

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

O.A.No.145/2024

Arunkumar Sermakkani
S/o. Shri. Sermakkani
& 4 others

... Applicants

Versus

Union of India
Ministry of Environment, Forest & Climate Change
and 4 others

... Respondents

INDEX

S.NO.	DATE	PARTICULARS	PAGE NOS
1.	21.07.2025	Reply filed on behalf of 5th Respondent	1-10
2.	26.03.2015	Terms of Reference issued by the second respondent (Annexure-1)	11-15
3.	-	Environmental Impact Assessment Report submitted by the 5th respondent (Annexure-2)	16-259
4.	14.06.2017	Environmental Clearance granted by the second respondent in favour of the 5th respondent (Annexure-3)	260-270
5.	08.11.2017	Consent for Establishment(Expansion) issued by Tamil Nadu Pollution Control Board (Annexure-4)	271-280
6.	16.12.2019	Consent to Operate (Expansion) issued by Tamil Nadu Pollution Control Board (Annexure-5)	281-287
7.	03.04.2023	Renewal of Consent issued by Tamil Nadu Pollution Control Board (Annexure-6)	288-290

8.	22.04.2025	Further Renewal of Consent issued by Tamil Nadu Pollution Control Board (Annexure-7)	291-296
9.	12.02.2020	Order Passed by Hon'ble NGT (Western Zone) in O.A.No.55/19 (Annexure-8)	297-304
10.	20.07.2022	S.O.3250 (E) issued by MoEF (Annexure-9)	305-307
11.	10.08.2022	Order passed by Hon'ble Supreme Court of India in Civil Appeal No.3116/2020 (Annexure-10)	308-323

CHENNAI

DATE: 22/07/2025

T. Hemalatha

COUNSEL FOR RESPONDENT NO.5

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

O.A. NO. 145 OF 2024

Arunkumar Sermakkani
S/o. Shri. Sermakkani
& 4 others

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Versus

Union of India
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and 4 others

... Respondents

REPLY FILED ON BEHALF OF THE 5TH RESPONDENT

The 5th respondent above named respectfully submits as follows:

- 1) The fifth respondent viz., M/s. Indus TMT India Limited., is a Public Limited Company involved in the business of running a Steel Rolling Mill at Kalukondapalli Village, Denkanikotta Taluk, Krishnagiri District. The said Rolling Mill was incorporated in the year 2005 under the name "Chitrakoot Metal Limited". On 20.08.2009 due to change in share holding pattern the name was changed to Apple Rolling Mills Limited (ARML). Again the name was changed to Indus TMT Industries Limited with effect from 12.02.2015.

For INDUS TMT INDUSTRIES LTD.,

C. Valli

Director.

2

- 2) During the year 2015 the fifth respondent proposed to expand the unit to include M.S.Billets along with the existing steel bars and rods. The project cost was estimated at Rs.5,000 Lakhs with proposed production capacity of the unit after expansion was estimated to be 1,45,000 TPA of Steel bars and rods (from the existing 72,000 TPA) and 1,56,000 TPA of M.S.Billet.

- 3) Accordingly the 5th respondent applied for Terms of Reference (ToR) to SEIAA-TN vide application dated 12.01.2015. The second respondent SEIAA issued (ToR) to the 5th respondent by proceeding dated 26.03.2015 **(Annexure-1)**. The 5th respondent company undertook Environment Impact Assessment as per the terms and conditions of the ToR. The 5th respondent also submitted their final Environmental Impact Assessment report **(Annexure-2)**. A public hearing in respect of the project was held on 30.11.2016.

- 4) After compliance with all ToR conditions, the 5th respondent applied for Environmental Clearance to the second respondent on 27.10.2016. The proposal of the 5th respondent was considered in the 85th meeting of the SEAC held on 30.03.2017 and the 219th SEIAA meeting held on 14.06.2017. After due consideration of all the aspects, the second respondent issued Environmental Clearance to the 5th respondent company on 14.06.2017 **(Annexure-3)**.

For INDUS TMT INDUSTRIES LTD.,

C. Vallu
Director

3

- 5) It is submitted that after obtaining Environmental Clearance, the 5th respondent has completed the expansion activities and has been running the industry in full compliance as per environmental norms.
- 6) Thereafter, the 5th respondent has also applied to Tamil Nadu Pollution Control Board for CTE (Expansion) 26.07.2017. After due inspection of the unit, the Tamil Nadu Pollution Control Board issued consent for Establishment-Expansion on 08.11.2017 both under the Air and Water Act (**Annexure-4**). Thereafter Tamil Nadu Pollution Control Board also issued Consent to Operate (Expansion) on 16.12.2019 (**Annexure-5**). Subsequently, the CTO was also renewed up to 31.03.2025 (**Annexure-6**). It is submitted that thereafter further renewal was also granted by TNPCB both under Air and Water Act up to 31.3.2031 (**Annexure-7**).
- 7) While so, the present application has been filed by certain individuals claiming to be affected by the operation of the 5th respondent industry by alleging that the industry is not in compliance with the conditions specified in the Environmental Clearance dated 14.06.2017. The applicants claim to be residing in a residential colony known as Pushpam Realty situated close to the industry and claim that the industry is causing air and noise pollution. The allegations are totally baseless and without

For INDUS TMT INDUSTRIES LTD.,

C. Vali

Director.

any substance. While the 5th respondent industry was established as early as in the year 2006, the Pushpam Realty with regard to the applicants, even as per the report of Tamil Nadu Pollution Control Board, Pushpam Realty Phase-III obtained CTE only through proceedings dated 17.04.2017. The applicants came to reside actually only during the second half of the year 2024. With regard to respondent 5, the purchase of the land by respondent 5 was done in the year 2005, and the area was then classified as a non-residential area. The industry was commissioned in the year 2006 itself. Therefore, the allegations to the contrary are hereby denied. The applicants allege that the industry is violating specific conditions of Environmental Clearance viz., (xiv), (xviii) and (xx) relating to air and noise pollution and filing of periodical reports to SEIAA. The applicant also alleges that general condition (iv) relating to maintaining green belt has not been complied with.

- 8) It is submitted that survey no's of Environmental Clearance and Directorate of Town and Country Planning approval are one and the same and the extent is also same. Environmental clearance was approved on 14-6-2017 and the same has been approved by DTCP subsequently in 2018. As both the environmental clearance and DTCP are one and the same, there is no need or requirement for any amendment.

For INDUS TMT INDUSTRIES LTD.,

C. Valli
Director

5

- 9) It is submitted that the question as to whether the steel rolling mills would fall under the secondary metallurgical industries whereby the EIA notification as above would become applicable was itself undecided for a long time. While many steel rolling mills including the fifth respondent industry were operating all over India after obtaining necessary consent order from the concerned State Pollution Control Board, the issue as to whether a prior Environmental Clearance is required was not clear. The issue relating to interpretation of item 3 (a) vis-a-vis the definition of "Metallurgical industries" directly arose for consideration in the case of Gajubha Jesar Jadeja Vs Union of India and others.
- 10) In the above case the Hon'ble National Green Tribunal (WZ) Bench was concerned with an industry manufacturing cold rolled stainless steel without Environmental Clearance. The Joint Committee appointed by the Bench filed a report stating that opinion on applicability on Environmental Clearance to the aforesaid process can be given only by MOEF with reference from EIA Notification 2006 as amended on 01.12.2009 and definition of Secondary Metallurgical Processing Industries as given in EIA guidance manual prepared by IL & FS Eco smart Ltd.,
- 11) A letter dated 14.08.2019 issued by MOEF to SEIAA Chhattisgarh was also produced where it is stated that Re

For INDUS TMT INDUSTRIES LTD.,

C. Valli
Director.

6

rolling would be classifiable as a Secondary Metallurgical Industry as per technical EIA guidance manual. At the same time those projects involving operation of various types of furnaces with capacity of more than 30,000 tons P/A (TPA) would require Environmental Clearance. The Hon'ble Bench also sought for further clarification from MOEF in this regard.

- 12) The minutes of reconstituted EAC was placed before the Hon'ble Bench which stated that there is a scope and need for further clarification in the following issues:
- a) Definition of Secondary Metallurgical units for the purpose of EIA process
 - b) Classification about the types of Furnaces
 - c) Clarifying Re-rolling Vs Cold Rolling.
- 13) The report further stated that considering many similar units are established or operating under CTE/CTO obtained from the respective SPCB's a period of one year may be allowed for conversion to Environmental Clearance. The EAC recommendations were accepted by MOEF through its affidavit filed on 07.02.2020 before the Hon'ble Bench which agreed for a period of one year to be allowed to the units; the ministry will also constitute an expert committee other than having EAC having metallurgical expert for their recommendations. Recording this, said original application viz., O.A.No.55/2019 (Western Zone) was disposed of by order dated 12/02/2020 (**Annexure-8**).

For INDUS TMT INDUSTRIES LTD.,

C. Vallu
Director.

14) The above order of the Hon'ble Tribunal was taken up to Hon'ble Supreme Court in Civil Appeal No.3116/2020 by the applicant before the Tribunal stating that NGT had no jurisdiction to grant any time for obtaining Environmental Clearance. It was brought to the notice of the Hon'ble Supreme Court during the hearing of the appeal that Ministry had issued a notification viz., S.O.3250 (E) dated 20.07.2022 (**Annexure-9**) wherein MOEF stated that Re-Rolling operation would fall under the purview of Secondary Metallurgical Processing Industry and as such would require environmental clearance. By the same notification MOEF granted time of one year from the date of notification to the industries to apply for grant of ToR.

15) The Hon'ble Supreme Court after noting that there are about 1689 similar re-rolling/cold rolling in the country which have been set up without obtaining prior environmental clearance as there was an ambiguity whether such rolling steel mills are required to obtain prior Environmental Clearance. The Hon'ble Supreme Court concluded that there was no error in the order passed by the NT (WZ) and further observed that only because an ambiguity earlier which was removed by MOEF notification dated 20.07.2022 the Hon'ble Tribunal had granted time to the project proponent therein to

For INDUS TMT INDUSTRIES LTD.,
C. Vallu
Director.

8

comply with an requirement of Environmental clearance. After referring to various judgments of Hon'ble Supreme Court itself, the Hon'ble Supreme court upheld the order of the Hon'ble Tribunal and dismissed the Civil Appeal by judgment dated 10/08/2022 (**Annexure-10**) and also held that the order of closure issued in respect of that unit cannot be sustained.

- 16) In the instant case after due consideration of all the aspects the second respondent issued Environmental Clearance to the 5th respondent company on 14.06.2017.
- 17) Therefore, even well before the deadline set by the Hon'ble Supreme Court as above, the industry had obtained environmental clearance. Thus, the contention of the applicant that prior environmental clearance had not been obtained is totally misconceived and liable to be rejected.
- 18) Regarding the allegations of noise pollution, the ambient noise level survey conducted by Tamil Nadu Pollution Control Board on 22.01.2025 near the applicant's location, the report of analysis in respect thereof reveals that the noise level is well within the prescribed standards, it is submitted that periodical inspections are being conducted by Tamil Nadu Pollution Control Board and as per the report filed by the Tamil Nadu Pollution Control Board even as late as 11.4.2025

For INDUS TMT INDUSTRIES LTD.,

C. V. Vallu

Director.

and 12.4.2025. when the ambient air quality/emission test was conducted near the vicinity of the unit, all parameters are within the standards prescribed by the Board

- 19) The industry is regularly filing their compliance reports to the statutory authorities. As per Part B of Environmental Clearance, we have to plant 8550 plants and actually we have planted more than 18000 plants which arrives to a green belt area of more than 33%. The photographs produced to the contrary by the applicants are seriously disputed and brought about for the purpose of the case. In so far as the judgments referred to in the application regarding air pollution and noise pollution, the industry is advised to submit that there cannot be any quarrel with the propositions laid down therein. However, unfortunately, in the instant case, the applicants are making a false claim and hence the said judgments have no applicability to the facts of this case.

It is therefore prayed that this Hon'ble Tribunal may be pleased to dismiss O.A No. 145 of 2024 with costs and thus render justice.

T. Hemalatha

Counsel for 5th Respondent

5th Respondent

For INDUS TMT INDUSTRIES LTD.

C. V. V. V.

Director.

10

VERIFICATION

I, C.Valli Director, of M/s. Indus TMT India Limited., the 5th Respondent herein do hereby verify that what are all stated above are true and correct to the best of my knowledge, information and belief.

Verified at Chennai on this the 21st day of July 2025

For INDUS TMT INDUSTRIES LTD.

C.Valli

5th Respondent

Director.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE - I

TERMS OF REFERENCE

DR. H.MALLESHAPPA, I.F.S.,
MEMBER SECRETARY



**STATE LEVEL ENVIRONMENT
IMPACT ASSESSMENT AUTHORITY,
TAMILNADU,**
3rd Floor, Panagal Maaligal,
No.1 Jaeris Road, Saidapet,
Chennai - 600 015.

Letter No. SEIAA-TN/F-3297/KRNGI/M-LXIV/TOR-216/2015 Dated 26.03.2015

To

The Director,
M/s Indus TMT Industries Limited,
(Formerly M/s Apple Rolling Mills Ltd)
Kappakal Road, Hosur-Thay Road,
Uliveerapalli, Kalukondapalli Village,
Denkanikottai Taluk,
Krishnagiri District.
Pin code - 635 114.

Sir,

Sub: SEIAA, Tamil Nadu - Application seeking Environmental Clearance for the project proposal of expansion of existing steel rolling mill located at S.Nos 251/1,2, 277/1A1, 1A2, etc of Kalukondapalli village, Denkanikottai taluk, Krishnagiri district by M/s Indus TMT Industries Limited to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA - Project proposal comes under Item No. 3(a) & Category 'B1' of the Schedule to the EIA Notification, 2006 - Terms of Reference (ToR) prescribed for the preparation of EIA report - Regarding.

Ref: 1. Your Application received dated 09.01.2015.
2. Your letters dated 05.03.2015 & 06.03.2015.
3. 64th SEAC meeting held on 20.03.2015.

This has reference to your project proposal submitted to the State Level Impact Assessment Authority seeking Environmental Clearance for the project of expansion of existing steel rolling mill of M/s Indus TMT Industries Limited (formerly known as M/s Apple Rolling Mills Ltd) located at S.Nos 251/1,2, 277/1A1, 1A2, etc of Kalukondapalli village, Denkanikottai taluk, Krishnagiri district to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA. The expansion project involves setting up of metal scrap melting plant to produce M.S Billets (1,56,000 TPA) for captive use and production enhancement of the existing steel rolling mill.

The project proposal was appraised in the 64th SEAC meeting held on 20.03.2015 vide Item No. 64-41. The Committee observed that the project proposal falls under Category 'B1' and Item No. 3(a) of the Schedule to the EIA Notification, 2006. Based on the presentation made by the proponent and the documents furnished, the Committee decided to prescribe the following Terms of References (ToRs) for the preparation of EIA report & public consultation.

1. Present land use pattern based on the satellite imagery shall be furnished.
2. Location of National parks/Wildlife sanctuary/Reserve forests within 10 km radius around the project site shall be furnished.

