

JAIHIND WIRE ROD MILLS LTD,

**S.F. 12/1-A to H, 17/3 & 4,
Nattamangalam road,
Ammanikondalampatti,
Salem Taluk,
Salem.**

The Expansion Unit

**Management Summary for the Expansion Unit of
7500 tons/month Capacity M.S. Ingot & Billets, M.S. Angles, M.S. Rods, Twisted
Bars, TMT Bars and Flats**

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1.0 PROJECT DESCRIPTION

1.1 Introduction

M/s. Jai Hind Wire Rod Mills Limited has their unit at S.F. No.12/1-A to H, 17/3&4, Nattamangalam Road, P. Nattamangalam Village, Salem Taluk, and Salem District. This unit is existence since 1993. This unit has decided to increase their production capacity due to the market requirement both in domestic, national and international.

This unit has a present manufacturing capacity of 3000 tons/month of M.S.Ingots & Billets and 3000 tons/month of M.S. Angles, M.S. Rods, Twisted Bars and Flats. The management has decided to increase the production capacity of M.S.Ingots & Billets to 7500 tons/month and M.S. Angles, M.S. Rods, Twisted Bars and Flats to 7500 tons/month.

1.2 Plant Location

The expansion of this Steel plant is located at S.F. No.12/1-A to H, 17/3&4, Nattamangalam Road, P. Nattamangalam Village, Salem Taluk, and Salem District, Tamilnadu. This site is located about 5 km from Salem. The nearest Major railway station is Salem and airport is Coimbatore. The gross assets value of the expansion project cost is 8 Crores.

1.3 Products Manufactured

S.No	Materials	Quantity (T/M)	
		Existing	After expansion
1.	M.S.Ingot & Billets	3000	7500
2.	M.S.Angles	3000	7500
3.	M.S.Rods		
4.	Twisted Bars & TMT Bars		
5.	Flats		

1.4 Raw Materials

Raw Materials and Process Chemicals

S. No.	Material	Quantity T/M	
		Existing	After Expansion
1.	M.S. Scrap	3180	7950
2.	M.S. Ingots & Billets	3030	7575

1.5 Manufacturing Process

M.S. ingots & Billets are manufactured by melting of M.S. scraps in Electric Induction Furnaces and casted in cast iron moulds to get ingots. The molten metal in the Induction Furnaces is poured into the Cast Iron Moulds. The Ingots are cooled and separated from the Moulds.

The raw material required for the manufacture of M.S. Ingots is old M.S.Scrap obtained from the open market.

Required quantities of M.S. scraps from the stock yard are transported through Lorries into the furnace yard. By the electro magnet and crane fed into furnace. A minimum manual shoveling is required.

The Electric Furnace is open type, with a capacity of 6 tonnes and 3 tonnes. After expansion the existing furnaces will be replaced by 15 tonnes. There are four furnaces (Crucible) out of which two is stand by. The furnace has solid state medium frequency induction generator.

The scrap charged into the furnace gets heated and melted at a temperature of about 1200°C to 1500°C.

When the required temperature is attained, the furnace crucible is tilted by means of hydraulic system and the molten material is poured into Iron moulds. This gets cooled to form the finished product – M.S. Ingots & Billets.

1.6 Power and Fuels

The unit has an agreement with Tamil Nadu Electricity Board (TNEB) for the supply of 5134 KVA. The additional power requirement of 12500 KVA will be drawn from TNEB. To meet the electrical power requirement during power cuts and grid failures, the unit already has DG sets of capacity 10KVA and proposed to install the DG set of capacity 500 KVA.

1.7 Raw Water

This unit currently consumes 15.0 m³/day of raw water for its process and non-process uses. After expansion the water requirement will be 17.35m³/day. The entire raw water requirement for the unit is available from the existing bore well inside the factory premises.

1.8 Land

The total area allotted for this factory is 7.48 Acres.

1.9 Manpower

The plant will have about 165 employees (including existing 150 employees) for its normal working.

1.10 Organization Structure

The Senior General Manager is responsible for the factory operations. There are several executives for various sections such as Production, Human Resource, Purchase, Store, Accounts, Environmental & Safety, Maintenance, and Quality Control etc.

