EXECUTIVE SUMMARY

of

Proposed Installation of Induction Furnace to produce 4,60,000 TPA M.S. Billets and Rolling Mill to produce 4,50,000 TPA TMT Bars

Proponent

M/s. Saptashrungi Alloys Pvt. Ltd.

At Gut No 51 & 52 Village Daregaon, District- Jalna, Maharashtra.

By

Pollution & Ecology Control Services
NAGPUR

EXECUTIVE SUMMARY

i. Project Name & Location

M/s Saptashrungi Alloys Pvt. Ltd. has proposed the project of manufacturing of 4,60,000 TPA M.S. Billets Plant & 4,50,000 TPA TMT Bars at Gut No 51 & 52 Village Daregaon, District- Jalna, Maharashtra over an area of 25 Acre of private land.

ii. Product & Capacity

Production Scenario

Name of the Products	Proposed Capacity (TPA)
M.S. Billets	4,60,000
TMT Bars	4,50,000

- **PROPOSED PLANT CONFIGURATION**

S. No.	Equipment /facility	Proposed
1	Induction Furnace	4 x 40 TPH
2	Bag filter Air pollution control system of specified size with 30 m. stack.	Yes

iii(a) Requirement of Land

Total 25 Acre Land in possession (10.12 Ha). The area reserved for the green belt development is 8.84 Acre (3.58 Ha) (33.00%). The total area proposed for parking is 1.53 Acre (0.62 Ha).

(b) Raw Materials

The annual raw material requirement for the production of M.S. Billets and for rolling mill is given in following **Table**

Table: Raw Material Requirement

Sr. No.	Raw Material	Requirement (TPA)	Proposed Source	Mode of Transportation
1.	Scrap	3,25,680	Locally procured from the vendors and imported- by road	By Road
2.	Sponge Iron	96,600	Procured from the open market- by road	By Road