Page 1 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

State Level Environment Impact Assessment Authority, TN | 2015

3. Details of industries/habitatons/temples/schools/hospitals etc located within 10 km radius around the project site shall be furnished.
4. Site-specific micro-meteorological data including temperature, relative humidity, wind speed with direction and rainfall shall be furnished.
5. Co-ordinates of the project site indicating existing steel rolling mill & proposed scrap melting plant separately.
6. Land use pattern of the project site mentioning existing plant area and proposed expansion area separately.
7. Details of existing steel rolling mill, mentioning start of operation, yearwise production, machines installed, present production capacity & enhancement proposal, licenses obtained with compliance report etc.
8. Details of proposed scrap melting plant mentioning production capacity shall be furnished.
9. List of all raw materials required for production of existing & proposed expansion project indicating source of supply and its capacity utilization in the process shall be furnished.
10. Details of existing manpower and proposed addition for expansion project.
11. NOC obtained from Competent Authority (SGWA/WRO) for drawl of ground water for the needs of the existing as well as proposed expansion project.
12. Details of domestic waste water & its treatment & disposal.
13. Details of water requirement for cooling purposes in the process and the method of treatment and disposal of waste stream of bleed off.
14. Plan of improvement of solar evaporation pan taking into account of expansion proposal as well as increase in discharge during rainy seasons.
15. Technical specification of melting furnaces, re-heating furnaces, mill stand etc mentioning capacity utilisation in production process shall be furnished in existing & proposed expansion project separately.
16. Material balance for process activity shall be furnished separately for existing & proposed expansion project.
17. Manufacturing process shall be furnished in detail.
18. Details of storage of coal & metal scraps, method of utilisation in the melting, reheating furnace, pollution control measures proposed to control dust emission during handling of coal shall be addressed separately.
19. Total capital cost and recurring cost/annum earmarked for environment pollution control measures.
20. Ambient air quality observed at 8 locations within 10 km radius of the project site shall be furnished. Pictorial and tabular presentation of meteorological data shall be presented.
21. The suspended particulate matter present in the ambient air should be monitored. Chemical composition of the RSPM shall be furnished.
22. Air quality modeling for Steel Plant for specific pollutants should be applied. APC measures proposed for the control of emissions from the all process-sources shall also be included.

Page 2 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE - I

State Level Environment Impact Assessment Authority, TN | 2015

23. Design details of APC measures proposed for melting furnaces & reheating furnaces, mentioning quantity of water requirement initial and daily makeup and quantity of bleed off from each system.
24. Details of management solar pan residues and oil/sludge/scale generation in the continuous recycling of water for cooling purposes in the mill stand.
25. Impact on the environment by transport and handling of all raw materials and end products shall be assessed and furnished.
26. An action plan to control and monitor secondary and fugitive emissions as per CPCB guidelines shall be included.
27. Gaseous emissions for one season shall be observed other than monsoon season.
28. Permission for the drawl of ground water from the Competent Authority and water balance data including quantity of effluent generated, recycled, reused and discharged shall be provided. Scheme for STP for treatment of sewage shall be provided. Methods proposed to be adopted for the water conservation shall also be provided with acceptable design criteria.
29. Monitoring of ground water for assessing the level of pollutants identifiable with process and products at eight locations around the process production site, raw material storage area and near solid waste dump zone shall be done and included in the report. Geological and hydro-geological and ecological observations made at the project site shall be carried out and the data shall be furnished.
30. Details of solid/hazardous wastes such as furnace slag, solar pan residues, ash, waste oil etc generated/to be generated from the process operation including scientific disposal of the same shall be furnished.
31. Firm commitment obtained from cement industries for utilisation of furnace slag generated in the process for further beneficial use.
32. Modelling on risk assessment of fire.
33. Risk assessment and damage control shall be addressed.
34. Plan for implementation of scheme on occupational health of the workers shall be furnished.
35. Green belt development plan (33% of total project area) as per CPCB guidelines shall be furnished.
36. Scheme for implementation of the rainwater harvesting shall be furnished.
37. Socio-economic development activities around the project site shall be highlighted.
38. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site specific meteorological features shall be done and data shall be provided.
39. Necessary environmental protection measures proposed for the generators (DG sets) as per the norms of CPCB shall be furnished.
40. Integrated study on noise & vibration including impacts from the existing steel rolling mill.

Page 3 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village

M/s. Indus TMT Industries Limited

ANNEXURE - I

State Level Environment Impact Assessment Authority, TN | 2015

41. Surface water quality of nearby water bodies (rivers and drains) if any at upstream and downstream of the project area shall be furnished.
42. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant reserves (existing as well as proposed) if any within 10 kms of the project site, necessary clearance due to proximity of the ecologically sensitive areas should be obtained from the State Wildlife Department/Chief Wildlife Warden under the Wildlife (Protection) Act, 1972. Hence, Clearance from NBWL shall be obtained, if the project site comes within 10 kms radius from 'Ceuvary North Wild Life Sanctuary' formulated vide Notification dated 12.03.2014 by Government of Tamil Nadu.
43. Points raised during the public hearing and the commitment of the project proponent on the issues raised by the public shall be furnished. An action plan to address the issues raised during public hearing and the necessary allocation of funds for the same shall also be furnished.
44. Details of existing CSR activity and proposed CSR activity for the expansion project shall be furnished. CSR activity shall mainly focus on skill development, providing water supply & sanitation facility to the nearby government school and maintaining nearby kanmai/pond. Details in this regard shall be furnished.
45. Besides the above, the below mentioned general points should also be followed:-
 - a) A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
 - b) All documents may be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
 - d) Where the documents provided are in a language other than English, an English translation should be provided.
 - e) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M. No. J-11013/41/2005-IA.II(I), dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
 - f) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA/MoEF with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the Public Hearing process) will entail conducting the Public Hearing again with the revised documentation.

Page 4 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village

M/s. Indus TMT Industries Limited

ANNEXURE - I

State Level Environment Impact Assessment Authority, TN | 2015

After preparing the draft EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will get the public hearing conducted and take further necessary action for obtaining Environmental Clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

The Terms of Reference (TOR) prescribed should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the TNPCB for public hearing. The issues emerged and response to the issues during public hearing process shall be incorporated in the EIA report. The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining environmental clearance.

The Terms of Reference (TOR) prescribed shall be valid for a period of two years from the date of issue, for submission of the EIA/EMP report including public hearing proceedings.

MEMBER SECRETARY
SEIAA-TN

Copy to

1. The Principal Secretary to Government,
Environment & Forests Dept, Govt. of Tamil Nadu,
Fort St. George, Chennai - 9.
2. The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai - 600 032.
3. The,ACCF(C), Regional Office of MoEF,
34, HEPC Building, 1 & 2 nd Floors,
Cathedral Garden Road, Kungampakkam,
Chennai - 600 034.
4. Monitoring Cell, IA Division,
Ministry of Environment, Forests & Climate Change,
Parivaran Bhavan, CGO Complex, New Delhi 110003.
5. Stock file.

Page 5 of 5

FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT

**FOR THE PROPOSED EXPANSION OF STEEL ROLLING
MILL**

M/s. Indus TMT Industries Limited



**At
Kalukondapalli Village
Denkanikotta Taluk
Krishnagiri District, Tamil Nadu**

Prepared By

Enviro Care India Private Limited

**43, 2nd Street Harvey Nagar,
Madurai – 625 016.**

**(List of Accredited EIA Consultant Organizations – 170 as on
November 07,2016), Sl.No: 48**

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

CONTENTS

CHAPTER - 1	8
1.0 INTRODUCTION	8
1.1 PURPOSE OF THE REPORT	8
1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT	9
1.3 BRIEF DESCRIPTION OF THE PROJECT	10
1.3.1 NATURE OF THE PROJECT	10
1.3.2 SIZE OF THE PROJECT	10
1.3.3 LOCATION OF THE PROJECT	11
1.4 SCOPE OF THE EIA STUDY	12
1.4.1 METHODOLOGY	20
CHAPTER - 2	21
2 PROJECT DESCRIPTION	21
2.1 INTRODUCTION	21
2.2 NEED FOR THE PROJECT	21
2.3 DEMAND SUPPLY GAP	22
2.4 IMPORT VS INDIGENOUS PRODUCTION	22
2.5 DOMESTIC/ EXPORT MARKETS	23
2.5.1 DOMESTIC DEMAND	23
2.5.2 EXPORT DEMAND	23
2.6 PROJECT LOCATION	24
2.7 SIZE OR MAGNITUDE OF THE PROJECT	36
2.7.1 LAND REQUIREMENT	36
2.8 PRODUCT MANUFACTURING	36
2.9 RAW MATERIAL	37
2.9.1 RAW MATERIAL FOR STEEL BARS AND RODS	37
2.10 PROJECT DESCRIPTION WITH PROCESS DETAILS	38
2.10.1 PRODUCTION OF BILLET (PROPOSED)	38
2.11 OVERVIEW OF SLAG PRODUCTION IN MODERN INTEGRATED STEEL PLANT	45
2.12 MATERIAL BALANCE CHART	48

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

2.12.1	EXISTING ACTIVITY	48
2.12.2	PROPOSED EXPANSION ACTIVITY	48
2.13	SOURCE OF WATER AND POWER REQUIREMENT	48
2.14	MANPOWER REQUIREMENT	49
2.15	WATER REQUIREMENT DETAILS	49
2.16	WATER BALANCE CHART FOR EXISTING AND AFTER EXPANSION	50
2.19	SOURCE OF EMISSION AND AIR POLLUTION CONTROL MEASURES .	56
2.19.1	NOISE POLLUTION.....	56
CHAPTER - 3.....		57
3	DESCRIPTION OF THE ENVIRONMENT	57
3.1	ENVIRONMENTAL COMPONENT	57
3.2	SAMPLING LOCATIONS.....	58
3.3	MICROMETEOROLOGY	58
3.3.1	TEMPERATURE.....	62
3.3.2	RAINFALL.....	62
3.3.3	WIND SPEED	62
3.4	AMBIENT AIR QUALITY	68
3.4.1	AMBIENT AIR QUALITY STANDARDS	68
3.4.2	SELECTION OF SAMPLING LOCATIONS.....	71
3.4.3	PARTICULATE MATTER (PM ₁₀ & PM _{2.5}).....	71
3.4.4	SULPHUR DIOXIDE (SO ₂).....	71
3.4.5	OXIDES OF NITROGEN (NO ₂).....	71
3.4.6	CARBON MONOXIDE (CO).....	71
3.4.7	NOISE ENVIRONMENT.....	75
3.4.8	AMBIENT NOISE STANDARDS.....	75
3.4.9	IDENTIFICATION OF SAMPLING LOCATIONS.....	76
3.5	WATER QUALITY	78
3.6	SOIL QUALITY	80
3.6.1	DATA GENERATION.....	80
3.7	LAND ENVIRONMENT.....	84
3.7.1	INTRODUCTION	84
3.7.2	TOPOGRAPHY.....	84
3.7.3	DRAINAGE.....	84

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

3.8	BIOLOGICAL ENVIRONMENT	84
3.8.1	BIOLOGICAL ENVIRONMENT ASSESSMENT.....	84
3.8.2	TERRESTRIAL ECOLOGY	91
3.9	SOCIOECONOMIC ENVIRONMENT	92
3.10	BASELINE STATUS SUMMARY	104
	CHAPTER - 4.....	106
	ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES...	106
4	GENERAL.....	106
4.1	IMPACTS AND MITIGATION MEASURES DUE TO PROJECT SITING ...	106
4.2	IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION PHASE	107
4.2.1	LAND USE AND SOIL QUALITY	107
4.2.1.1	IMPACT ON LAND USE.....	107
4.2.1.2	IMPACT ON SOIL QUALITY	107
4.2.1.3	MITIGATION MEASURES	107
4.2.2	AIR IMPACT	108
4.2.2.1	IMPACT ON AIR QUALITY.....	108
4.2.2.2	MITIGATION MEASURES	108
4.2.3	NOISE IMPACT	108
4.2.3.1	IMPACT DUE TO NOISE LEVEL	108
4.2.3.2	MITIGATION MEASURES	109
4.2.4	WATER IMPACT	109
4.2.4.1	IMPACT ON WATER QUALITY	109
4.2.4.2	MITIGATION MEASURES	109
4.2.5	ECOLOGICAL IMPACT.....	109
4.2.6	SOCIO-ECONOMIC IMPACT	110
4.3	IMPACTS AND MITIGATION MEASURES DURING OPERATIONAL PHASE	110
4.3.1	LAND USE.....	110
4.3.2	SOIL QUALITY	110
4.3.3	AIR QUALITY.....	111
4.3.3.1	IMPACTS ON AIR QUALITY	111
4.3.3.2	MITIGATION MEASURES	117

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

4.3.4	WATER RESOURCES & WATER QUALITY.....	117
4.3.4.1	WATER RESOURCES	117
4.3.4.2	IMPACT ON WATER QUALITY & MITIGATION MEASURES	117
4.3.5	NOISE IMPACT	117
4.3.5.1	IMPACT ON NOISE	117
4.3.5.2	MITIGATION MEASURES	118
4.3.6	IMPACT ON ECOLOGY.....	119
4.3.6.1	IMPACT ON ECOLOGY.....	119
4.3.6.2	MITIGATION MEASURES	119
4.3.7	SOCIO-ECONOMIC IMPACT	120
	CHAPTER - 5.....	122
	ANALYSIS OF ALTERNATIVES.....	122
5.0	INTRODUCTION	122
5.1	ANALYSIS OF ALTERNATIVE SITE	122
5.2	ANALYSIS OF ALTERNATIVE TECHNOLOGIES	122
	CHAPTER - 6.....	123
	ENVIRONMENTAL MONITORING PROGRAM.....	123
6.0	GENERAL.....	123
6.1	ENVIRONMENTAL MANAGEMENT SYSTEM	123
6.1.1	FORMATION OF AN ENVIRONMENTAL MANAGMENT SYSTEM.....	124
6.2	IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES	124
6.3	ENVIRONMENTAL MONITORING	126
6.4	ENVIRONMENTAL MONITORING CELL	127
6.5	POST PROJECT MONITORING SCHEDULE OF ENVIRONMENTAL PARAMETERS	127
6.6	MONITORING EQUIPMENTS AND CONSUMABLES	128
6.7	BUDGETARY ALLOCATION FOR ENVIRONMENTAL PROTECTION	129
7.	RISK ASSESSMENT	130
7.1	Hazard Classification Based on External Factors	131
7.2	Hazard and Operability Study (HAZOP)	135
7.3	ONSITE EMERGENCY PLAN.....	140
7.4	OFF-SITE EMERGENCY PLAN	146
7.5	CONCLUSION	147

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

7.6	RECOMMENDATION	148
7.6.1	Worker's safety	148
7.6.2	Conclusion	148
7.7	HYDROGEOLOGY & GEOLOGY STUDY OF THE AREA	148
7.7.1	INTRODUCTION	148
7.7.2	RAINFALL AND CLIMATE	149
7.7.3	DRAINAGE	150
7.7.4	IRRIGATION PRACTICES.....	150
7.8	GEOMORPHOLOGY AND SOIL TYPES	151
7.8.1	GEOMORPHOLOGY	151
7.8.2	SOILS	151
7.9	GEOLOGY.....	151
7.10	HYDROGEOLOGY	152
7.11	GROUND WATER QUALITY	153
7.12	ARTIFICIAL RECHARGE AND RAINWATER HARVEST DESIGN.....	154
	CHAPTER - 8.....	157
	PROJECT BENEFITS	157
8.	GENERAL.....	157
8.1	CONSTRUCTION PHASE	157
8.2	OPERATION PHASE.....	157
8.3	HEALTH, SAFETY & ENVIRONMENTAL POLICY	158
	CHAPTER - 9.....	159
	ENVIRONMENTAL MANAGEMENT PLAN	159
9.	GENERAL.....	159
9.1	CONSTRUCTION PHASE ENVIRONMENTAL MANAGEMENT PLAN .	159
9.2	OPERATION PHASE ENVIRONMENT MANAGEMENT PLAN.....	159
9.3	ENVIRONMENT MANAGEMENT CELL	160
9.4	ENVIRONMENTAL MONITORING PROGRAM.....	160
	CHAPTER - 10.....	165
	SUMMARY & CONCLUSION.....	165
10.0	SUMMARY & CONCLUSION.....	165
	CHAPTER - 11.....	166
	DISCLOSURE OF CONSULTANTS ENGAGED	166

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CONTENTS

11.0	PROFILE OF THE CONSULTANT	166
11.1	CONSULTANCY SERVICES	166
11.2	LABORATORY	169
11.3	TURNKEY PROJECTS	170
11.4	OPERATION AND MAINTENANCE TREATMENT PLANT	171

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

CHAPTER - 1

INTRODUCTION

1.0 INTRODUCTION

M/s. Indus TMT Industries Limited is a Public Company registered with District Industries Center, Krishnagiri (Registration No: 33-031-13-009 Part II). M/s. Indus TMT Industries Limited has an existing Steel rolling Mill at Kalukondapalli Village, Denkanikotta Taluk, Krishnagiri District. The existing unit is a rolling mill that produces TMT steel or steel bars and rods. The proposed expansion unit will also include manufacture of M.S. Billets along with Steel Bars and Rods. The existing production capacity of the unit is 72000 TPA of Steel Rods and Bars, with project cost of Rs.2000 Lakhs.

