SHYAM SEL & POWER LTD.

Executive Summary

For

PROPOSED EXPANSION OF EXISTING STEEL PLANT ALONG WITH INSTALLATION OF CEMENT GRINDING UNIT

At
Village Dasna, Jamuria, P.O. Bahadurpur,
District Burdwan, West Bengal

Envirotech East (P) Limited
An ISO 9001:2008, 14001:2004 & OHSAS:18001:2007
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EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s Shyam Sel & Power Ltd. (SSPL), a Limited Company, was incorporated on 5th September, 1991, having its registered office at S.S. Chamber, 5, C.R Avenue, Kolkata-700 072 in West Bengal.

M/s SSPL is presently operating a steel plant comprising Pellet Plant, Sponge Iron Plant, Induction Furnace, Structural Mill, Rolling Mill, Ferro Alloy Plant and Captive Power Plant at Village: Dasna, P.S: Jamuria, P.O: Bahadurpur, District: Burdwan in the state of West Bengal.

The company has now decided to take up an expansion programme of the existing steel plant. The existing and the proposed units along with their annual capacities are presented in Tables-1.1 & 1.2.

TABLE-1.1
EXISTING UNIT & ITS CAPACITY

Unit Description	Capacity	Product
Pellet Plant	5,00,000 TPA	Pellet
Sponge Iron Plant (2x100 TPD+2x90 TPD)	60,000 TPA	Sponge Iron
Induction Furnace (2x18 T)	1,30,000 TPA	Liquid Steel
Structural Mill	48,000 TPA	Channel, Beams etc.
Rolling Mill	55,000 TPA	TMT Bars
Ferro Alloys (2x9 MVA + 2x4.5 MVA)	47,520 TPA	Ferro Manganese & Silico Manganese
Captive Power Plant	21 MW (WHRB Based)	Power
	43 MW (CFBC Based) – Under Construction	

TABLE-1.2
PROPOSED UNITS & ITS CAPACITY

Unit Description	Capacity	Product
Pellet Plant	1.20 MTPA	Pellet
Cold Rolling Mill Unit	0.35 MTPA	CR Coils/Sheets from HR Coils
Continuous Galvanising Line	0.30 MTPA	Galvanised CR Coils
Corrugation	0.30 MTPA	Corrugated Sheet
Producer Gas Plant	480 TPD (75,000 Nm^3/hour)	Producer Gas
Cement Grinding Unit	1.20 MTPA	Portland Slag Cement & Portland Pozzolona Cement

M/s Envirotech East Pvt. Ltd. have conducted an Environmental Impact Assessment (EIA) for the proposed expansion Project and formulated an appropriate Environmental Management Plan (EMP) for such proposed project.

2.0 SITE LOCATION

The project site is located at village: Dasna, P.O: Bahadurpur, P.S: Jamuria, District: Burdwan of West Bengal. Its graphical coordinates are Latitude 23°41'37.04"N and Longitude 87°7'13.55"E with Mean Sea Level 347.

Important Towns like Raniganj Town is about 9.0 km in South direction, Asansol Town is about 14.0 km in West direction, Durgapur Town is about 29.0 km in South-east direction. Jharkhand State border is about 30.0 km in West direction from the project site. The nearest distance of Damodar River in the South-western side is about 11.0 km and Ajoy river is about 7.0 km in North-eastern side w.r.t the project site. The NH-2 road is passing about 6.0 km away in the South direction w.r.t. the project site. The nearest Airport is Netaji Subhas Chandra Bose International (NSCBI) Airport, Kolkata, which is about 178 km from the project site.