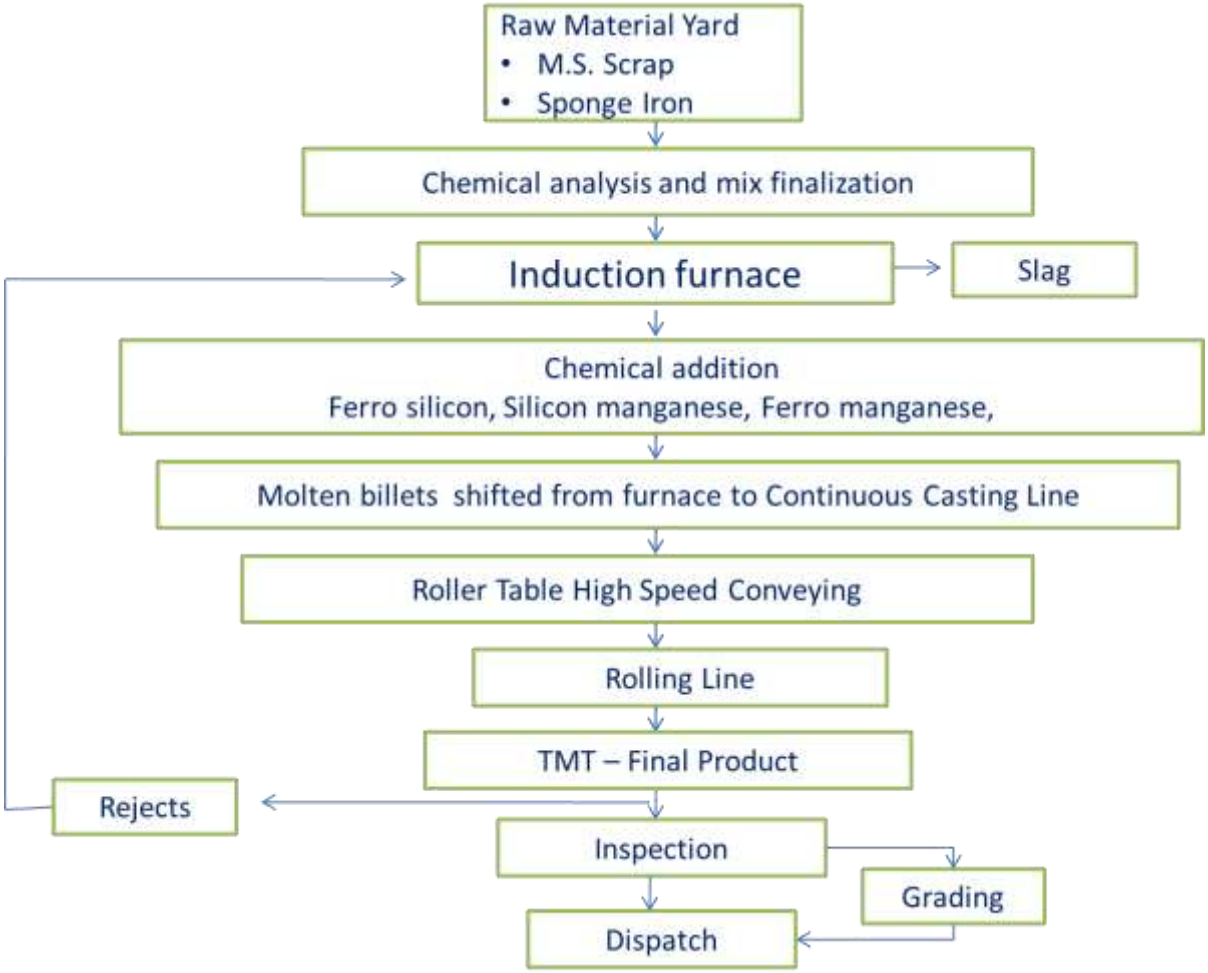
(c) Water

The total water requirement for the proposed project will be 230 m^3/day. The fresh water required for the proposed project will be 160.4 m^3/day and 69.6 m^3/day waste water generated will be recycle back in the process and for plantation. The source of water will be ground water and captive lake. The area of lake is 40,000 m2 to store 108000 m3 of water.

(d) Power Supply

The power required will be supplied by State Electricity Board. The power requirement for the proposed project will be 40 KW.

iv.(a) Process Description



(b) Gaseous Emission

The major sources of air pollution in the plant are fugitive emission from material handling & transfer points and gases like Carbon Dioxide, Sulphur Dioxide, and Nitrogen Oxides etc.

The installed system as well as proposed system for air pollution control provides acceptable environment conditions in the working areas and abates air pollution in the surrounding areas of the site. The technological equipment and processes have been selected with the above objective. Depending upon the quality of emissions from different sources, suitable air pollution control systems are provided.

(c) Solid & Hazardous Waste

Sr. No	Waste	Total Quantity (TPA)	Mitigation Measures
1	Slag	18,400	Slag Crushers will be installed to recover iron particles to be reused in Induction Furnace. Slag generated from Induction Furnace will be used for hardening of working area, internal road,
2	Tail Cutting	10,000	Tail cuttings generated from the Rolling Mill will be recycled in Induction Furnace.

Sl.No	Hazardous Waste	Quantity	Utilization
1	Spent/ Used Oil	2.5 KL/annum	Stored separately and incinerated in Kiln

(e) Material Balance

(a) For M.S Billets

S. No.	Name of Raw Material	Consumption	
		Per ton of Product	TPA
1	Sponge Iron	0.21	96600
2	Scrap	0.708	325680
3	Pig Iron/ Cast Iron	0.112	51520
4	Silico-Manganese	0.015	6900
	Total	**1.045**	**480700**

S. No.	Name of Output	Output	
		Ton of Product	TPA
1	Ingot / Billet	1.000	460000
2	Slag	0.04	18400
3	Burning Losses	0.005	2300
	Total	**1.045**	**480700**

(b) For Rolling Mill

S. No.	Name of Raw Material	Consumption (TPM)
1	Billet	460000
	Total	**460000**

S. No.	Name of Output	Consumption (TPM)
1	Rolled Product	450000
2	End Cutting Scrap & Mill Scale	10000

v. Measures of Mitigating the impact on the environment and mode of discharge or disposal

M/s Saptashrungi Alloys Pvt. Ltd. will be follows 3R's of water conservation i.e. Recirculation, Reclamation, and Reuse of water M/s Saptashrungi Alloys Pvt. Ltd have a motto of "ZERO WATER IS CHARGE" i.e. Elimination of discharge of waste water (treated or untreated) into the external environment.

vi. Capital Cost of the Project & Estimated time of Completion

The proposed project has an estimated project cost of Rs. 300.00 Cr, whose Cost Head distribution is as follows:

Project Cost Distribution

Sl. No.	Cost Head	Estimated Cost (In Crore)
1	Land developmentearth work & civil structure	70
2	Plant Machinery & Pollution control devices	130
3	Consultant Expenses	70
4	Contingency	15
5	Pre-Operative Exp/IDC	15
Total		**300**

vii. Baseline Environmental Data

(a) AAQ

The average PM_{10} concentration at all eight ambient air quality monitoring stations A-1, A-2, A-3,A-4, A-5, A-6, A-7 and A-8 are 78.7, 68.8, 74.6, 61.9, 72.5, 72.2, 77.6 and 61.3 µg/m^3 respectively.