M/s. Indus TMT Industries Limited has proposed to construct an expansion unit with a project cost of Rs.5000 Lakhs. The production capacity of the unit after expansion is 1,45,000 TPA of Steel Bars and Rods and 156,000 TPA of M.S. Billet.

1.1 PURPOSE OF THE REPORT

In pursuance of Government of India policy vide Environmental (Protection) Act, 1986 new projects or expansion of any existing plant necessitates statutory prior environmental clearance in accordance with the objectives of National Environmental Policy as approved by the Union Cabinet on 18th May, 2006 and EIA Notification of MoEF dated 14.09.2006, by preparing Environmental Impact Assessment (EIA) report.

In order to assess the environmental impacts due to the proposed expansion of steel rolling mill, Environmental Impact Assessment (EIA) report has been prepared. As per the latest Environmental Impact Assessment Notification dated 14th September 2006, the proposed expansion of steel rolling mill (secondary metallurgy industry) falls under 'Category B' for which Environmental Clearance (EC) from State Level Impact Assessment Agency

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

(SEIAA) is necessary. In line with EIA Notification dated 14.09.06, a TOR meeting was held for determining Terms of Reference (TOR) on 26th March 2015 for the preparation of EIA report for the proposed expansion project. Based on TOR conditions given by SEIAA vide its letter No. SEIAA-TN/F-3297/KRNGI/M-LXIV/TOR-216 /2015 DATED 26.03.2015, this EIA has been prepared.

The objective of the EIA study is to take stock of the prevailing quality of environment, to assess the impacts of proposed industrial activity on environment including public and to plan appropriate environmental control measures to minimize adverse impacts and to maximize beneficial impacts of the proposed project. The following major objectives have been considered for the EIA study:

- Assess the existing baseline status of environment
- Assess the impacts due to the proposed expansion project
- Suggest pollution control and ameliorative measures to minimize the impacts
- Prepare an action plan for implementation of suggested ameliorative measures
- Suggest a monitoring program to assess the efficacy of the various adopted environmental control measures
- Clearances from statutory authorities

1.2 IDENTIFICATION OF PROJECT & PROJECT PROPONENT

Indus TMT Industries Limited was incorporated in the year 2005 under the name "Chitrakoot Metal Limited". On 20th August 2009 due to change in share holding pattern the name was changed to Apple Rolling Mills Limited (ARML). Again the name was changed to Indus TMT Industries Limited with effect from 12th February 2015.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

1.3 BRIEF DESCRIPTION OF THE PROJECT

1.3.1 NATURE OF THE PROJECT

M/s. Indus TMT Industries Limited has an existing steel rolling Mill at Kalukondapalli Village, Denkanikotta Taluk, Krishnagiri District. The existing unit is a rolling mill that produces TMT steel or steel bars and rods. The proposed expansion unit will also include manufacture of M.S. Billet along with steel bars and rods. The existing production capacity of the unit is 72000 TPA of Steel Rods and Bars, with project cost of Rs.2000 Lakhs.

1.3.2 SIZE OF THE PROJECT

M/s. Indus TMT Industries Limited has proposed to construct an expansion unit with a project cost of Rs.5000 Lakhs. The production capacity of the unit after expansion is 1,45,000 TPA of Steel Bars and Rods and 1,56,000 TPA of M.S. Billet.

Promoter	Indus TMT Industries Limited
Location	S.Nos. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E, 277/2, 278/1A,1B,1C,1D, 285/1A, 286/1,2,3,4,5,6,7 and 287/1 Village: Kalukondapalli Taluk: Denkanikotta District : Krishnagiri State: Tamil Nadu.
Geographical location	Latitude : 12°38'57.65"N Longitude : 77°45'04.72"E
Mean Sea Level (MSL)	950 m
Land Use Classification	Non-planned area

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

Plant Capacity	Existing – Steel Bars and Rods – 72,000 TPA Proposed – M.S. Billet – 1,56,000 TPA (Phase I = 1,04,000; Phase II = 52,000) Steel Bars and Rods – 1,45,000 TPA (Phase I = 25,000 + Phase II = 48,000 + Existing = 72000)
Source of water	Local Panchayat
Water Requirement	Total water requirement : 56 KLD
Estimated Employment (Direct & Indirect)	No. of Employees: Existing – 75 nos. Expansion (proposed) – 387 nos. Total (After Expansion) – 462 nos.
Power Consumption	32000 KVA
Land available	10.38 Hectares
Project Cost	Existing – Rs.2000 Lakhs After Expansion – Rs.5000 Lakhs

1.3.3 LOCATION OF THE PROJECT

M/s. Indus TMT Industries Limited is located at S.No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E, 277/2, 278/1A,1B,1C,1D, 285/1A, 286/1,2,3,4,5,6,7, 287/1, Kalukondapalli Village, Denkanikota Taluk, Krishnagiri District, which is located within 10 Km radius of the interstate boundary of Tamil Nadu and Karnataka. The site is located about 14 Km from Hosur Town. The nearest railway station at Hosur at a distance of 14 Km. The nearest airport is Bangalore Airport (approximately 100 Km). The proposed site falls under Thali Panchayat Union of Denkanikota Taluk.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

EXISTING ENVIRONMENTAL SETTING OF THE PROJECT SITE

SELECTION CRITERIA	DETAILS
Latitude and Longitude	Latitude 12°38'57.65"N and Longitude 77°45'04.72"E
Climate conditions as per IMD data	Maximum Monthly mean Temp 38.6°C Minimum Monthly mean Temp 16.6°C Maximum total Rain Fall 274 mm Maximum mean Relative Humidity 86% Minimum mean Relative Humidity 25%
Land use classification	"Non Planned area" by Department of Local Planning Authority, Government of Tamil Nadu.
Nearest Airport	Bangalore
Nearest Railway station	Hosur
Nearest Major City	Bangalore
Nearby Industries	<ul style="list-style-type: none"> • Meenakshi Rolling Mill • Field Fresh Foods Private Limited • Taneja Aerospace & Aviation Ltd • Duroflex Mattress • FEIM Automotive Industries
Nearest Village	Uliveeranapalli
Ecologically sensitive zone (Wild Life Sanctuaries)	Nil within 10 km radius
Reserved Forests	NIL

1.4 SCOPE OF THE EIA STUDY

The EIA report has been prepared as per the TOR issued by State Level Expert Appraisal Committee vide Letter No. SEIAA-TN/F-3297/KRNGI/M-LXIV/TOR-216 /2015 DATED 26.03.2015. The copy of terms of reference is attached as **Annexure I**. The detail terms of reference with its compliance are as mentioned below:

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

TOR compliance

1	Present land use pattern based on the satellite imagery shall be furnished.	The land use of the project area is non-planned area. Annexure III – Page no 190 The satellite imagery of the site is given in Page No – 30.
2	Location of National parks/Wildlife sanctuary/Reserve forests within 10 km radius around the project site shall be furnished.	The location doesn't have any national parks, reserve forests and sanctuaries within 10.0 km radius from the project site is given in Page No – 26
3	Details of industries / habitations / temples / schools / hospitals etc located within 10 km radius around the project site shall be furnished.	Major Schools and hospital are located at Madagondapalli which is 3.0 km distance from the site. Nearby Industries is given in page no: 12
4	Site specific micro-metrological data including temperature, relative humidity, wind speed with direction and rain fall shall be furnished.	The details are given in EIA Report (Refer Page No. 58-68).
5	Co- ordinates of the project site indicating existing steel rolling mill & proposed expansion scrap melting plant separately.	The details are given in EIA Report (Refer Page No.28 & 29).
6	Land use pattern of the project site mentioning existing plant area & proposed expansion area separately.	The land use of the project area is non-planned area. Annexure III – Page no 190. Area breakup and the satellite imagery of the site is given in EIA report (Page No.30,36)
7	Details of existing steel rolling mill, mentioning start of operation, year wise production, machines installed, present production capacity & enhancement proposal, license obtained with compliance report etc.,	Enclosed as Annexure V Page no - 194. Enhancement details given in Page no 36, 37.
8	Details of proposed scrap melting plant mentioning production capacity shall be furnished.	The details are given in EIA Report (Refer Page No.36 & 37).
9	List of all raw materials required for production of existing & proposed expansion project indicating source of supply and its capacity utilization in	The details are given in EIA Report (Refer Page No.36 & 37).

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

	the process shall be furnished.	
10	Details of existing manpower and proposed addition for expansion project.	The details are given in EIA Report (Refer Page No.49).
11	NOC obtained from competent Authority (SGWA/WRO) for drawl of ground water for the needs of the existing as well as proposed expansion project.	Water source : Local Panchayat Water Local Panchayat approval has been attached (Annexure - X Refer Pg.No-218)
12	Details of domestic wastewater & its treatment and disposal.	The details are given in EIA Report(Refer Page No.49-54)
13	Details of water requirement for cooling purposes in the process and the method of treatment and disposal of waste stream of bleed off.	Water requirement for cooling purposes in the process & the method of treatment and disposal of trade effluent (scrubber bleed off) are given in EIA Report (Refer Page No. 49 & 54).
14	Plan of improvement of solar evaporation pan taking into account of expansion proposal as well as increase in discharge during rainy season.	Existing trade effluent of capacity 0.2 KLD is disposed through existing solar evaporation pan. No trade effluent generation in the expansion phase. Since, dry scrubber will be used.
15	Technical specification of melting furnaces, re heating furnaces, mill stand etc., and mentioning capacity utilization in production process shall be furnished in exiting & proposed expansion project separately.	Enclosed as Annexure VI (Refer page no. 206).
16	Material balance for process activity shall be furnished separately for existing & proposed expansion project.	Material balance for existing & proposed expansion is given in Page No 48.
17	Manufacturing process shall be furnished in detail.	Detailed manufacturing process is given in Page No 38-47.
18	Details of storage of coal & metal scraps, method of utilization in the melting, reheating furnace, pollution control measures proposed to control dust emission during handling of coal shall be addressed separately.	Coal is not utilized in our industry. Metal scrap will be stored inside the closed shed with all safety measures. And it will be handled by skilled labourers with machineries.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

19	Total capital cost and recurring cost/annum earmarked for environment pollution control measures.	Enclosed as Annexure VII (Refer page no. 212).
20	Ambient air quality observed at 8 locations within 10 Km radius of the project site shall be furnished. Pictorial and tabular presentation of meteorological data shall be presented.	The details are given in EIA Report (Refer Page No. 68 to 74).
21	The suspended particulate matter present in the ambient air should be monitored. Chemical composition of the RSPM shall be furnished.	The details are given in EIA Report (Annexure XI, Refer Page No. 220).
22	Air quality modeling for Steel Plant for specific pollutants should be applied. APC measures proposed for the control of emissions from all the process sources shall also be included.	The details are given in EIA Report (Refer Page No.113-116).
23	Design details of APC measures proposed for melting furnaces & reheating furnaces, mentioning quantity of water requirement initial and daily make up and quantity of bleed off from each system.	The details of APC measures are given in EIA Report Page No.56. Water requirement shown in water balance diagram given in page no. 51.
24	Details of management solar pan residue and oil/sludge/scale generation in the continuous recycling of water for cooling purposes in the mill stand.	Will be disposed off through TNWML. Details given in page no. 55
25	Impact on the environment by transport and handling of all raw materials and end products shall be assessed and furnished.	The details are given in EIA Report Chapter 4. Page No. 106
26	An action plan to control and monitor secondary and fugitive emissions as per CPCB guidelines shall be included.	The details are given in EIA Report Page no. 108, 116
27	Gaseous emissions for one season shall be observed other than monsoon season.	The details are given in EIA Report (Refer Page No.113-116)

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

28	Permission for the drawl of ground water from the competent authority and water balance data including quantity of effluent generated, recycled, reused and discharged shall be provided. Scheme for STP for treatment of sewage shall be provided. Methods proposed to be adopted for the water conservation shall also be provided with acceptable design criteria.	Water source : Local Panchayat Water Local Panchayat approval has been attached (Annexure - X Refer Pg.No-223) Water balance data including quantity of effluent generated, recycled, reused and discharged are given in Page No. 49 - 52 & Scheme for STP for treatment of sewage is given in Page No 52 - 54.
29	Monitoring of ground water for assessing the level of pollutants identifiable with process and products at eight locations around the process production site, raw material storage area and near solid waste dump zone shall be done and included in the report. Geological and hydro geological and ecological observations made at the project site shall be carried out and the data shall be furnished.	The details are given in EIA Report (Refer Page No.78 & 153-156)
30	Details of solid/hazardous waste such as furnace slag, solar pan residue, ash, waste oil etc., generated/to be generated from the process operation including scientific disposal of the same shall be furnished.	The details are given in EIA Report (Refer Page No.55)
31	Firm commitment obtained from cement industries for utilization of furnace slag generated in the process for further beneficial use.	Slag from furnace will be send to nearby cement industries for further beneficial use. Commitment letter will be obtained from local cement industries before getting EC.
32	Modeling on risk assessment of fire	The details are given in EIA Report (Refer Page No.130 - 148)
33	Risk assessment and damage control shall be addressed.	The details are given in EIA Report (Refer Page No.130 - 148)
34	Plan for implementation of scheme on occupational health of the workers shall be provided.	The details are given in EIA Report (Refer Page No.162 & 163)

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

35	Green belt development plan (33% of total project area) as per CPCB guidelines shall be furnished.	We have provided greenbelt area to an extent of 1.84 hectares covering 22% of total land area. And in the expansion phase, we have proposed to develop greenbelt in a total of 2 hectares.
36	Scheme for implementation of rainwater harvesting shall be furnished.	The details are given in EIA Report (Refer Page No.154 - 156)
37	Socio-economic development activities around the project site shall be highlighted.	Enclosed as Annexure –VIII (Refer Page no. 214).
38	Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site specific meteorological features shall be done and data shall be provided.	The details are given in EIA Report (Refer Page No.113-116)
39	Necessary environmental protection measures proposed for the generators (DG sets) as per the norms of CPCB shall be furnished.	The details are given in EIA Report (Refer Page No.112)
40	Integrated study on noise and vibration including impacts from the existing steel rolling mill.	The details are given in EIA Report (Refer Page No.117 & 118)
41	Surface water quality of nearby water bodies (rivers and drains) if any at upstream and downstream of the project area shall be furnished.	The details are given in EIA Report (Refer Page No.78 & 79)
42	Location of national parks, sanctuaries, biosphere reserves, wildlife corridors, tiger/elephant reserves (existing as well as proposed) if any within 10 kms of the project site, necessary clearance due to proximity of the ecologically sensitive areas should be obtained from the State Wildlife Department / Chief Wildlife Warden under the Wildlife (Protection) Act, 1972. Hence, Clearance from NBWL shall be	The location doesn't have any national parks, sanctuaries, biosphere reserves, wildlife corridors, tiger/elephant reserves (existing as well as proposed) within 10.0 km radius from the project site. (Refer Page no. 26, 31).