2.0 DESCRIPTION OF THE ENVIRONMENT

2.1 Climate

The study area is situated in the warm climatic belt with moderate humidity. During the summer the temperature ranges from 29°C to 39°C while during winter it varies between 19°C to 26°C. The rainfall is mostly due to the NE and SW monsoon season with the average precipitation of 725 mm per year. The maximum rainfall is generally experienced in the months of August, September and October.

2.2 Ecology

There is no endangered species of flora and fauna noticed in this area. The area does not shelter any specific wildlife.

2.3 Hydrological Conditions

2.3.1 Surface Water

The run-off during monsoon period contributes to the surface water. These villages get water due to rain in rainy season.

2.3.2 Ground water

Since ground water drawn from hand pumps, open wells and water supply systems at selected towns are the main sources for domestic use,

2.4 Water Quality

Water samples were collected from different locations, and the following parameters will be monitored for pH, Colour (Visual), Odour, Turbidity (NTU), Electrical Conductivity, Total Suspended Solids, Total Dissolved Solids, Chlorides (as Cl), Sulphates (asSO₄), Calcium (as Ca), Magnesium (as Mg), Total Hardness(as CaCO₃), Phenolphthalein Alkalinity(as CaCO₃), Total Alkalinity (as CaCO₃), Iron (as Fe).

2.5 Ambient Air Quality and Noise Levels

The ambient air quality was studied for various locations. It is found that the Suspended Particulate Matter (SPM) is found to vary from 98 $\mu\text{g}/\text{m}^3$ to a maximum of 147 $\mu\text{g}/\text{m}^3$. The concentration of NO_x and SO_2 are found to be very low. The noise levels recorded at various locations indicate that it is mostly less than 64 dB (A).

2.6 Land Use Pattern

This Site is classified as unclassified area recognized by the Tamilnadu Government.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 Air Emissions and Control Measures

S.No.	Description	APC Measures
Existing		
1	Induction Furnace (6 T- 2 nos.)	35 m height and 0.92 m dia of common stack with wet scrubber has been provided.
2	Re-Rolling mill (Coal fired furnace)- 7 T	30 m height and 0.76 m dia of stack has been provided.
3	DG Set (10 KVA)	6 m height and 0.05 m dia of stack with silencer has been provided.
4	Induction Furnace (3 T- 2 nos.)	It is connected with 35 m height of common stack with wet scrubber.
5	Re-Rolling mill (Oil fired furnace)- 7 T	30 m height and 0.76 m dia of stack with wet scrubber has been provided.
After Expansion		
1	Induction Furnace (15 T- 4 nos.) (2 Nos Stand by)	35 m height and 0.92 m dia of common stack with wet scrubber has been provided.
2	Re-Rolling mill (Coal fired furnace)- 7 T	30 m height and 0.76 m dia of stack has been provided.
3	DG Set (10 KVA)	6 m height and 0.05 m dia of stack with silencer has been provided.
4	DG Set (500 KVA)	7 m height and 0.05 m dia of stack with silencer has been provided.
5	Re-Rolling mill (Oil fired furnace)- 7 T	30 m height and 0.76 m dia of stack with wet scrubber has been provided.

3.2 Wastewater Generation and Method of Treatment

Category	Current	After Expansion	Method of treatment
Wet Scrubber	0.1	0.25	Solar Evaporation Pan of size 5.0x 4.5 x 2.1 m (Existing) and we will provide Pan of size 5.0x 5.0 x 0.3 m (2 nos.)
Domestic	4.8	6.6	Septic Tank of size 4.5 x 3.5 x 1.5 m (existing) and 4.8 x 3.0 m (proposed) with Dispersion trench (2 Nos) provided.

3.3 Solid Waste generation and method of disposal

Sl.No.	Particulars	Quantity tons/month		Mode of Use
		Existing	After expansion	
1.	Slag	180	450	Sold out to civil construction works used instead of stones.
2.	End Cuttings	30	75	
3.	Residue from solar evaporation pan	0.002	0.008	Collected and stored inside the premises

3.4 Hazardous Waste

There will be no hazardous waste generated from this expansion of M.S. Angles, M.S. Rods, Twisted Bars and Flats unit.

3.5 Noise Level

The noise level in the inside & outside the factory is maintained at low level.

