EXECUTIVE SUMMARY

of

EIA/EMP REPORT

for

Expansion of 0.21 MTPA Pig Iron Plant to 0.598 MTPA Integrated Steel Plant comprising of 0.378 MTPA TMT Rods, 0.02 MTPA Pig Iron & 0.22 MTPA DI pipes

of

M/s KIC METALIKS LIMITED

Raturia Industrial Area, Durgapur, Burdwan, West Bengal

Prepared by

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EXECUTIVE SUMMARY

PROJECT DESCRIPTION

M/s. KIC Metaliks Ltd was established at Raturia Industrial area, Angadpur, Durgapur created by Asansol Durgapur Development Authority, in Burdwan district of West Bengal.The project site is at latitude **23^0 30' 32'' N** and longitude **87^0 16' 39.89'' E, MSL 450m**. The project is well connected by road and rail networks. The important Grand Trunk road connecting Kolkata & Delhi is passing only at 3 Km from the site. The nearest railway station at Durgapur on main line Howrah- New Delhi is about 2 km.

M/s KIC Metaliks Ltd. was incorporated on 26th August 1986 and commissioned its pig iron unitin Raturia Industrial Area in February 1998 by setting up one Mini Blast Furnace of volume 215 m^3 with production capacity of 109,000 TPA and slag cement grinding unit of capacity of 100 TPD utilizing the in plant waste MBF slag.

There is future growth for steel plants as consumption of per capita steel is yard stick of growth measurement of a developing country and India has per capita steel consumption only 65kg in comparison of 430 kg for China and 180 kg for the world today.

Now the company proposes for expansion of existing 0.210 MTPA pig iron plant to 0.598 integrated steel project (TMT Rods & DI Pipes), with 245m^3MBF,2x350 TPD DRI Kilns, 2x25m^2 Sinter plant, 1x30T EAF with LF & VD, 4x15T &2x20T IF, 2x600 TPD CCM, 1200 TPD Rolling mill, 100 TPD PCI Plant,14 MW CPP (WHRB), 5 MW CPP using BF gas, 11MW AFBC,50 TPD N_2 plant(VPSA),50 TPD O_2 plant(VPSA) and 100 TPD O_2 plant(ASU), 0.2 MTPA D I Pipe plant. A 300 TPD cement grinding Plant to utilize MBF slag.

Description of Environment

For the preparation of EIA report a monitoring schedule covering winter season of the year was carried out from **Dec 2016 to Feb 2017**. The impact identification started with collection of baseline data such as existing ambient air quality, qualities of ground water, surface water, soil, noise level prevailing in the area and meteorological parameters like temperature, humidity, wind speed and direction, cloud cover etc.

Land

The project area comes under Raturia Industrial Area, Mouza- Angadpur, Durgapur in Paschim Burdwan district of West Bengal. This is an industrial land. The total land available for the proposed project is about 34.80 hectares. Out of the total 30.75 ha land has already been acquired and possession for balance land is in progress.The study area contains both the rural and urban settlement. The rural settlement occupies about 14 % and the urban

settlement occupies 9.0% of the total area of the buffer zone. The major part of the study area i.e about 35.0% covers agricultural land.

The surfaces mainly occupied by industrial establishment including their associated areas are included under this category. It covers 39.41 km2 area i.e. 12% of the study area.

No reserve or protected forest is present within the study area however forest located in the buffer zone covering a small area and is present in the south and South West direction of the project site.It is also noted that there is no National Park, wild life sanctuary nor Natural Biosphere reserve present within the buffer zone of the project site.

Soil

Most of the study area is filled with fine grained sandstone and silt stone with coal seams. Other parts are filled with gritty pebbly sandstone with coal seams, miscellaneous shell & sandstone and clay alternating with silt & sand.

Water

Groundwater condition in the study area is good to very good. Damodar River is of high significance in the region as it caters to the water requirements to most of the villages and the majority of the industrial units in the region.

The company requires5527.2 m^3 of water per day. Annual avg. Rain fall project area being 1500mm and project area 116.5 ha there will be rain water harvesting to meet summer supply to plant i.e. lean period of river damodar.