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

	obtained, if the project site comes within 10 kms radius from Cauvery North Wild Life Sanctuary formulated vide Notification dated: 12.03.2014 by Government of Tamil Nadu.	
43	Points raised during public hearing and commitment of the project proponent on the issues raised by the public shall be furnished. An action plan to address the issue raised during public hearing and necessary allocation of funds for the same shall also be furnished.	Action taken against the issues raised public hearing has been enclosed as Annexure XII Page No: 222.
44	Details of existing CSR activity and proposed CSR activity for the expansion project shall be furnished. CSR activity shall mainly focus on skill development, providing water supply & sanitation facility to the nearby government school and maintaining nearby kanmai/pond. Details in this regard shall be furnished.	Details of existing CSR activity is enclosed As Annexure IX page no. 216 and CSR activity for the expansion project are given in EIA Report (Refer Page No.164)
45	Besides the above, the below mentioned general points should also be followed a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided. b. All documents may be properly referred with index and continuous page numbering. c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated. d. Where the documents provided are in a language other than English, an English translation should be provided.	a. Compliance of the TOR has been provided. (Page No: 13 - 18). b. All documents have been properly referred with index and continuous page numbering. c. Yes Complied. d. All the documents provided are in English only.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

<p>e. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M. No. J-11013/41/2005-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.</p> <p>f. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA / MoEF with reasons for such changes and permission should be sought, as TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA / EMP (other than modifications arising out of the Public Hearing process) will entail conducting the Public Hearing again with the revised documentation.</p>	<p>e. Yes Complied.</p> <p>f. Yes Complied</p>
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Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 1

1.4.1 METHODOLOGY

Environmental Impact Assessment (EIA) studies include identification, assessment, quantitative evaluation and prediction of possible impacts. To minimize the impact of the project on various environmental attributes, mitigation measures are suggested for implementation along with the project.

The methodology of this study can be schematized as detailed below:

- To gather information on present environmental conditions and relevant national environmental guidelines and EIA procedures.
- Scoping of impacts.
- Assessment of significant impacts.
- Description of residual impacts.
- Development of monitoring plans.
- To inform all relevant and involved authorities regarding the impact of the project on the environment and the proposed mitigation measures.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

CHAPTER - 2

PROJECT DESCRIPTION

2 PROJECT DESCRIPTION

2.1 INTRODUCTION

M/s. Indus TMT Industries Limited is a Public Company registered with District Industries Center, Krishnagiri (Registration No: 33-031-13-009 Part II). M/s. Indus TMT Industries Limited has an existing Steel rolling Mill at Kalukondapalli Village, Denkanikotta Taluk, Krishnagiri District. The existing unit is a rolling mill that produces TMT steel or steel bars and rods. The proposed expansion unit will also include manufacture of M.S. Billet along with Steel Bars and Rods. The existing production capacity of the unit is 72000 TPA of Steel Rods and Bars, with project cost of Rs.2000 Lakhs.

M/s. Indus TMT Industries Limited has proposed to construct an expansion unit with a project cost of Rs.5000 Lakhs. The production capacity of the unit after expansion is 1,45,000 TPA of Steel Bars and Rods and 1,56,000 TPA of M.S. Billet.

2.2 NEED FOR THE PROJECT

Metal industries are the indispensable part of an economy. They form the backbone of industrial development of any country. India Steel Industry has grown by leaps and bounds, especially in recent times with Indian firms buying steel companies overseas. The scope for steel industry is huge and industry estimates indicate that the industry will continue to grow reasonable in the coming years with huge demands for stainless steel in construction of new airports and metro rail projects.

There exists enormous potential in the economy for higher growth of domestic steel demand in medium and long term. In terms of actual steel usage, India lags behind other major steel producing countries. In 2010 our per capita consumption of steel was only 51.7 Kg as against the world

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

average of 202.7 Kg. A massive investment to the tune of 1 trillion dollars has been envisaged during Twelfth Five Year Plan in the infrastructure sector. Besides, there is a greater emphasis on the growth of the Manufacturing Sector in the country. This augurs well for expansion of the base of steel consumption in the economy. A rough estimate of incremental demand for steel in the country works out approximately to 40 million tonnes in infrastructure alone. Hence it is likely to raise intensity of steel consumption in the country measured in terms of steel consumption per unit of Gross Domestic Product (GDP).

2.3 DEMAND SUPPLY GAP

- As per Joint Plant Commission (JPC), India's total steel production during April to January 2014 grew by 3.7% to 70 million tonnes against 67 million tonnes a year earlier.
- Crude steel production grew at the rate of 8.2% per annum from 50.817 million tonnes in 2006-07 to 78.001 million tonnes in 2010-11.
- Production of finished steel grew at an annual rate of growth of 5.8% from 52.53 million tonnes in 2006-07 to 66.01 million tonnes in 2010-11.
- Consumption of steel exceeded production and grew at an annual rate of 8.8% from 46.78 million tonnes in 2006-07 to 65.61 million tonnes in 2010-11.

2.4 IMPORT VS INDIGENOUS PRODUCTION

In the last 20 years (i.e. 1991-92 to 2010-11) import of steel as a percentage of total consumption in India has varied between a high of over 13% in 2007-08 and a low of 4.8% in 1998-99 and 2001-02.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.5 DOMESTIC/ EXPORT MARKETS

2.5.1 DOMESTIC DEMAND

Based on Planning Commission Report, the demand for steel has been worked out on the basis of observed relationship between steel consumption and selected macro-economic variables under four scenarios of GDP growth (i.e. of 8%, 8.5%, 9% and 9.5%) by 2016-17. In the most likely growth scenario i.e. 9% GDP growth, the demand for steel works out to be 113.3 million tonnes by 2016-17. Therefore, it is likely that in the demand will grow at a considerably higher annual average rate of 10.3% as compared to around 8.1% growth achieved during the last two decade (1991-92 to 2010-11).

2.5.2 EXPORT DEMAND

India has enormous potential, necessary resources and capabilities to become a global supplier of quality steel. Also there exists ample market opportunities in the neighboring regions of Asia, Africa and the Middle East.

Estimated Demand and Capacity Creation

S.No.	ITEM	2010-11	2016-17
1	Demand for Carbon Steel	62.14	108.3
2	Demand for Alloy/Stainless Steel	3.47	5.0
3	Total Domestic Demand for Steel	65.61	113.3
4	Net Export	-3.34	2.0
5	Production (net of double counting)	62.27	115.3
6	Category-wise consumption (Carbon steel)		
	Total Long	31.16	54.3
	Total Flat	30.99	54.0
	Total Carbon Steel	62.14	108.3
7	Total requirement of crude steel	-	142.3
8	Likely Capacity of Crude Steel	78.0	149.0

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.6 PROJECT LOCATION

M/s. Indus TMT Industries Limited is located at S.No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E, 277/2, 278/1A,1B,1C,1D, 285/1A, 286/1,2,3,4,5,6,7, 287/1, Kalukondapalli Village, Denkanikotta Taluk, Krishnagiri District, which is located within 10 Km radius of the interstate boundary of Tamil Nadu and Karnataka. The site is located about 14 Km from Hosur Town. The nearest railway station at Hosur at a distance of 14 Km. The nearest airport is Bangalore Airport (approximately 100 Km). The proposed site falls under Thali Panchayat Union of Denkanikota Taluk.

The proposed site and the study area of 10 Km radius are covered in the Survey of India Topo sheet No. 57H/10 & 14. The geographical co-ordinates of the proposed expansion site is latitude 12°38'57.65"N and longitude 77°45'04.72"E.

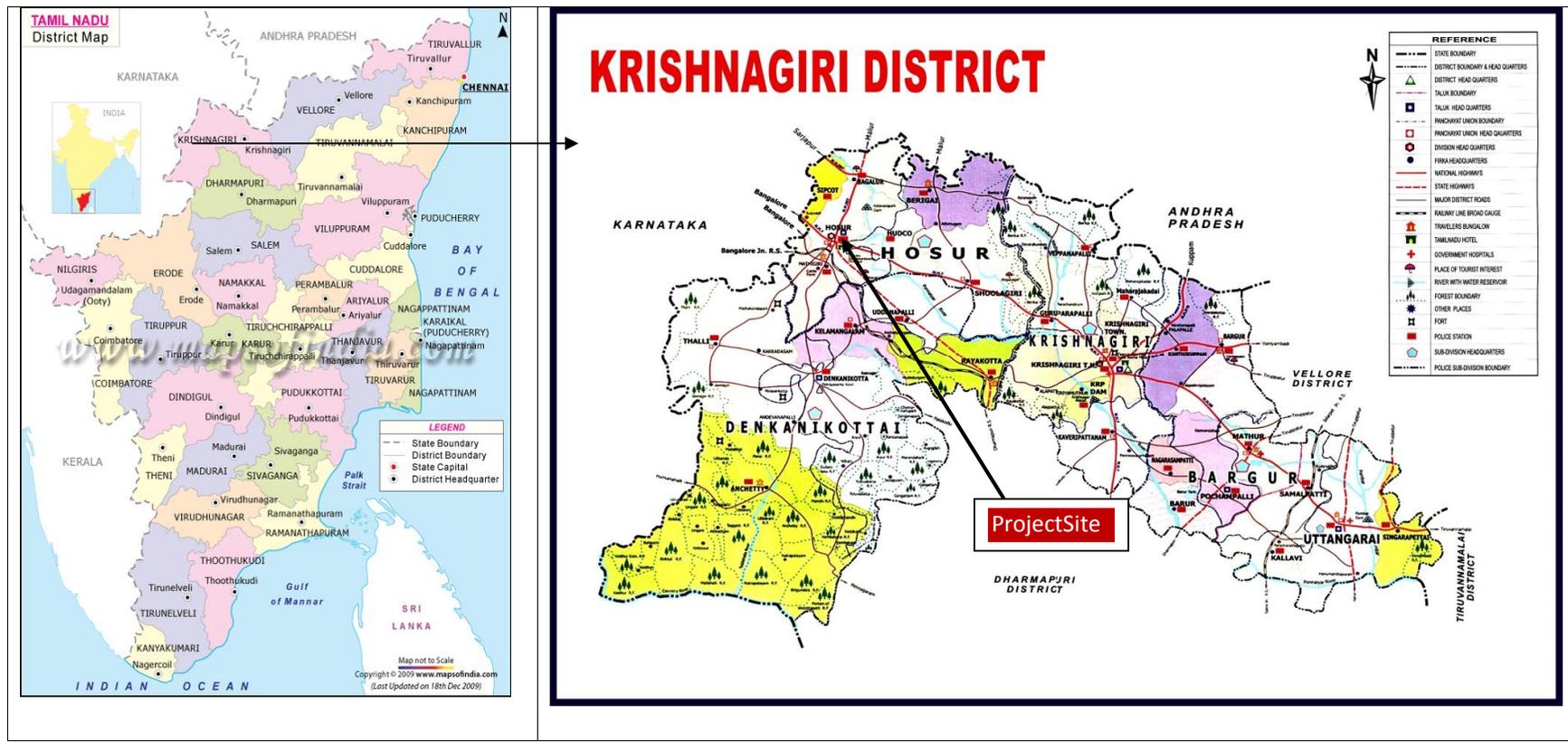


Fig 2.1: Tamil Nadu State Map showing Krishnagiri District and the Project Site

TOPO MAP (10 Km Radius)

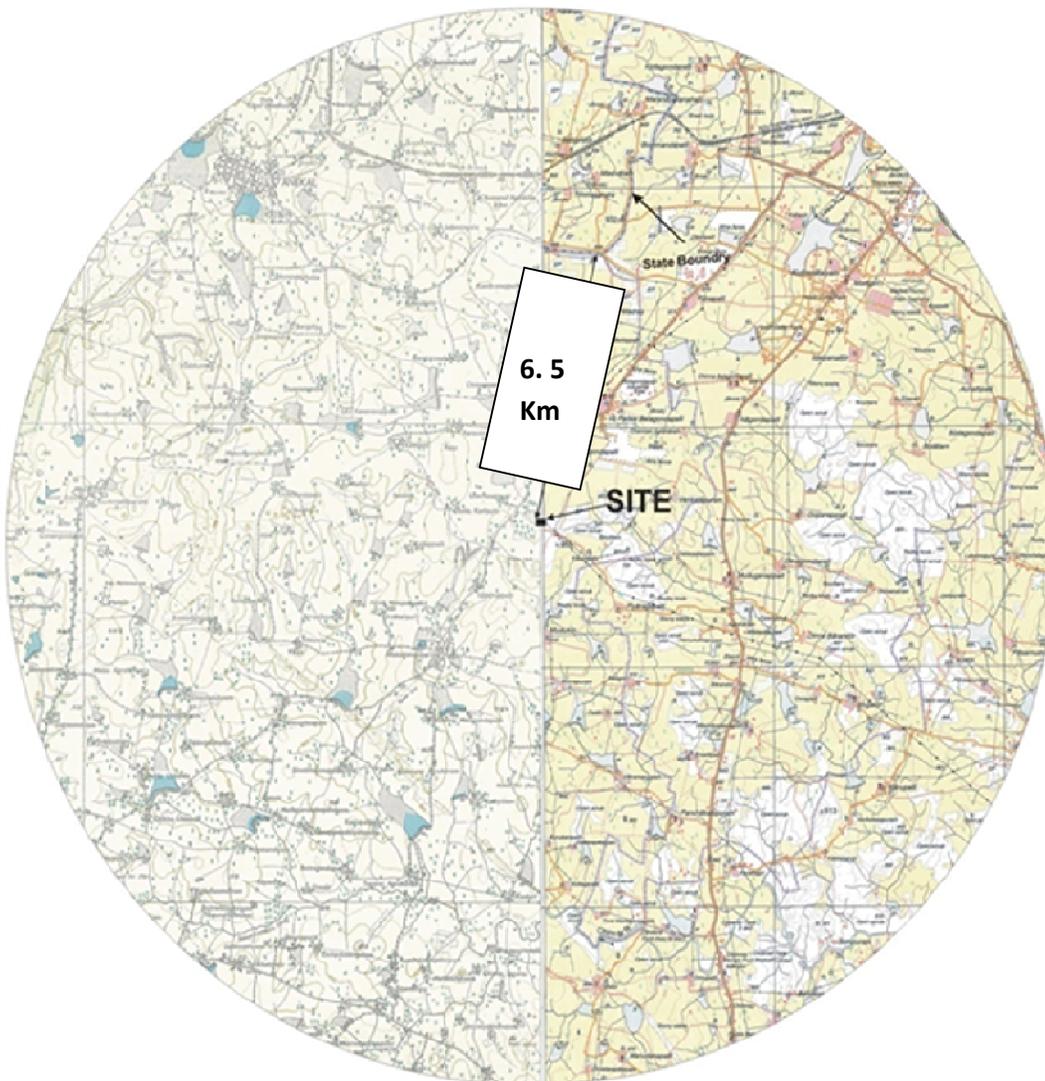


Fig 2.2: Topo Map within 10 Km Radius

GOOGLE EARTH MAP OF THE PROJECT SITE



Fig 2.3: Google Earth Map of the project site

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

Fig 2.4: CO- ORDINATES OF THE PROJECT SITE



Proposed Activities

1	12°39'6.53"N	77°45'4.42"E
2	12°39'6.27"N	77°45'5.79"E
3	12°39'2.69"N	77°45'5.04"E
4	12°39'2.57"N	77°45'5.57"E
5	12°38'59.73"N	77°45'4.82"E
6	12°39'0.16"N	77°45'2.45"E
7	12°39'0.85"N	77°45'2.68"E
8	12°39'0.59"N	77°45'3.68"E
9	12°39'2.60"N	77°45'4.15"E
10	12°39'2.80"N	77°45'3.60"E