The average $PM_{2.5}$ concentration at all eight ambient air quality monitoring stations A A-1, A-2, A-3, A-4, A-5, A-6, A-7and A-8 are 48.3, 44.6, 46.6, 26.0, 34.1, 44.4, 37.9 and 26.9 µg/m^3 respectively.

. The average SO_2 concentrations at all eight sampling stations -1, A-2, A-3,A-4, A-5, A-6, A-7and A-8 are 29.4, 27.9, 29.8, 17.1, 17.0, 27.0, 22.6 and 16.5 µg/m^3 respectively.

. The average NO_x concentrations at all eight sampling stations A-1, A-2, A-3,A-4, A-5, A-6, A-7 and A-8 are 29.7, 28.3, 29.4, 20.3, 19.8, 24.0, 24.3 and 19.2 µg/m^3 respectively.

. In an overall sense the AAQ are well within the NAAQS standard for the area.

(b) Surface & Ground Water Quality

For Baseline study of surface water, resources are selected from different nearby Talab & River within 10km radius from the project site to know the surface water quality. Considering the immediate vicinity and 3km radius distance from the project boundary there is no perennial stream of water body other than unevenly distributed ponds and open harvesting structure are utilised for local watershed management. Considering as zero discharge for the project, any surface water impacts is quiet impossible other than any probable seepage and percolation to nearby static water bodies of ponds and tanks therefore for surface water sample mostly ponds and water tanks are considered within 6 to 7 km radius and two location from Kundalika River were choosen for upstream & downstream conditions considering the flow of water.

For Baseline study of ground water, resources are selected from different nearby open well and bore well within 10km radius from the project site to know the ground water quality. The groundwater resource of the area is very valuable for local livelihood as this is a aried to semi aried climatic zone with meagare rainfall of 450 to 530mm per year. The locations of the borewells were choosen from as near as 2 Km to as far as 7 km from the project site. Due to either dried up well or non functional well conditions only 5 identifiable operating public borewells were choosen for the sampling.

(c) Soil

The pH of soil samples is Normal to slight alkaline which is from 7.3-8.1. Soil texture is Silty Loam. The level of nitrogen in most of the soil samples is very high.

(d) Flora & Fauna

Different flora & fauna are collected during the baseline period from Dec-2019- Feb 2020.

(e) Socio Economic

SIA project area covers villages like Daregoan, Khadagoan, Dawalwadi, Kharpudi and Jawasgaon. As per the census 2011 the total households are 1903 with the total population of 9925 from which male population is 5524 and female population is 4401. In Daregoan highest numbers of households are 712 and highest numbers of peoples are 3349 and in Jawasgaon lowest number HHs are 179 and lowest number populations are 825. The female population dominates male population.

viii. Impact on Air, water, land on nearby population

The impacts during the project operation on the ambient air quality of the study area are classified based on discharge to atmosphere, from stationary and mobile sources.

Emissions released from the stack during operation phase will get dispersed in the atmosphere and finally reach the ground at a specified distance from the sources. Air emissions from the proposed billets and TMT bar manufacturing facility are particulate matter. The possible pollutants are fugitive dust emissions from raw materials handling areas viz.loading / unloading, fuel stockyard, crushing units etc. Raw materials will be fed to hopper with the help of pay-loader / tipper.

M/s Saptashrungi Alloys Pvt. Ltd. shall provide dust suction system which will control fugitive emission due to material handling. Dust suppression system will be provided in the form of water sprinklers. All vibrating screens and weigh feeders below the hopper; day bins etc are totally covered to prevent leakages of dust. The entire length of conveyors is covered to prevent dust pollution. All bins are totally packed and covered so that there is no chance of dust leakage. All discharge and feed points wherever the possibility of dust generation is there is provided with dust suppression system. All

material transfer points are connected with dust suppression water nozzles to avoid air pollution. Bag filters will be provided for the extraction of dust particles.

The total water requirement for the proposed activities is 230 m^3/day. Fresh water required for the proposed project will be 160.4 m^3/day. The 60.0 m^3/day wastewater generated from industrial process will be treated in settling tank and reused in process.

The sewage generated from the toilets and bathroom of the proposed facility will be 9.6 m^3/day which will be treated in Packaged Type STP and reused for gardening.