3.0 PROJECT HIGHLIGHTS

The principal features or highlights of the proposed plant of SSPL under study are as follows,

Location	Village: Dasna, P.S: Jamuria, P.O: Bahadurpur, District: Burdwan in West Bengal. Its geographical coordinates are Latitude 23°41'37.04"N and Longitude 87°7'13.55"E with mean sea level as 347 ft.
Land requirement	The proposed project will be set up on around 125 acres of non-agricultural and barren land.
Raw water requirement & source	The raw water will be sourced from Ajoy River. As per an initial estimate, water to the tune of 990 cu.m/day will be required for the proposed project. Permission for drawl of water from Ajoy River has already obtained from concerned Authority.
Power requirement	The estimated power requirement for the proposed project is 87 MW, which will be sourced from Captive Power Plant.
Effluent generation & disposal	To be designed as a zero discharge plant. There will be no effluent discharge outside the plant boundary. Treated wastewater will be used in process and for gardening & dust suppression. Domestic wastewater will be treated in Septic tank – Soak pit system.
Air pollution control	Adequate control measures like installation of electrostatic precipitator (ESP), bag filters, dust suppression system and stacks of adequate height at relevant points.
Solid Waste Management	• Solid waste (dust as collected in the dedusting systems) from Pellet Plant will be used in the palletizing mix. • Dust as collected in the dedusting systems from Cement Plant will be re-used in the process. • Tar from Producer Gas Plant will be stored in drums & will be sold to the vender registered with WBPCB. • Coal Ash, to be generated from Producer Gas plant will be used for Brick making/PPC Cement manufacturing/internal road making etc.
Manpower	469 persons
Project cost	Rs. 1469.54 Crores

4.0 BASELINE ENVIRONMNETAL SCENARIO

The area falling within the radius of 10 km around the proposed expansion project at village: Dasna, P.S: Jamuria, P.O: Bahadurpur, District: Burdwan in West Bengal has been considered as study area. On-site environmental quality monitoring was carried out from 1st March, 2014 - 31st May, 2014.

4.1 Meteorology

The monthly maximum and minimum temperatures recorded on-site during the aforesaid monitoring period (March, 2014 - May, 2014) varied between (39.5-42.0)°C and (17.5-21.0)°C respectively with overall maximum and minimum temperatures being 42.0°C and 17.5°C respectively.

The monthly minimum and maximum relative humidity recorded on-site during the said monitoring period varied between (38-55)% and (77-83)% respectively, the overall minimum and maximum being 38% & 83% respectively.

During the said monitoring period, the monthly mean wind speed measured on-site varied between 5.1 km/hr to 6.7 km/hr. The overall mean wind speed during the period was 5.94 km/hr.

4.2 Ambient Air Quality

Ambient air quality was monitored at eight (8) locations in and around the project site.

The overall mean values of PM_{10}, $PM_{2.5}$, SO_2 and NO_2 in the area (mean of all the 8 locations) were 72.5 μg/m^3, 29.2 μg/m^3, 10.2 μg/m^3 and 16.7 μg/m^3 respectively.

4.3 Water Quality

Water samples were collected and analyzed at ten (10) locations to assess the surface water quality in the study area. Water samples were collected from nine (9) locations to assess the baseline status of the ground water quality of the study area.

PH values of the collected samples from river Damodar and Ajay were found 7.5 and 7.7 respectively. The values of Dissolved Oxygen were observed 6.4 mg/lit and 6.5 mg/lit respectively. Values of Total Dissolved Solids from these two river water samples were found 217 mg/lit and 223 mg/lit while values of total Hardness were found 128 mg/lit and 135 mg/lit respectively. Values of Calcium & Magnesium from river Damodar were found 30 mg/lit and 13 mg/lit while values of Calcium and Magnesium from river Ajay were found 34 mg/lit and 12 mg/lit respectively. Sulphate, Nitrate and Chloride were observed from these two river water samples were found 8 mg/lit & 7 mg/lit, 4.4 mg/lit & 4.8 mg/lit and 45 mg/lit & 49 mg/lit respectively. The

Iron contents from these two water samples were found 0.24 mg/lit and 0.17 mg/lit respectively.

The pH value from the collected pond water samples was found in the range of (6.8-7.4). Dissolved Oxygen was observed in the range of (5.2-6.1) mg/lit. Total Dissolved Solids were found in the range of (305-390) mg/lit while Total Hardness was found in the range of (188-235) mg/lit. Chloride, Calcium & Magnesium were found from these eight pond water samples varying in the ranges of (70-101) mg/lit, (45-65) mg/lit and (11-23) mg/lit respectively.