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

Existing Activities & Proposed Activities

A	12°39'8.13"N	77°45'2.96"E
B	12°39'6.61"N	77°45'9.13"E
C	12°39'3.16"N	77°45'7.93"E
D	12°39'2.06"N	77°45'9.63"E
E	2°38'58.28"N	77°45'8.53"E
F	2°38'59.98"N	77°45'1.98"E
G	2°38'58.32"N	77°45'1.96"E
H	2°38'55.97"N	77°45'1.23"E
I	12°38'56.27"N	77°44'59.74"E
J	2°38'59.62"N	77°45'0.48"E
K	12°38'59.45"N	77°45'0.99"E
L	12°39'4.13"N	77°45'6.39"E
M	12°39'4.23"N	77°45'6.13"E
N	12°39'2.11"N	77°45'5.75"E
O	12°39'2.07"N	77°45'5.93"E
W	12°39'3.92"N	77°45'2.68"E
X	12°39'4.08"N	77°45'2.09"E
Y	12°39'3.17"N	77°45'1.91"E
Z	12°39'3.05"N	77°45'2.49"E

SATELLITE IMAGE

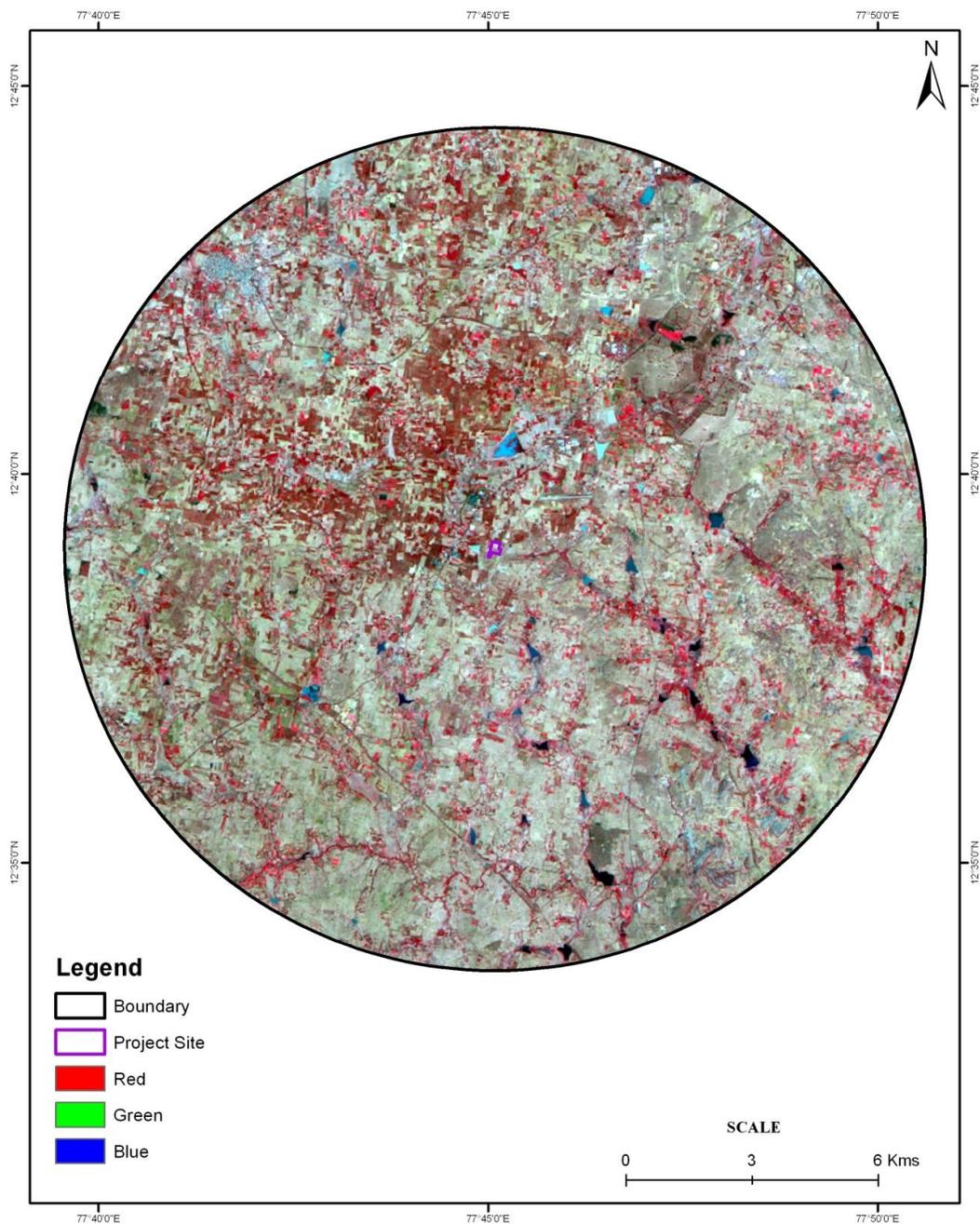


Fig 2.5: Satellite imagery of the project site – 10 km radius

LAND USE AND LAND COVER MAP

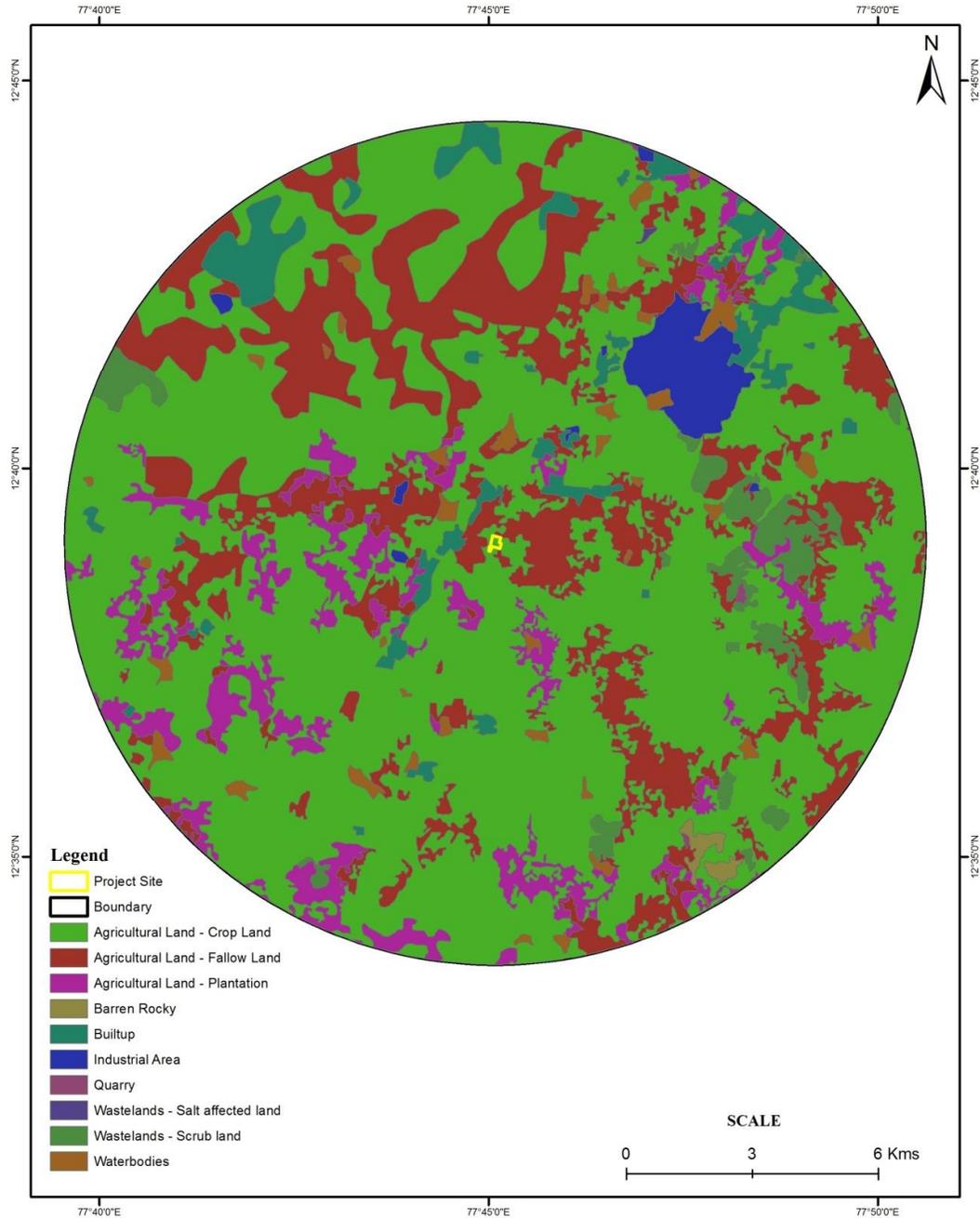


Fig 2.6: Land Use & Land Cover Map of the project site – 10 km radius

DRAINAGE MAP

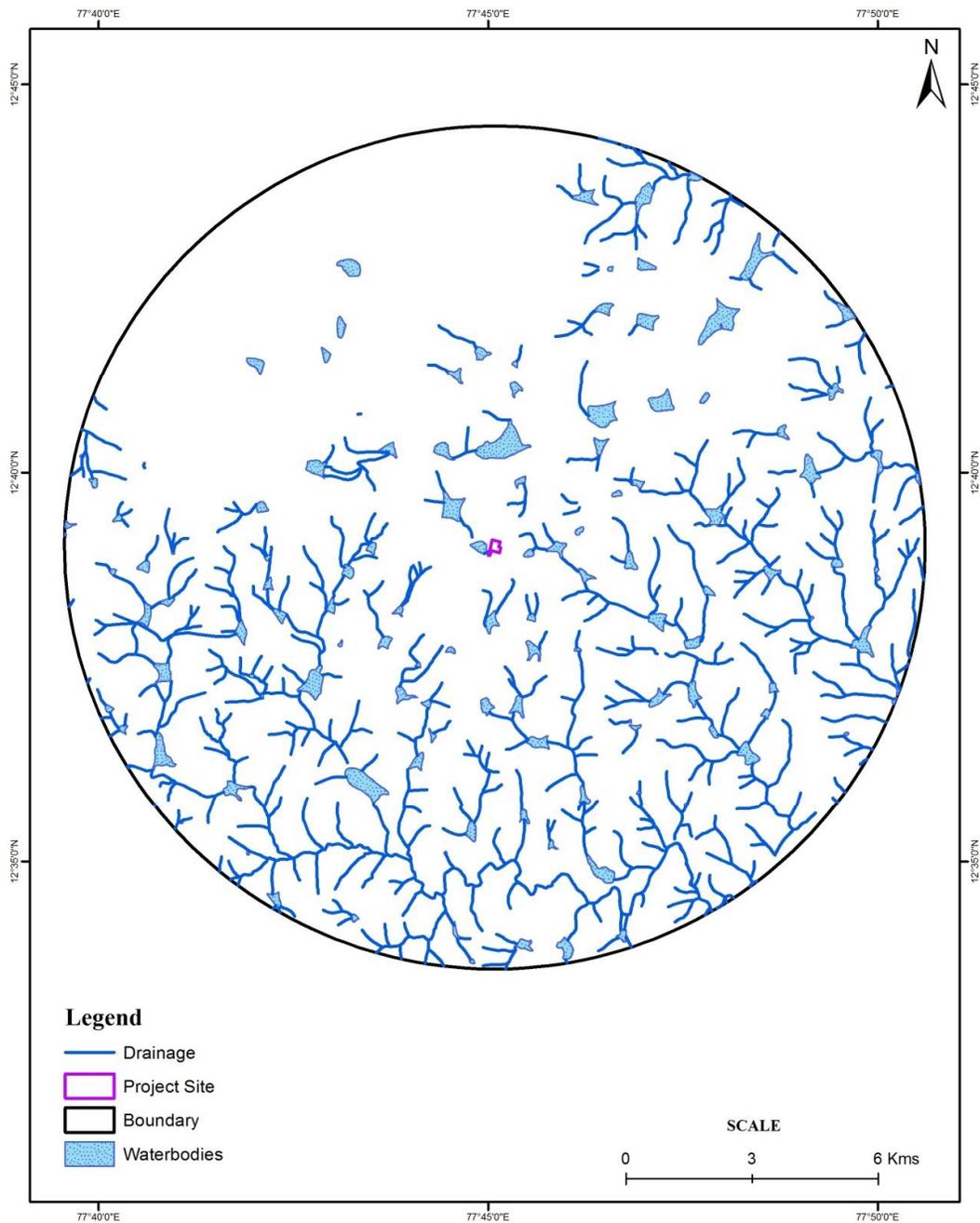


Fig 2.7: Drainage Map of the project site – 10 km radius

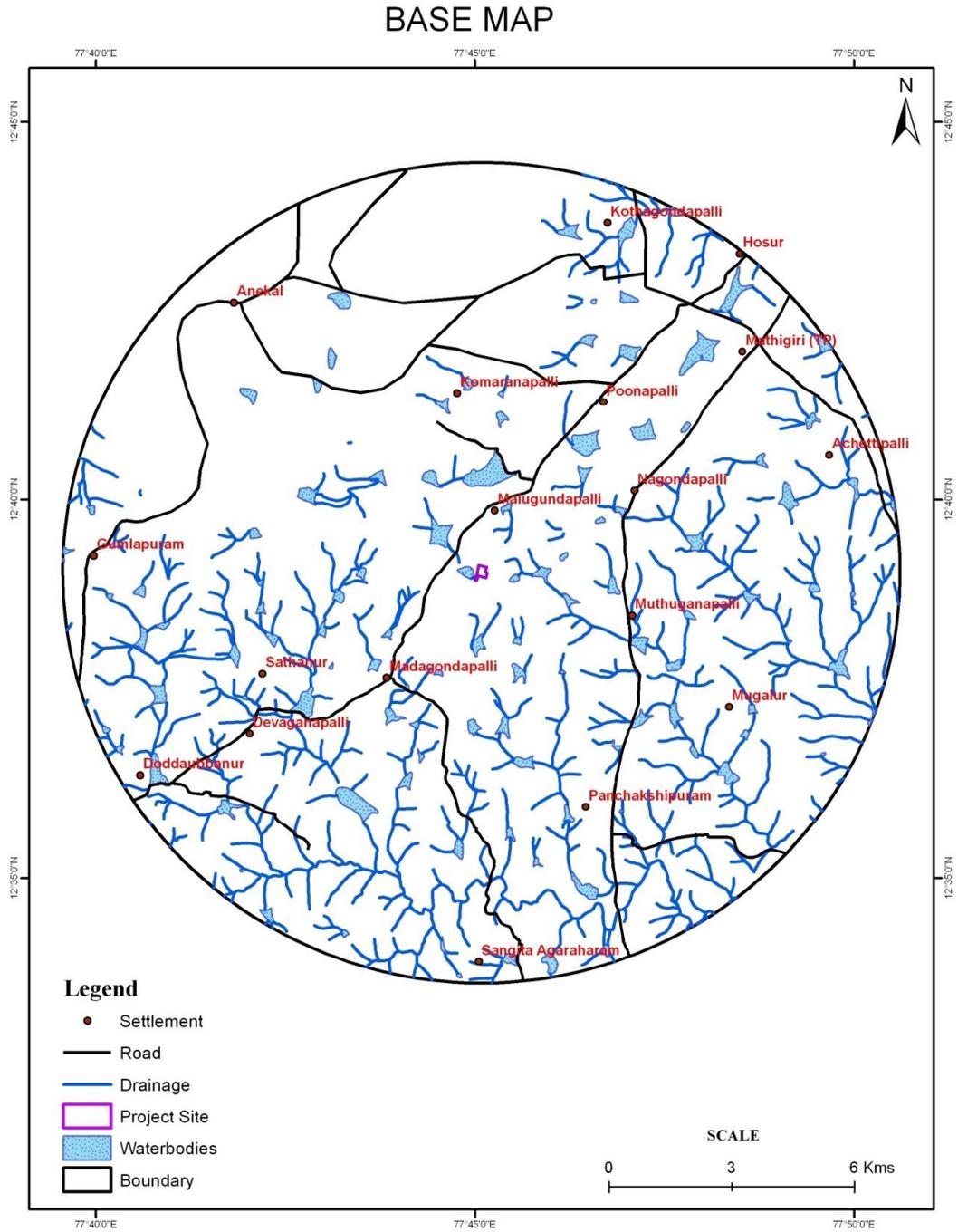


Fig 2.8: Base Map of the project site – 10 km radius

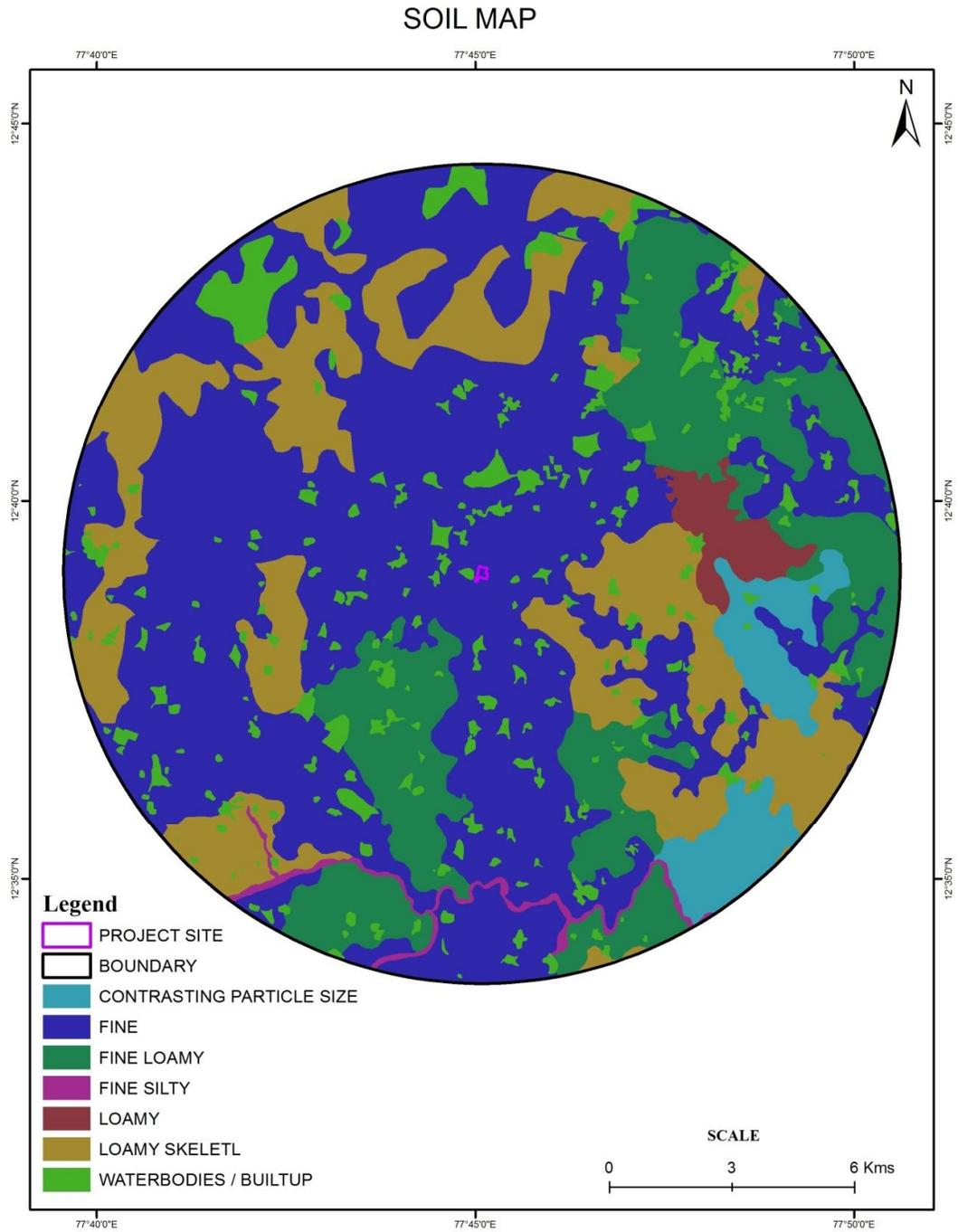


Fig 2.9: Soil Map of the project site – 10 km radius

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.7 SIZE OR MAGNITUDE OF THE PROJECT

2.7.1 LAND REQUIREMENT

The land requirement for the proposed expansion of the plant structures is 10.38 Hectares. The land selected for the proposed project is classified as "Non-planned area" by Department Local Planning Authority, Government of Tamil Nadu. The land proposed to be used for establishment of expansion unit belongs to the project proponent. (Refer **Annexure – II** for Land Documents & **Annexure – III** for Land Use Classification Certificate).

Table.2.1. Land Requirement for the Project

S.No.	Area Break - up	Area in Hectares	
		Existing	After Expansion
1	Building area	0.61	1.93
2	Solid Waste Storage	0.20	0.21
3	Green belt area	1.84	2.34
4	Vacant area	5.53	5.90
	Total area	8.18	10.38

2.8 PRODUCT MANUFACTURING

Product	Existing (TPA)	Expansion (TPA)	Total After Expansion (TPA)
Steel Bars and Rods	72,000	73,000	1,45,000
M.S. Billet	NIL	1,56,000	1,56,000

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.9 RAW MATERIAL

2.9.1 RAW MATERIAL FOR STEEL BARS AND RODS

Raw Material	Existing (TPA)	After Expansion (TPA)
M.S. Billet	72,720	1,56,000

2.9.2 RAW MATERIAL FOR M.S. Billet

S.No.	Raw Material	Existing (TPA)	After Expansion (TPA)
1	MS scrap/CI scrap/Turnings/Borings	NIL	1,29,000
2	Sponge Iron	NIL	34,000
3	Other Additives	NIL	5,000
TOTAL			1,68,000

Sponge iron purchased from Belgam transported By rail/road and Ms scrap purchased from nearby local markets. And also will be imported if necessary.

The composition of MS billets is as follows:

Composition of MS Billets

S.No.	Composition	Percentage
1	Carbon	0.15 – 0.30 %
2	Manganese	0.55 – 0.70 %
3	Silicon	0.15 – 0.30 %
4	Phosphorous	0.08 % Max
5	Sulphur	0.05% Max
6	Fe	98.5 %

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

The composition of raw materials for MS Billets making is as follows:

Table.3.5. Constituents of MS Scrap/Turnings/CI Scrap/borings

S.No.	Constituent	Percentage
1	Carbon	0.2 – 1.0 %
2	Manganese	0.4 – 0.9 %
3	Silicon	0.2 – 0.6 %
4	Sulphur and Phosphorous	Max 0.15 %
5	Alumina	0.0015 %
6	Fe	97 %

Table.3.6.Composition of Sponge Iron

S.No.	Constituent	Values
A	CHEMICAL	
(i)	Fe, Total	90 – 92 %
(ii)	Fe, Metallic	81 – 84 %
(iii)	Metallization	88 – 90 %
(iv)	Sulphur	0.03 % max
(v)	Phosphorous	0.05 % max
(vi)	Carbon	0.10 % (approximately)
(vii)	Gangue content	5.00 % (approximately)
B	PHYSICAL (Size)	
(i)	Lump	+3 mm
(ii)	Fines	0 – 3 mm
(iii)	Bulk Density	1.9– 2.2 MT/m ³

2.10 PROJECT DESCRIPTION WITH PROCESS DETAILS

2.10.1 PRODUCTION OF M. S. BILLET (PROPOSED)

Selected solid scrap is brought from scrap yard to furnace floor for charging. Charging is the process of filling up the blank chamber of crucible with meltable scrap. Charging may be done either using magnets or by hand – both the methods are found to be effective. Heavy scrap cut in sizes charged at the bottom first and lighter scrap above. Shredded scrap charged also which helps to fill the gaps inside and make the volume compact. A small quantity of cast iron is added purposely for fast melting.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

The furnace is induction type; so the metal is heated by its resistance to induced currents. The scrap charging goes on periodically up to the molten metal inside crucible come to a certain level of its capacity. A quantity of sponge iron also charged by maintaining a balanced proportion with other kinds of scrap. Slag taken out at intervals which has immediate cooling tendency.

When solid scraps become liquid, first batch sample from molten metal sent to laboratory for chemical analysis. This analysis determines the presence and percentage of various elements in metal such as carbon, manganese, silicon, sulfur, phosphorous etc. After completion of analysis and the molten metal raised in a certain level inside crucible, calculated quantity of ferro alloys like ferro manganese (FeMn), ferro silicon (Fe Si), silico manganese (SiMn) added primarily with molten metal. All addition must be completed at least half an hour before tapping the heat in order to permit them become thoroughly mixed with the metal.