The main drainage network of the study area includes River Damodar and canals. The directions of flow of most of the rivers are controlled by slope which in general is from North to South East as it was evident from the flow of the rivers in the study area

Power

Power requirement for the total project after proposed expansion cum modification is estimated to be 54.10 MW on full load and M/s KIC proposed CPP of 30 MW; and 24.10 MW will be procured from state power grid

Manpower

There will be additional direct and indirect employment for expansion project. The total man power requirement for plant operation on completion of the proposed expansion will be around 692 and extra 50 nos. for Security.

Local employment will be given priority. However, security and contract laborers are additional. Indirect employment will be 3 times of the direct employment. Local people as per

their qualification and experience will be given preference in employment. In case of requirement local people will be trained to meet the requirement of project and appointed.

Waste management

Solid waste generated from process and power plant of the project will be slag from MBF which after granulation and size reduction will be sold to cement plants. Fly ash will be partly used in cement plant and balance to be utilised for making fly ash bricks. MBF sludge will be used as clay substitute in cement plants or making tiles by external agencies. Partly to be used in sinter plant as raw material. IF slag after iron recovery will be used as river sand substitute in construction work or low land filling.

Dolchar will be burnt along with coal and washery reject in FBC for power generation. Contaminated waste water from process will be settled, treated and reused in process, balance waste water will be consumed in green belt or water sprinkling for dust control. Domestic waste water will be disposed to soak pit.

No untreated waste water will be discharged outside project boundary.

Project cost

The total project cost including expansion and modification proposed has bee re-estimated as Rs 595 crore. This will include pollution control equipments which will be installed along with process equipments.

Climate

Climate in the study region is generally dry and hot and is characterized with seasonal variations of temp., humidity, rainfall etc.
Summer is from March to June. South West monsoon brings rain in the area from mid June to September. Post monsoon are October & November. November to February is winter in the area.

Temperature

Summer	24.6 to 46^{0}C
Winter	6.8 to 27^{0}C
Monsoon	24.9 to 35.7^{0}C

Humidity

Minimum	47%
Maximum	75%

Rain fall

The area receives fairly good amount of rainfall from the southwest monsoon during June to September. Light showers of rain occur during the months of October, November and sometimes in December alsoAnnual Average rain fall 1500 mm

Meteorological conditions

In order to determine the micrometeorological conditions of the study area a temporary micro-meteorological monitoring observatory was set up near the site. The average wind velocity is 0.78 m/s and the calm period is 35.09%. Overall predominant wind direction has been from North and the North-East direction during winter season.

Ambient air

The study area represents mostly industrial environment. Air pollution in the project area is not bad despite the presence of several polluting industry. The prominent sources of air pollution in the study area are due to emission from industries, vehicular movement and domestic coal burning as fuel in some parts of the study area.

PM_{10} varied from 79.8 to 72.7 µg/m^3 and $PM_{2.5}$ varied from 38.4 to 34.5 µg/m^3 while SO_2 varied from 31.1 to 18.7 µg/m^3 and NO_x varied from 29.8 to 16.9µg/m^3, CO from 464 to 402µg/m^3.

Water quality

The analytical results of surface water samples at different location for various parameters reveal that all the parameters comply with IS: 2296 (Class 'C') standards indicating their suitability for drinking and other purposes after conventional treatment followed by disinfection.

Similarly the analysis results of groundwater samples showed all the parameters are within the prescribed limits as per IS: 10500 standards for drinking water.

Soil analysis

The study area analysis results of the soil parameters are within limits. The bulk density of the study area ranges from 1.35 to 1.41gm/cc. The other nutrient content like nitrogen, potassium and phosphate content of the soil is very low indicating industrial land.

Flora and Fauna

Flora and Fauna of the study area reveals that no Schedule- I type of fauna found in the study area. In faunal population; cattle, goats, dogs, rats, insects are common in the study area.

Rare and Endangered Plant species

As per IUCN's "Red Data Book", none of the taxa found in this region could be marked as rare or endangered plant species.