Conclusion can be drawn in the light of the overall analysis made so far that the surface water in the study area is free of any kind of industrial and urban pollution and has been found to be generally fit for human consumption.

4.4 Noise

A total of 10 locations around the proposed project were selected for the measurement of ambient noise levels.

During the day time, the equivalent noise levels were found to vary in the range of (55.6-68.8) dB(A) while in the night time, the equivalent noise levels were observed to vary in the range of (47.6-60.4) dB(A).

4.5 Ecology

The study area is found to have a good vegetation cover due to helpful climatic conditions and good soil quality in the area. There are good number of plantation patches in the study area and dense vegetation cover around settlement areas.

There is extensive grazing land, which come under cultivation. The overall floral composition in the whole study area is quite rich.

4.6 Demography and Socio-economy

The study area comprises of 61 villages and 4 Municipal areas i.e. rural-urban mixed in nature. The study area is populated with the total population of 4,32,229 (as per 2011 Census). Scheduled Caste (SC) and Scheduled Tribe (ST) population is about 23.37% and 6.73% of the total population respectively. The sex ratio is about 919 females per 1000 males. The overall literacy rate is about 64.4%. Male literacy rate is 71.5% (w.r.t. the total male population) and female literacy rate

is 56.7% (w.r.t. the total female population). The principal staple food is rice.

5.0 ENVIRONMENTAL IMPACTS OF PROPOSED PROJECTS

5.1 Impacts on Air Quality

The Stack emissions from the plant are mostly Particulate matters (PM) and Nitrogen Oxides (NOx). There will be continuous emissions from three proposed stacks, two attached to Pellet Plant and rest one with the Cement grinding unit.

As recommended by CPCB, GLCs at various receptor locations within 10 km radius have been computed for the three months' period (March,2014-May,2014) representing the summer season, based on the hourly meteorological data of this period. The computation has been made applying Industrial Source Complex (ISC3) model, developed by United States Environmental Protection Agency (USEPA), which is most widely used and also recommended by CPCB (PROBES/70/1997-98).

The maximum incremental value PM & NOx would be about 1.8 $\mu g/m^3$ & 3.45 $\mu g/m^3$ respectively, which will occur at a distance of 0.2 km. & 0.3 km. in 'NW' & 'NNW' directions respectively w.r.t. the origin.

The predicted maximum GLCs of NOx & PM due to the operation of the proposed plant is well within the prescribed limits. Therefore, there will be insignificant impact on the Air Quality of the area due to the operation of the project.

5.2 Impacts on Water Quality

SSPL will follow "the zero wastewater discharge concept" and the entire wastewater will be recycled to the plant for various uses. As no wastewater will be discharged into any outside water body, there will be no impact on the water quality of any surface water bodies of the area.

5.3 Impacts on Soil

There will be solid waste generation, but will be managed in the proper manner. This will ensure that there will not be any impact on soil quality due to the disposal or deposition of solid waste.

5.4 Impacts on Land Use

The proposed development will be confined within the boundary of the allocated land only, earmarked for the industrial purpose, so there will not be any significant impact on the land use pattern of the area.

5.5 Impacts on Biological Environment

The surrounding area has substantial vegetation in the form of village orchards, roadside trees and agriculture. If the gaseous emission is controlled properly, there will not be significant impact. There will be sufficient plantation of trees at the plant site. All these measures, if implemented properly will ensure insignificant impact on the local vegetation from the proposed project and may improve the vegetation scenario of the area.

No wastewater will be discharged outside the plant premises. There is, therefore, no impact on the aquatic ecology of the water bodies.

5.6 Impacts on Socio-Economic Environment

The project will offer substantial employment potential during construction phase and operation phase, which will have beneficial impact.

6.0 ENVIRONMENTAL MANAGEMENT PLAN

M/s Shyam Sel & Power Ltd., will develop various management activities for the Environmental Management Programme which will meet all statutory requirements and help to improve environmental quality.

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. 33% of total area of factory has been earmarked for green belt development.

A detailed monitoring for different environmental parameters will be carried out as per direction of State Pollution Control Board. An environmental management group will be established to implement the management plan.