During the last part of the process, removal of the inherent gases and nonmetallic impurities remaining in the metal to raise to the slag (A fused mass formed by the action of the flux on the gangue of the scrap and ore is known as slag produce in oxidation and desulfurization periods). Pieces of aluminum also added as deoxidizer.

Temperature measured by a pyrometer. If it indicate the desired temperature (1600°C - 1620°C) it means that the metal is ready for tapping. The molten metal is tapped from the furnace to a pre-heated ladle and then carried by the overhead crane to Continuous casting machine after homogenizing done through nitrogen or argon gases in ladle. After placing the ladle in pouring position, temperature measured again, once 1580 deg C achieved, metal taken out through slide gate system in ladle to Tundish (liquid metal holder lined with special refractory for handling high temperature for more time) then into water cooled copper mold. The bottom of this mold is sealed in the beginning by means of a dummy billet. As soon

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

as the mold full, the dummy billet is withdrawn and as the casting proceeds, the desired height of liquid metal in the mold is maintained by adjusting the pouring speed and rate of withdrawal.

The billet coming out of the bottom of the mold is passed through another cooling chamber, which is sprayed with water to aid in complete solidification of steel. The billet then passes through the withdrawal rolls and the continuously cast billet is then cut into desired length.

An external inspection and chemical analysis taken place by our quality department soon after the billets are somewhat cooling down, if no obvious defects are apparent and the chemical analysis establish the desired grade, at this point the solid billet temperature is around 1000 to 1040 deg C taken through metal conveyors to the roughing mill of re-rolling mill.

Quenching & Self Tempering:

After finishing in the last stand, the material is passed through a quenching box where pressurized water with the required flow is used for sudden quenching of the periphery of the bar from 1020° to around 600°C. Then the material is transferred to the cooling bed for cooling in atmospheric air. Due to sudden quenching near the periphery the core remains hot, which transfers heat towards the periphery of the bar on the cooling bed for self-tempering of the hardened periphery of the bar. Due to this process a hardened structure is formed near the periphery which is called as tempered Marten site & the core is having ferrite – pearlite structure i.e., the core remains hot and austenitic. This structure increases the strength & the elongation of the bar. The above process is called as 'Quenching & Self Tempering' (QST) Process.

Atmospheric Cooling:

This takes place on the cooling bed, where the austenitic core is transformed into a ductile ferrite-pearlite structure. Thus the final structure consists of an optimum combination of strong outer layer (tempered marten site) with a ductile core (ferrite-pearlite). This gives Steel Rods and Bars a unique combination of high strength and ductility.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

STEEL RODS AND BARS OR QST BARS:

After this process the finished product which are called as Steel Rods and Bars or QST Bars, is cut in required length & sent to the Yard where the Finished bars are bundled, bended & kept in lots with tags ready for dispatch.

Handling of Slag:

Process slag taken during melting is filled in a box, due to its speed cooling , it forms like a rectangular block with high brittleness, transferred to slag yard. Then it processed in slag crusher where iron is separated if any. The crushed slag is used in buildings as space filler due to light weight. Powder slag or particles collected from scrubber and machine is used as slag thickener during melting which gives easy working.

Steel Slag – Material Description:

Steel slag, a by-product of steel making, is produced during the separation of the molten steel from impurities in steel-making furnaces. The slag occurs as a molten liquid melt and is a complex solution of silicates and oxides that solidifies upon cooling. There are several different types of steel slag produced during the steel-making process. These different types are referred to as furnace or tap slag, raker slag, synthetic or ladle slags, and pit or cleanout slag. Following figure presents a diagram of the general flow and production of different slags in a modern steel plant.

The steel slag produced during the primary stage of steel production is referred to as furnace slag or tap slag. This is the major source of steel slag aggregate. After being tapped from the furnace, the molten steel is transferred in a ladle for further refining to remove additional impurities still contained within the steel. This operation is called ladle refining because it is completed within the transfer ladle. During ladle refining, additional steel slags are generated by again adding fluxes to the ladle to melt. These slags are combined with any carryover of furnace slag and assist in absorbing deoxidation products (inclusions), heat insulation, and protection of ladle

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

refractories. The steel slags produced at this stage of steel making are generally referred to as raker and ladle slags.