Demography

The study area covers22 villages and 43 wardswith a total of 595202 inhabitants. Out of the total population SC population is 14.91%, ST 5.66% and other 79.43%. The demographic and socioeconomic profiles are collected from the Primary Census Abstract for the study area of district Burdwan, West Bengal.

Literacy

Literacy is an important indicator for understanding the socio-economic development of any area. The total literacy level of the study area is found to be 77%.The male literacy in the study area is found to be 42% and the female literacy in the study area is found to be 35%, the difference in literacy rate between male and female is found to be much wider therefore female education needs emphasis in ESC consideration.

Medical facilities

Medical facility of the area is also poor. Therefore, Health check- up of local people is to be carried out at regular intervals with free medicine distribution.

Economy

26% of total population are workers. 77% of total population are main workers and 23% of marginal workers.

Priority to be given to local people in employment in proposed expansion project to improve economy of the locality.

Anticipated Environmental Impact & Mitigation Measure

Wind rose diagram was plotted taking nearest IMD station Durgapur (32734), WB, meteorological data, and own stations installed at project site Raturia and nearby buffer zone as input to the model. Based on the data compiled, the air quality predictions were carried out for the Suspended Particulate Matter, SO_2 and NO_X

Stack emission data was fed as input ambient air modelling software ISC-ST-3 as approved by USEPA and using terrain, wind velocity and direction as other input isopleths were made individually for PM_{10}, PM $_{2.5}$, SO_2 and NO_x. These isopleths when super imposed on 10km radius buffer zone of project area, gave incremental concentration predicted from project stack source at different villages. During monitoring ground level concentration of pollutants has been recorded at those villages. The incremental concentration when added to ground level concentration predicted anticipated pollution load on those villages to conclude whether those concentrations are within allowed limit.

In fact all the villages shows concentration within limit after installing pollution control equipments.ESPs for DRI kilns, Power plants & Sinter plants and bag filters for IFs, Pellet

plant, Ferro alloy plants and Raw material handling area has been proposed for pollution abatement.

Disaster management plan:

Disaster may be defined as a sudden occurrence of incidence in such a magnitude as to affect the normal pattern of life inside or in the vicinity of plant which have the potential of causing extensive injury of loss of life or damage to property and tend to cause disruption inside/outside the site.

The objectives of Disaster management Plan (DMP) for the proposed expansion are:

- To ensure safety of people, protect the environment and safeguard commercial

considerations.

- To respond immediately to emergency incidents with effective communication network and organized procedures.

Occupational health & safety:

However, serious accidents due to common causes like fall from height and entrapment of limbs in machinery are also possible.

- Due care shall be taken to maintain continuous water supply in the water spraying
- system and all efforts would be made to suppress the dust generated by coal
- handling system by water spraying at appropriate points.
- Almost all material handling systems are automatic i.e. unmanned. The workers
- engaged in material handling system shall be provided with personal protective
- equipment like dust masks, respirators, helmets, face shields, etc.
- All workers engaged in material handling system are to be regularly examined for
- lung diseases.
- Any worker found developing symptoms of dust related diseases to be shifted to
- other jobs in cleaner areas.
- Inspection and maintenance of pollution control systems will be undertaken only
- after checking that the equipment has been properly shut down or with permission
- of authorized officer.
- Immediate removal of waste accumulated in working areas.
- Insulation of hot surfaces.
- All safety measures shall be strictly implemented. Firefighting equipment will be tested regularly to ensure their full serviceability.

Monitoring Plan

Depending upon prevailing predominant wind direction AAQ monitoring stations have been decided where monitoring instruments shall be installed for measuring polluting parameters at regular intervals. Eight locations each of air, water, soil and noise have been decided for conducting regular monitoring.

Organisation and manpower

M/s KIC is having Environmental Management Cell working under Works Main Controller (WMC) who is also Organizational Head/Director. Environment Pollution Control Cell with Head of Environment Division, Asst. Environment Engineers, Chemist, laboratory technicians etc. are reporting to him.

ESC

The company will spent 2.5% of its project cost of Rs 595 cr i.e. Rs 14.8 cr towards development of locality and this will be done as per guide line of section 135 Companies Act 2013. However Local administration and points raised during public Hearing will be given priority.