4.0 ENVIRONMENTAL MONITORING PROGRAMME

4.1 Environmental Monitoring

The environment, safety and health monitoring programme in the factory are as follows:

Particulars	Parameter	Frequency
Stack Emissions	SPM, SO ₂ , NO _x	Monthly
Ambient Air Quality	SPM, RPM, SO ₂ , NO _x	Monthly
Waste water	pH, BOD, COD, SS, TDS, Cl ₂ , SO ₄ and Oil & Grease Etc.	Monthly
Noise monitoring	Noise Levels	Monthly
Safety and Occupational Health	--	Yearly

4.2 Budgetary Allocation for Environmental Management

S.No	DESCRIPTION	CAPITAL COST (Lakhs)
1	Air pollution management	30
2	Water and wastewater management	5
3	Solid waste management	3
4	Greenbelt	5
5	Environmental monitoring	2
	Total	45

5.0 ADDITIONAL STUDIES

5.1 Socio-economic Conditions

There is no habitation or settlement in the industrial area. The nearest village of Kondalampati is having a population of 16808 with 8753 males and 8055 females as per 2001 census data. The major source of income of the local population is from these types of industries only.

6.0 PROJECT BENEFITS

6.1 Socio-economic benefit

The expansion project on implementation will generate 90 - potential jobs directly, and will also generate many indirect job opportunities.

Due to the expansion project, indirect employment to the extent of 200 will be generated. The Government revenue from the project will increase by way of direct and indirect taxes, duties, etc. The infrastructure development will get an impetus with this industrial growth. Communications, transport, schools, hospitals, trade and commerce will indirectly get an impetus.

7.0 ENVIRONMENTAL MANAGEMENT PLAN

7.1 Air Pollution Management

S.No.	Description	APC Measures
Existing		
1	Induction Furnace (6 T- 2 nos.)	35 m height and 0.92 m dia of common stack with wet scrubber has been provided.
2	Re-Rolling mill (Coal fired furnace)- 7 T	30 m height and 0.76 m dia of stack has been provided.
3	DG Set (10 KVA)	6 m height and 0.05 m dia of stack with silencer has been provided.
4	Induction Furnace (3 T- 2 nos.)	It is connected with 35 m height of common stack with wet scrubber.
5	Re-Rolling mill (Oil fired furnace)- 7 T	30 m height and 0.76 m dia of stack with wet scrubber has been provided.
After Expansion		
1	Induction Furnace (15 T- 4 nos.) (2 Nos Stand by)	35 m height and 0.92 m dia of common stack with wet scrubber has been provided.

2	Re-Rolling mill (Coal fired furnace)- 7 T	30 m height and 0.76 m dia of stack has been provided.
3	DG Set (10 KVA)	6 m height and 0.05 m dia of stack with silencer has been provided.
4	DG Set (500 KVA)	7 m height and 0.05 m dia of stack with silencer has been provided.
5	Re-Rolling mill (Oil fired furnace)- 7 T	30 m height and 0.76 m dia of stack with wet scrubber has been provided.

7.2 Waste water management

Category	Current	After Expansion	Method of treatment
Wet Scrubber	0.1	0.25	Solar Evaporation Pan of size 3.3 x 4.5 x 2.1 m (existing) and 5.0 x 5.0 x 0.3 m (proposed)
Domestic	4.8	5.28	Septic Tank of size 4.5 x 3.5 x 1.5 m (existing) and 4.8 x 3.0 m (proposed) with Dispersion trench (2 Nos) provided.

7.3 Solid Waste Management

The solid waste will be generated from this unit is as follows.

Sl.No.	Particulars	Quantity tons/month		Mode of Use
		Existing	After expansion	
1.	Slag	180	450	Sold out to civil construction works used instead of stones.
2.	End Cuttings	30	75	
3.	Residue from solar evaporation pan	0.002	0.008	Collected and stored inside the premises

7.4 Noise Level

As per the observations, the noise level in the buffer zone is found to be very low.

7.5 Land Degradation

Since, the small quantity of wastewater will be generated from domestic usages, the chances of contamination of soil will be nil. The vacant area in the industry will be used for tree plantation to improve the surrounding environment of the industry.

7.6 Greenbelt Plan

Greenbelt is developed inside the factory premises covering a total area of about 2.49 Acres. The unit will also develop the nearby area around the industry for greenbelt. The inter-spaces are laid with shrubs. The inter-space between trees planted is about 5m. It is proposed to double the tree density in future.

For The Jai Hind Wire Rod Mills Limited

Managing Director