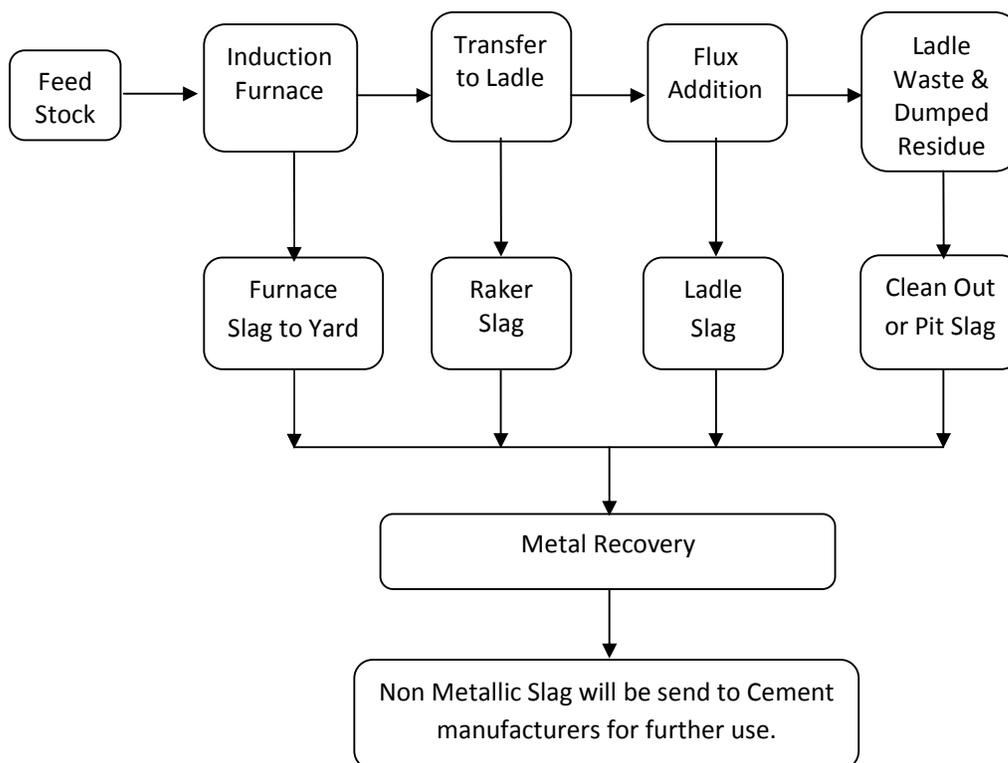
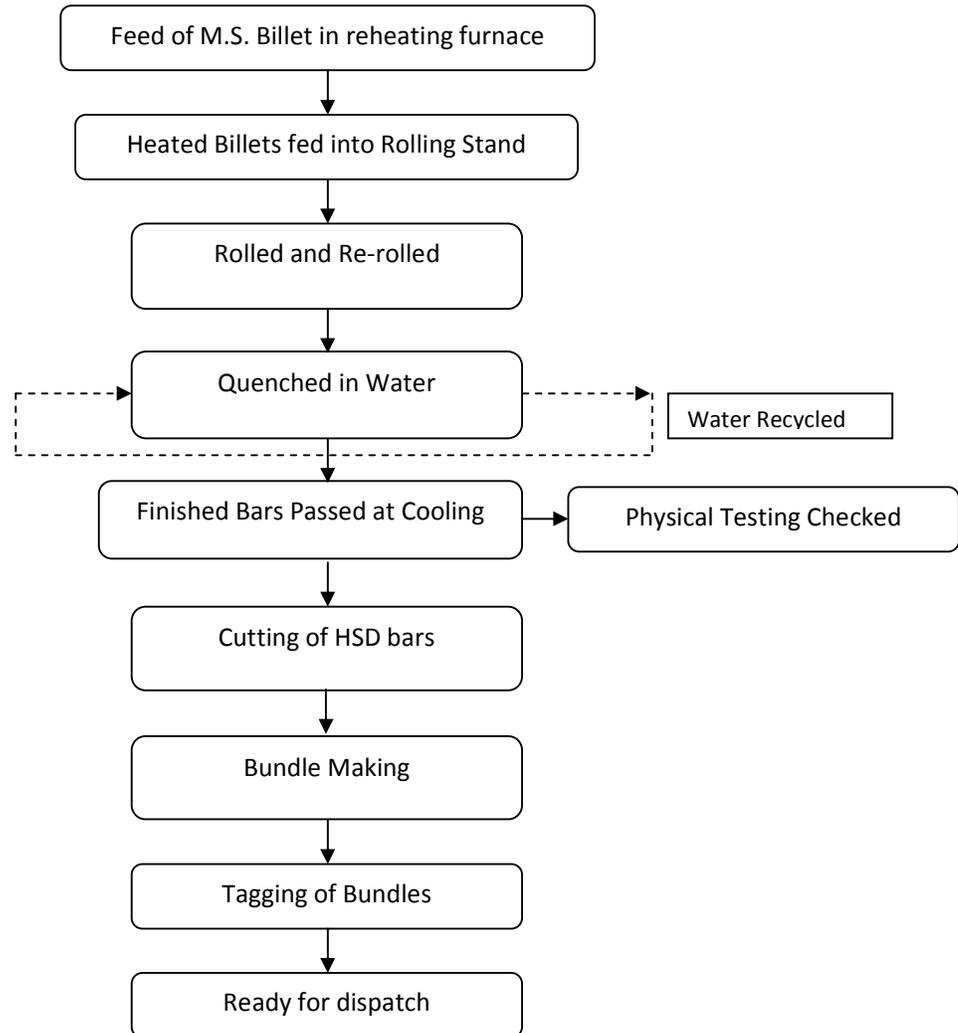


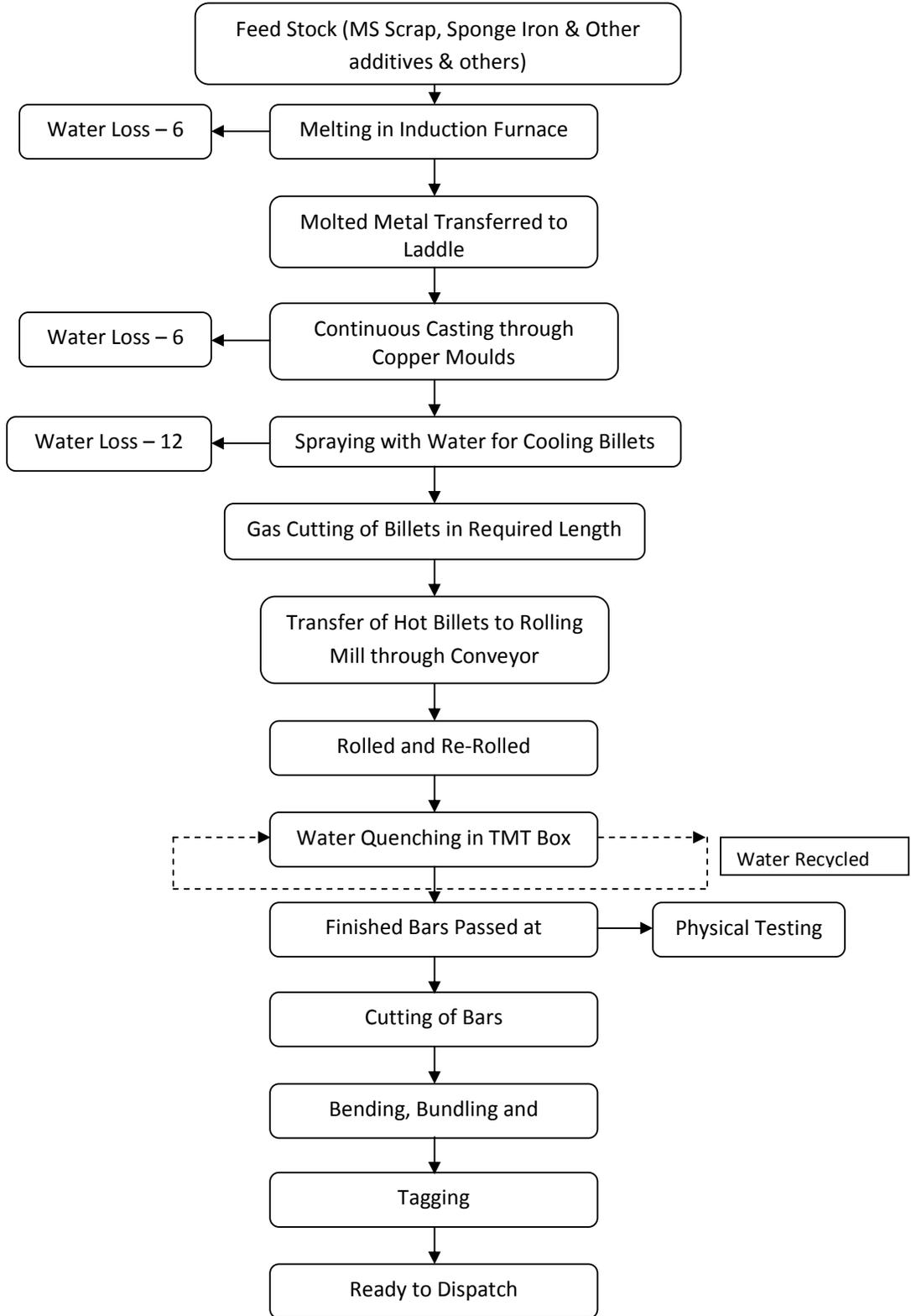
Fig 2.11: Schematic of Billet Production Process

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

STEEL RODS AND BARS PROCESS FLOW CHART – EXISTING



PROPOSED PROCESS FLOW CHART OF M.S. BILLET → TMT BARS



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.11 OVERVIEW OF SLAG PRODUCTION IN MODERN INTEGRATED STEEL PLANT

Pit slag and clean out slag are other types of slag commonly found in steel-making operations. They usually consist of the steel slag that falls on the floor of the plant at various stages of operation, or slag that is removed from the ladle after tapping.

Because the ladle refining stage usually involves comparatively high flux additions, the properties of these synthetic slags are quite different from those of the furnace slag and are generally unsuitable for processing as steel slag aggregates. These different slags must be segregated from furnace slag to avoid contamination of the slag aggregate produced. In addition to slag recovery, the liquid furnace slag and ladle slags are generally processed to recover the ferrous metals. This metals recovery operation (using magnetic separator on conveyor and/or crane electromagnet) is important to the steelmaker as the metals can then be reused within the steel plant as furnace feed material for production.

DISPOSAL

While most of the furnace slag is recycled for use as an aggregate, excess steel slag from other operations (raker, ladle, clean out, or pit slag) is usually sent to cement manufacturers.

MARKET SOURCES

Steel slag can normally be obtained from slag processors who collect the slag from steel-making facilities. Slag processors may handle a variety of materials such as steel slag, ladle slag, pit slag, and used refractory material to recover steel metalics. These materials must be source separated, and well-defined handling practices must be in place to avoid contamination of the steel slag aggregate. The slag processor must also be aware of the general aggregate requirements of the end user. The processing of steel slags for metals recovery is not only important to remove excess steel at the market source for reuse at the steel plant, but is also important to facilitate the use of the nonmetallic steel slag as construction aggregate. This

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

nonmetallic slag will be send to Cement manufacturers for further use. Commitment letter will be obtained from local cement industries before getting EC.

HIGHWAY USES AND PROCESSING REQUIREMENTS

Asphalt Concrete Aggregate, Granular Base, and Embankment or Fill

The use of steel slag as an aggregate is considered a standard practice in many jurisdictions, with applications that include its use in granular base, embankments, engineered fill, highway shoulders, and hot mix asphalt pavement Prior to its use as a construction aggregate material, steel slag must be crushed and screened to meet the specified gradation requirements for the particular application.

MATERIAL PROPERTIES OF STEEL SLAG

Physical Properties

Steel slag aggregates are highly angular in shape and have rough surface texture. They have high bulk specific gravity and moderate water absorption (less than 3 percent). Table 18-1 lists some typical physical properties of steel slag.

Physical Properties of Slag

Property	Value
Specific Gravity >	3.2 - 3.6
Unit Weight, kg/m ³	1600 - 1920
Absorption	up to 3%

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

Chemical Properties

The chemical composition of slag is usually expressed in terms of simple oxides calculated from elemental analysis determined by x-ray fluorescence. Undernoted table lists the range of compounds present in steel slag from a typical base oxygen furnace. Virtually all steel slags fall within these chemical ranges but not all steel slags are suitable as aggregates. Of more importance is the mineralogical form of the slag, which is highly dependent on the rate of slag cooling in the steel-making process.

Chemical Composition of Steel slag

S.No.	Constituent	Composition (%)
1	CaO	40 – 52
2	SiO ₂	10 – 19
3	FeO	10 – 40 (70 - 80% FeO, 20 - 30% Fe ₂ O ₃)
4	MnO	5 – 8
5	MgO	5 – 10
6	Al ₂ O ₃	1 – 3
7	P ₂ O ₅	0.5 – 1
8	S	< 0.1
9	Metallic Fe	0.5 – 10

Mechanical Properties

Processed steel slag has favorable mechanical properties for aggregate use, including good abrasion resistance, good soundness characteristics, and high bearing strength.

Thermal Properties

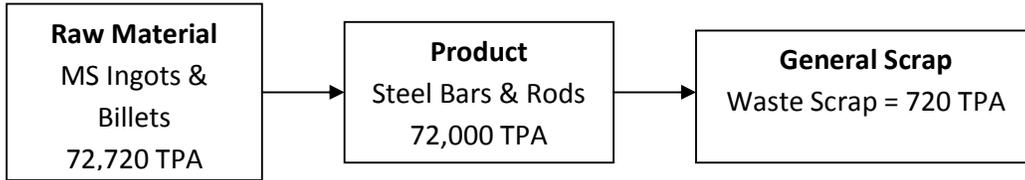
Due to their high heat capacity, steel slag aggregates have been observed to retain heat considerably longer than conventional natural aggregates. The heat retention characteristics of steel slag aggregates can be advantageous in hot mix asphalt repair work in cold weather.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.12 MATERIAL BALANCE CHART

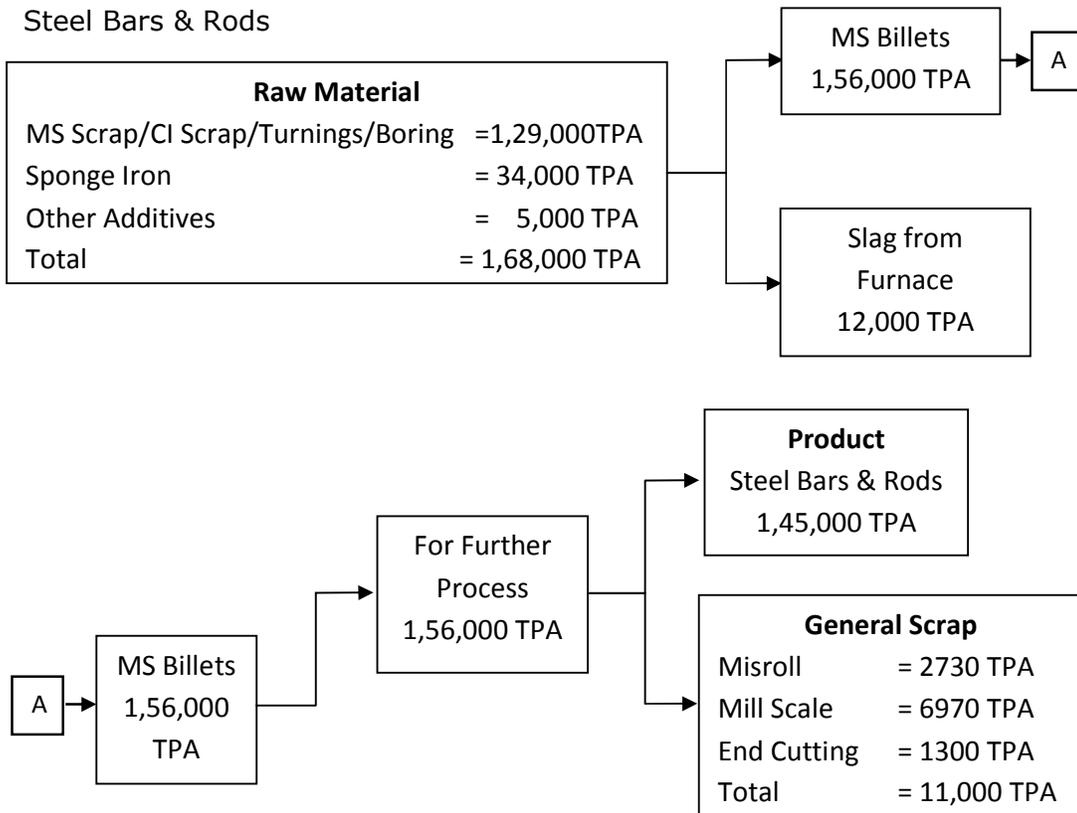
2.12.1 EXISTING ACTIVITY

STEEL BARS & RODS



2.12.2 PROPOSED EXPANSION ACTIVITY

Steel Bars & Rods



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.13 SOURCE OF WATER AND POWER REQUIREMENT

The total raw water required for the unit will be around 56.0 KLD. The entire raw water for the unit is to be met from local panchayat water. The existing power consumption is 3000 KVA with a standby diesel generator of capacity 200 KVA. The total power requirement of this unit after expansion will be 22000 KVA. During shutdown/maintenance power will be drawn from diesel generator for the capacity of 500 x 2 KVA (high speed diesel of 90 L/hr for full capacity load for diesel generator). The required power supply for the unit is met from **TNEB**.

