স ইলেকট্রোস্টীল ক্যাসটিংস্ লিমিটেড

৩০, বি.টি. রোড, খড়দহ, পোস্ট অফিস সুকচর, কলকাতা - ৭০০ ১১৫

