EXECUTIVE SUMMARY OF EIA/EMP STUDY

FOR

Proposed Re-rolling Mill Project of 300000 TPA Capacity

by

Tejas Iron & Industries Pvt Ltd.

AT :

Raipura

Fatuha

District- Patna (Bihar)

SUMMARY
ENVIRONMENTAL IMPACT ASSESSMENT

1.0 Introduction

M/s Tejas Iron & Steel Pvt. Ltd. was incorporated on 22nd September 2020 vide Registration No. U27204BR2020PTC048245 under the Companies Act, 2013 with a primary objects to setup a manufacturing unit of TMT Tor/Bar Rods. The company is having its registered office at 308, Narayan Plaza, Exhibition Road, Patna and Plant at Mauza: Raipura, Thana No-23, Fatuha, Patna- 803202

M/s Tejas Iron & Steel Pvt. Ltd. is going to setup its manufacturing unit at Raipura, Fatuha, Patna and installing complete automated unit for manufacturing of TMT Tor/Bar Rods having its annual capacity of production is 3,00,000 MT/Annum.

1.1 Project Location and Environmental Sensitivity

PARTICULARS	*DETAILS*
• Location	**Mauza. Raipura, Near Industrial Area, Thana No- 23, Fatuha Dist. Patna, Bihar**
• Latitude	**25°30'6.10"N**
• Longitude	**85°19'35.79"E**
• Elevation above mean sea level	**51 m.**
• Total Plant Area	**Proposed 2.49 Ha. (6.16 Acres)**
• Nearest Railway Station	**Fatuha (3.0 Km.)**
• Nearest Highway	**NH – 30**
• Nearest Major City	**Patna (25 km.)**
• Nearest River	**River Ganga (500 m.) ; River Punpun (3 Km. East)**
• National Park, Reserve Forest	***Not exist within 10 km. radius***

• Wildlife Sanctuary	
• Biosphere Reserve, Hill & Valleys	

1.2 Salient Features of the Project

a) **Land requirement**	**:**	M/s Tejas Iron & Steel Pvt. Ltd. owns a total land of 2.49 Ha. (6.16 Acres) on lease hold basis at Mauza Raipura, Khata No. 204, 195, 172, 177, 203, 121, 115, 63, 195 etc Khesra No. 931, 952,923, 924,925, 928, 953, 955, 947, 952, 923, 924 etc. (Refer land lease paper enclosed). All necessary infrastructures will be provided in the plant premises.		
b) **Production Details**	**:**	TMT Bar/Rods	300000 Ton/Annum	
c) **Solid Waste Generation**	**:**	- End Cuttings : 300 TPA - Mill Scale : 150 TPA - Carbon Slag : 600 TPA - TAR : 10 KL/Annum - Used Oil : 0.5 KL/Annum		
d) **Raw Materials**		ITEM	Requirement in MT / Annum	Source
		MS Ingot / Billet	306122	Jharkhand
		Non Coking Coal	20000 MT	Jharkhand
e) **Power**	**:**	5000 KVA will be sourced through SBPDCL for operation of project.		
f) **Source of Water**	**:**	Own Borewell		
g) **Water Requirement**	**:**	20 M^3 / Day		
h) **Total Cost of Project**	**:**	Rs. 6**700** Lakhs		

1.3 Process Description

Rolling is a process of converting the shape of feed stock into desired finished section in hot condition by passing the material between a pair of grooved rolls and providing suitable draft at various stages. The whole operation has to be conducted at a particular temperature range and within a limited time span. M. S. Ingots / Billet after shearing to definite length will be charged from two gasifier reheating furnace by a pusher and discharged at the other end after being heated and soaked to desire rolling temperature level of 500°-550°C.

M. S. Ingots/Billets will be first rolled in the 460 mm roughing mill train by following to & fro rolling using both bottom and top passes as per requirements, the bar will be then allowed to pass through 360 mm intermediate mill train over repeater located between stands. The bar coming out of 4th stand of intermediate mill shall be allowed to enter to the first finishing 260 mm mill train. 8mm hot rolled deformed bar shall be finished from the last stand of continuous mill train. 10, 12, 16, 20, 25 and Coil 5.5 mm diameter bars shall be produced from preceding stands. The hot rolled deformed shall be then allowed to pass through special water cooling pipe section for production of TMT bar. The bar thus produced will be cut to suitable length by shear and will be received at cooling bed in straight length. The bars from cooling bed shall be subsequently sheared to definite commercial length for storage/shipment.