There is no unmanaged generation of solid and liquid waste from the plant which impacts land environment. Thus, no impact on land is envisaged due to the proposed operations of billets and TMT bars steel plant.

As there are all type of community people living in the nearby area of the project location for maintaining their day to day life requirement they are depend upon the project for job and business.

xi. Emergency Preparedness Plan

The Risk management measures for the proposed project activities require adoption of best safety practice at the respective construction zones within the Works boundary. In addition, the design and engineering of the proposed facilities would take into consideration of the proposed protection measures for air and water environment.

1. The emergency preparedness team will be constituted within the organization consisting of the senior officials from managerial level from the different department like production, Health and Safety, Environmental, Material Handling, Security to handle the emergency.

2. The team will meet once in three months to discuss the possible or probable causes / instance leading to any disaster that may occur in and around the plant premises.

3. The team will assess the required resources to deal with the situation that may be identified as above.

4. The team leader will lay down a detailed procedure or oral information to the each member to follow in case of any impending or possible or actual disaster.

5. The team will conduct mock drill once in six months to understand the practical problems that may arise while implementing the emergency preparedness

6. Action plan including the response time and take necessary steps to make the system effective.

7. The team will make the necessary recommendation /suggestions to the Management for identifying/monitoring /dealing with any possible or probable disaster.

8. The minutes of the meeting of the team shall be prepared including the probable cause of incident, response time and corrective & preventive actions required to be taken to avoid the reoccurrences of the same and kept as record.

9. The team may draw an action plan and modify the same from time to time.

10. The Emergency Preparedness Team will come into force in case of any disaster by establishing the control room at an appropriate place nearer to the affected area.

11. The team shall record the actual performance/procedure followed/short comings while dealing with any actual disaster, which will be discussed at various levels to strengthen the plan and approach.

12. The Plant Manager shall inspect all the places where disaster occurred, along with Emergency preparedness Team.

13. He shall ensure that all the affected places are safe to resume the normal works, and the give permission to start the plant operation.

xii. ENVIRONMENTAL MANAGEMENT PLAN

- **OPERATION PHASE**

Air Environment

The following Environmental Management Plan will be implemented to control air emissions from Induction Furnace.

- ✓ Bag Filters followed by a stack will be installed.

- ✓ Fugitive emission from material unloading operations, material transfer points will be controlled fully with total enclosure.
- ✓ Fugitive as well ambient air quality monitoring shall be carried out on regular basis to ensure the compliance with National Ambient Air Quality Standards (NAAQS). The ambient air quality within the factory premises shall not exceed the standards (PM10 100μg/m3, PM2.5 60μg/m3 SO2 80μg/m3, NOx 80μg/m3 prescribed by CPCB.
- ✓ The monitoring frequency of air quality shall be as per the consent issued by State Pollution Control Board and reports shall be submitted as part of compliance. The records will be maintained.
- ✓ Regular Stack Monitoring will be done. All the emissions from the plant will be controlled to meet the relevant standard set by CPCB/State Pollution Control Board
- ✓ Details regarding volumetric flow, temperature and emission rate of pollutants from different stacks shall be collected and compiled regularly
- ✓ Effective steps shall be taken to control fugitive emission inside the plant. All internal roads will be Tar Roads. Efficient arrangements will be provided to control fugitive dust emission during handling/transportation of Raw materials / finished product etc
- ✓ Green belt will be developed to control fugitive emissions & gaseous pollutants to keep clean and healthy environment.

Noise Environment

- ✓ The industry will take care while procuring major noise generating machines/equipment to ensure that the manufactures have taken adequate measures to minimize generation of noise.
- ✓ The areas where noise levels are high will be partitioned off, noise levels will be minimized at the source, and noise reflection and transmission will be minimized.
- ✓ The workers working in the high noise areas will be provided with ear muffs/ear plugs.
- ✓ Acoustic laggings and silencers will be provided in equipment wherever necessary. Ventilation fans shall be installed in enclosed premises.

- ✓ Supply ducts and grills on the ventilation and air conditioning system will be suitably sized for minimum noise level.
- ✓ The silencers and mufflers of the individual machines shall be regularly checked
- ✓ The noise level shall not exceed the limit 75 dB (A) during the day time 70 dB (A) night time within the plant premises.
- ✓ Provision of insulating caps and lids at the exit of noise source and providing polystyrene, etc. as noise insulation material will be adopted. All the openings will be covered and partitions will be acoustically sealed.
- ✓ Green belt will be developed to reduce the noise level. Training of personnel is recommended to generate awareness about damaging effects of high noise levels.