1.4 **Existing Baseline Environment Scenario :**

Baseline environment data for all the components has been collected during the period February '2021. The detail findings are here as under ;

[i] *Meteorology :*

The daily average temperature was recorded to be in the range of 6.0 – 31.0 ºC during the study period. The average value of temperature was computed to be 18.5 ºC.

During the study the average relative humidity was found to be in the range of 46 – 84%. The average value of Relative Humidity was computed to be 65 %.

The wind is predominantly blowing from W / WNW to SE / SEE direction. The wind speeds are of the range of 0.18 – 8.7 m/sec. and the calm condition is 13.3 %. No rainfall was observed during the study period.

[ii] *Demographic Profile*

Total population in the Fatuha CD Block in accordance to the 2011 census data is 198008 persons, in 31800 number of households. The total male population is 104445 and total female population is 93563. It is mainly dominated by the rural population.

The Scheduled Caste (SC) population is 38159, out of which 20028 are males and 18131 females. The Scheduled Tribe (ST) population is 70, out of which

31 are males and 39 females. The total Scheduled Tribes population is very less.

The prevailing sex ratio in the study area is 895 females per 1000 males.

[iii] *Socio Economic Profile*

Agriculture is the one of the main sources of income in the study area. About 54.3 % of the total population is farmer. 22.6 % of the total population has been found to be working as agricultural labourers. About 15 % of the total population has been in to trade and commerce**.**

[iv] *Topography and Land Use*

Topography of the study area is more or less flat to uneven, with surface level variation of about 1 m. The average height of the ground surface at the proposed plant site is about 51 m. above mean sea level (MSL). Project site falls under Gangetic plains, which is a typical fore deep basin formed due to collision of India and China plates. The present pediogenic and sedimentation processes in this basin are essentially the continuation of those prevailing since Mid Miocene.

[v] *Water Quality*

8 ground water samples & 2 surface water samples were collected & analyzed from the study area.

Ground Water Quality

All the water samples were bearing an agreeable taste. The colour of all the water samples was found to be <5 Hazen unit. Odour of all the water was unobjectionable.

The water samples were found to be free from contaminations due to Fluoride & Boron. The dissolved solids level in the water samples were found in the range of 296 - 384 mg/l., which is very much in the permissible limits. The water sample from *Vill. Pitambarpur* was having

the minimum TDS while maximum dissolved solids were found at Baikathpur.

The chlorides were found to be in the range of 12 – 32 mg/l. The Sulphates were found in the range of 15 – 60 mg/l. Total hardness values in the range of 212 – 260 mg/l. It is within the permissible limits of IS 10500:2012. Total Alkalinity values were in the range of 196 – 276 mg/l.

Values of Iron are in range of 0.18 – 0.42 mg/l. & values for Zinc are in range of 0.16 – 0.28 mg/l.

All other parameters have been found to be within the permissible limits prescribed under the IS : 10500 :2012 for drinking water.

Surface Water Quality

The surface water can be best used for Irrigation and domestic purposes.

[vi] *Ambient Air Quality :*

To ascertain the baseline Ambient Air Quality status of the study area, monitoring of AAQ was conducted at 8 locations around the project area. Summary results are as under ;

Stn. No.	Location Name	24-hourly average concentration (µg/m^3)									
		PM_{10}		$PM_{2.5}$		SO_2		NO_2		CO (mg/m^3)	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A 1	Project Site	62.9	75.1	30.0	41.6	10.6	17.5	14.5	33.4	0.20	0.66
A 2	Fatuha	60.1	77.9	36.0	48.6	8.6	14.1	17.8	24.3	0.18	0.78
A 3	Phulwariya	51.6	69.4	37.3	50.0	13.0	16.8	24.6	31.9	0.15	0.24
A 4	Baikathpur	54.0	63.8	30.2	35.9	8.0	13.2	9.3	23.0	0.10	0.26
A 5	Khusrupur	58.6	66.2	35.0	39.7	6.6	12.8	10.4	22.3	0.12	0.38
A 6	Ranipur	40.4	59.8	23.4	34.6	5.8	10.2	7.8	18.9	0.11	0.32
A 7	Pitambarpur	57.4	69.4	36.0	42.4	7.5	11.1	13.5	20.0	0.13	0.37
A 8	Sonaru	53.4	68.7	32.7	41.4	8.5	14.6	15.2	25.9	0.10	0.21

It can be observed from the above table the AAQ status around the project area is within the limits of NAAQS, 2009.

1.5 Environmental Impacts of Proposed Project;

There are two sources from which the environment of the area can be affected if suitable control measures are not strictly applied. These are, discharge of waste water either on land or in surface water bodies and emissions from the stack. Both these two aspects have been taken into consideration while envisaging the proposed TISPL project. After proposed project new industrial waste water will be generated or discharged outside project premises. Domestic wastewater will be discharge through septic tank followed by soak pits inside the project premises. Due to proposed project, pollution load will be marginally increased,

Moreover a stack of 30 M. height will be attached with re-rolling mill coal gasifier for wider dispersion of pollutants.

However, Air Quality Impact prediction shows that due to operation of TISPL project predicted incremental GLCs of Pollutants is not found to be significant to add up on the existing ambient air quality. However, proposed air pollution control systems will help in bringing down the are emission concentrations.

Moreover, green belt will be developed with plantation of Dust controlling species for controlling dust emissions.

1.6 Solid Waste Generation and Management

Carbon slag will be generated from proposed Coal Gasifier system which will be sold to brick manufacturers. Whereas the End Cuttings from re-rolling mills will be disposed off through recycle and reuse in MS Billet production in neighboring industries.

Solid Waste Generation	***Generation (TPA)***	***Management***
End Cuttings	300	Sold to other ingot/billet manufacturing industries located in Patna Dist. for Recycle & Reuse as raw

Mill Scale	150	material in production of MS Ingot / Billet.
Carbon Slag	600	Sold to brick manufactures for using in clay bricks manufacturing
Tar	10 KL/Annum	Will be sold to authorized recyclers and re-processors to be used as Fuel
Used Oil	0.5 KL / Annum	Sold to CPCB authorized vendors/recyclers for further processing.

1.7 Impact on Socio Economic Status

Proposed TISPL project may change socio economic condition of the nearby areas. As there will be flow of financial and material resources, there remains a large possibility of growth of population in the business, trade, commerce and service sector. The large inflow of financial and material resources would contribute towards changing the socio economic environment of the areas as this would introduce a mixed culture emphasizing urban traits in place of traditional, prevalent rural customs. The economic, cultural and technological changes are likely to induce social stress and ethical changes. All these would change the local life style.

1.8 Environmental management plan

A comprehensive Environmental Management Plan has been prepared under which the unit will be adopting measures in preserving the environment from degradation. Important among those are Green Belt Development Plan which would act as Noise damper also. The environmental monitoring program on all components of environment has been drawn and indicated in the EMP in detail which is a part of EIA.

TISPL has adopted all measures for better environmental management. Proposed re-rolling mill with coal gasifier will be equipped with Gravity Dust Catcher & Multi Cyclone with 30 m. high stack for wider dispersion of pollutants because man needs inhalation every moment, so also is Flora and Fauna dependent on it. TISPL will develop & maintain green belt all around the project premises for better environmental management.

An amount of Rs 160 lakhs has been allocated for Environment Management. Approx. Rs. 134 lakhs will spend on CER activities in phase wise manner for social upliftment.

1.9 Occupational Health and Safety

TISPL will adopt all precautionary measures to reduce the risk of exposure of employees to occupational safety and health hazards. Pre & post medical check-ups will be done of all the employees. Employees will be regularly examined and the medical records will be maintained for each employee.

1.10 Rainwater Harvesting

The unit is implementing Rain Water Harvesting Scheme in the project premises for recharging the ground water aquifer through 5 nos. recharge pits of 4.5 m. depth and 6' dia.

Keeping in mind the importance of water, it is proposed to conserve water by rainwater harvesting by which the subsoil water condition / moisture content is maintained / improved to a great extent. Also it is proposed to harness rainwater from the roof area by collecting the same in a rainwater collection tank of suitable capacity and will be recharged to ground water aquifers.

1.11 Conclusion

- No Industrial Waste water will be generated due to operation of proposed TISPL project.
- Ground water characteristics are also well within the limits of IS 10500:2012.
- Emissions from proposed Stacks of will be within the limits of E(P) Rules.
- Average Ambient Air Quality within the project premises are within the National Ambient Air Quality Standards (Nov.'2009).
- Ambient Noise Level of the project area is also well within the limits for Industrial Area.

- End cuttings and mill scales and other solid wastes from re-rolling process will be managed and disposed as per standard practices.

- Good green belt & landscaping will be developed and will be maintained within the premises.

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