Water Environment

- ➢ The total water requirement for the proposed activities is 230 m3/day. Fresh water required for the proposed project will be 160.4 m3/day.
  The 60.0 m3/day wastewater generated from industrial process will be treated in settling tank and reused in process.
- ➢ The sewage generated from the toilets and bathroom of the proposed facility will be 9.6 m3/day which will be treated in Packaged Type STP and reused for gardening.

Rain Water Harvesting System (RWH)

RWH structures will be provided to harvest the rain water around the plant area and roof top. The collected rain water shall be utilized for plant uses to minimize the raw water requirement from the source. The surface water run-off from the main plant area would be led to a sump for settling and the over flow would be collected in the common water basin for further uses in the plant to optimize the raw water requirement of the plant.

Solid Waste Management

The solid waste which will generate from the proposed project is tail cutting; this will be 10000 TPA and will be completely used in Induction furnace. The slag generated from induction furnace which is non-hazardous and non-toxic in nature, will be used for hardening of internal roads, working area, concreting. Slag generated 18,400 TPA is crushed at site. Iron particles are separated by using magnetic separator. Crushed slag (Sand) is being used in hardening of working area.

Land Environment

Green Belt Development

The plantation will helps to capture the fugitive emissions and attenuate the noise apart from improving the aesthetics quality of the region Green belt will be developed by plantation more numbers of trees on identified 33% green belt area. The selection of the species will be finalized in consultation with the local Forest Department.

xiii. CSR Plan

As per the Notification dated 1.05.2018 issued by MOEF&CC, it is mandatory to prepare Corporate Environment Responsibility Plan (CER) to spend 1.5 % (project cost≤ 100 Crores, Green field project) of total capital cost of the project on social, economic and peripheral development activities. As per the above mentioned office memorandum CER dated 1.05.2018, 1.5 % of total project cost i.e Rs. 4.5 Crores will be allocated for CER based on public hearing issues (Total cost of project is (300 crores). The CER for the proposed project is as follows:

S.N	Activities Proposed under CER	Amount in Rs.
1	Construction of toilet blocks (total 50 Nos.) in Dinegaon, Javasgaon, Siraswadi, Nagewadi and Nidhana villages. The land and daily water requirement will be arranged by respective Gram Panchayat.	Rs. 70,00,000 for one year
2	Repairing and maintenance of local School in Daregaon, Dinegaon and Jhira Village. Facility of Drinking water in local schools.	Rs 70,00,000 for one year
4	Donate Computer and printers to school in Javasgaon, Bhilpuri and Daregaon village.	Rs 60,00,000 for one year
6	Arrangement of health camp. We will provide services of 2 doctors (1 male + 1 female) and basic medicines. The camp will be arranged in Gram Panchayat hall or any suitable place like PHC etc. Villages to be covered Dinegaon, Javasgaon, Siraswadi. 2 medical camps will be conducted in one year. Annual health checkup of local people	Rs 50,00,000 for one year
7	Donation for Grampanchyat Development in nearby village.	Rs 50,00,000 for one year

8	Rain Water harvesting in Daregaon, Javasgaon and Bhilpuri.	Rs 50,00,000 for one year
9	Repairing of village roads in study area.	Rs 100,00,000 for one year
Total		**Rs 4,50,00,000**

xiv. Post Project Monitoring Plan

Environmental monitoring will be conducted on regular basis by M/s Saptashrungi Alloys Pvt. Ltd. to assess the pollution level in the proposed plant as well in the surrounding area. Therefore, regular monitoring program of the environmental parameter is essential to take into account the environmental pollutant of the study area. The objective of monitoring is:

- To verify the result of the impact assessment study in particular with regards to new developments;
- To follow the trend of parameters which have been identified as critical;
- To check or assess the efficiency of the controlling measures;
- To ensure that new parameters, other than those identified in the impact assessment study, do not become critical due to the commissioning of proposed facilities;
- To check assumptions made with regard to the development and to detect deviations in order to initiate necessary measures;
- To establish a database for future Impact Assessment Studies for new projects.

➢ **Conclusion**

The potential environmental, social and economic impacts have been assessed. The proposed activities will have the marginal impacts on the local environment. With effective implementation of proposed environment management plan and mitigation measures, these impacts will be insignificant. Implementation of the project has beneficial impact in terms of providing direct and indirect employment opportunities. This will be a positive socio-economic development in the region.