2.14 MANPOWER REQUIREMENT

Purpose	Existing	Expansion	Total After Expansion
Manpower	75	387	462

2.15 WATER REQUIREMENT DETAILS

Purpose	Existing (m ³ /day)	Expansion (m ³ /day)	Total After Expansion (m ³ /day)
A. Process	10	30	40
B. Domestic	05	11	16
Total	15	41	56

2.16 WATER BALANCE CHART FOR EXISTING AND AFTER EXPANSION

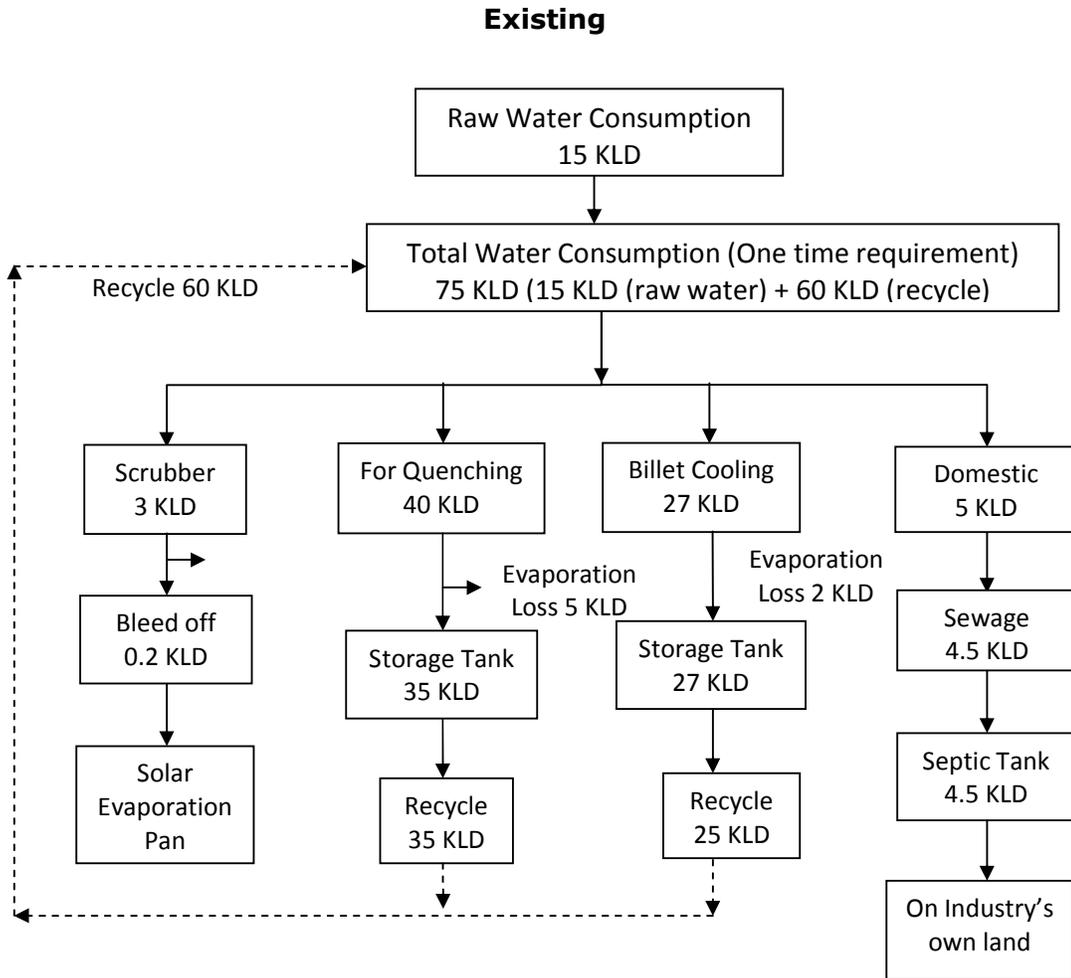


Fig 2.14: Existing water balance chart

After Expansion

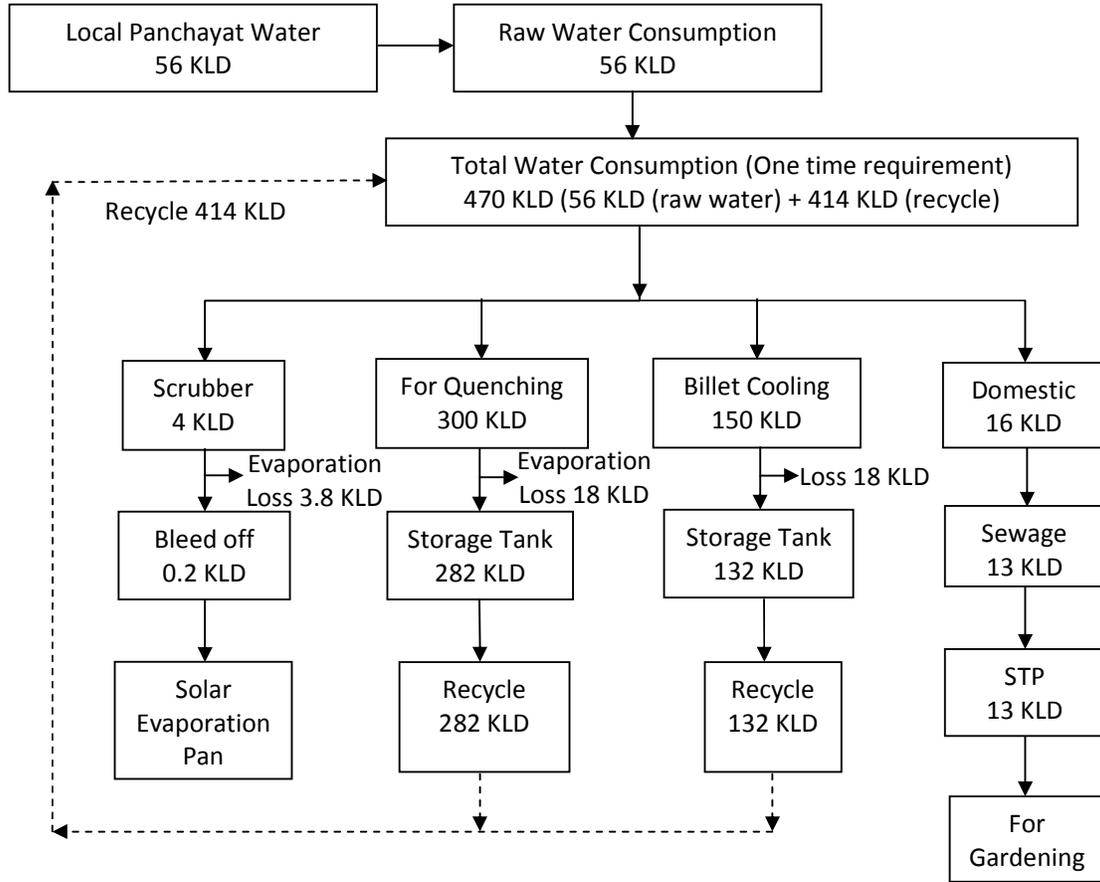


Fig 2.15: Water balance chart for after expansion

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.17 WASTE WATER GENERATION AND METHOD OF TREATMENT

2.17.1 WASTE WATER GENERATION

Waste water	Existing (KLD)	After Expansion (KLD)	Mode of disposal	
			Existing	After Expansion
Sewage	4.5	13.0	Disposed off to Septic tank and dispersion and further on industry's own land.	Treated by the sewage treatment plant of capacity 15 KLD and the treated sewage will be used for gardening.
Trade Effluent - scrubber bleed off	0.2	0.2 (No trade effluent generation in the expansion phase. Since, dry scrubber will be used.)	Disposed through existing solar evaporation pan of adequate area.	Disposed through existing solar evaporation pan of adequate area.

2.17.2 DESIGN DETAILS FOR SEWAGE TREATMENT PLANT

FLOW RATE LOGISTICS:

Design capacity: 15 KLD
 Operating Hours: 20 hrs
 Average Flow Rate: 0.75 m³/hr

QUALITY LOGISTICS:

S.No	Description	Unit	Inlet	Outlet	Standards
1	pH	-	6 - 8	6.5 - 7.5	5.5 - 9
2	TSS	mg/l	150 - 250	<20	< 30
3	BOD	mg/l	300 - 350	< 10	<20
4	COD	Mg/l	400 - 500	< 100	< 250
5	Oil & Grease	Mg/l	75 - 100	< 5	< 10

BAR SCREEN CHAMBER

Bar Screen Size - 1.5 m x 0.6 m x 1.2 m TH
 Volume of Bar Screen Chamber V - 1.08 cum
 Flow Rate Q - 1.0 cum/hr
 Retention time T - V / Q
 - 1.08/ 1.0
 - 1.08 hrs

Standard retention hrs for Bar screen Chamber is 15 mins - 20 mins

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

COLLECTION TANK

Size of collection tank	- 1.8 m x 1.8 m x 2.5 m +1.6 M FB
Volume of Collection tank V	- 7.5 cum
Flow rate Q	- 0.75 cum/hr
Retention time T	- $V / T = 7.5 / 7.5 = 10$ hrs
Standard retention time for Collection tank is 8 – 10 hrs.	

AERATION TANK

Size of Aeration tank	- 2.0 mx2.0 mx3.5 m SWD+ 0.5m fb
Volume of Aeration tank V	- 15.0 cum
Flow rate Q	- 0.75 cum/hr
Volume of the Aeration Tank Required	- BOD Load/ (F/M * MLVSS)
BOD Load	- 4.5 Kg of BOD per day
MLVSS	- 80% of MLSS
MLSS	- 3500 – 4000 PPM
F/M Ratio	- 0.1 to 0.15
Hence required volume of the Aeration tank: $(4.5 / (3 * 0.1)) = 15.0$ KLD	
The available volume of the Tank: 15.0 KLD	

AIR BLOWER

Assume O ₂ requirement	- 2 kg of O ₂ / 1 kg of BOD
	- 1kg of BOD / 2 kg of O ₂
Assume BOD for sewage	- 300 mg/l = 0.3 kg/m ³
BOD Load	- 15 x 0.30 = 4.5 kg of BOD/day
O ₂ requirement	- 4.5 x 2 = 9.0 kg of O ₂ /day
Oxygen transfer @ 16% of SOTR	- $9.0 / (0.16 \times 0.23 \times 0.65 \times 0.95)$
	- $9.0 / 0.023 = 391$
$\alpha = 0.65$; $\beta = 0.95$	
Density = 1.2 => 391/ 1.2	- 326 m ³ /day
Air requirement	- 326/ 24 = 13.5 m ³ /hr

SECONDARY CLARIFIER TANK

Size	:	1.5 x 1.5 m x 2.5 m TH
Depth	:	2.0m
Surface loading rate	:	0.3 to 0.35 cu.m/hr
Capacity	:	4.5 KLD

Normal retention time in secondary settling tank will be 3-4 hours. (There is no reduction in the secondary settling tank, since it functions only for settling of bio sludge generated in the aeration tank and separation of solids and liquid)

FILTER FEED TANK

Size of the Filter feed tank	- 1.2 m x 1.2 m x 2.5 m
Volume of Filter Feed tank V	- 2.8 cum
Flow rate Q	- 0.75 cum/hr
Retention time T	- $V / T = 2.8 / 0.75 = 3.8$ hrs
Standard retention time for Filter Feed tank is 2 – 3 hrs	

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

PRESSURE SAND FILTER:

Flow rate Q	:	0.75 cum/hr
Filtration rate for PSF (V)	:	8 m ³ /m ² hr
Q	:	A x V
A	:	0.75 / 8 = 0.094 sq.m
D ²	:	0.094 x 4 / 3.14 = 0.119
D	:	0.34 m

The Size vessel required is 400 mm dia x 1.5 m TH

ACTIVATED CARBON FILTER

Flow rate Q	:	0.75 cum/hr
Filtration rate for ACF (V)	:	8 m ³ /m ² hr
Q	:	A x V
A	:	0.75 / 8 = 0.094 sq.m
D ²	:	0.094 x 4 / 3.14 = 0.119
D	:	0.34 m

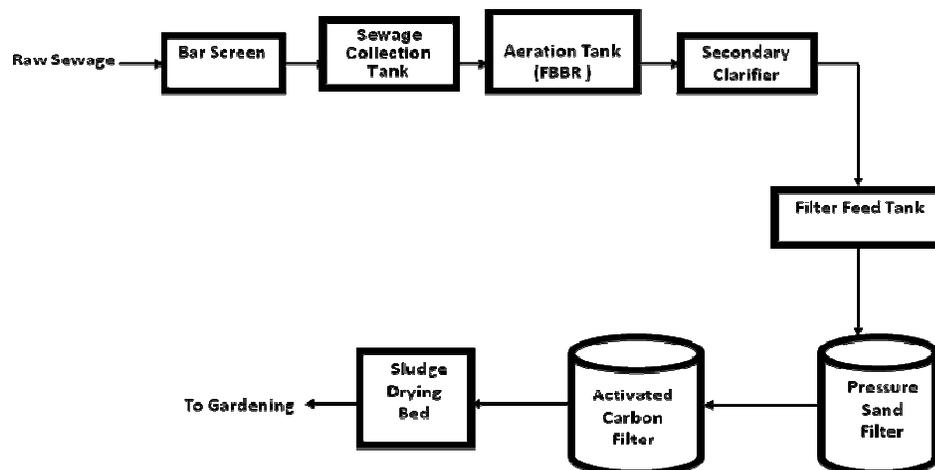
The Size of the Vessel Required: 0.4 M Dia X 2.0 M HOS

SLUDGE DRYING BED

Size of Sludge drying bed	-	2.0m x 2.0m x 1.0m
Plant Capacity	-	15 KLD
Inlet TSS	-	250 mg/l
Outlet TSS	-	20 mg/l
Sludge Produced per day	-	[(250 - 20) x 15000] / (1000 x 1000)
	-	3.45 kg/day
Standard Drying Rate	-	5 Kgs/Sqm
Area required	-	0.69 sq.m / day
Area of bed provided	-	2.0m x 2.0m x 1.0 m TH X 3 Nos
	-	12.0 sq.m

We have taken higher area in Sludge drying bed.

SEWAGE TREATMENT PLANT FLOW CHART (15KL CAPACITY)



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

DETAILS OF SOLAR EVAPORATION PAN

The unit has a solar evaporation pan of dimensions 13.0 x 4.5 x 0.3 covering an area of 58.5 sq.m.

2.18 SOLID WASTE GENERATION

2.18.1 GENERAL SCRAP

S.No.	Solid Wastes	Quantity (T/A)		Method of Disposal	
		Existing	After Expansion	Existing	After Expansion
1	Waste Scrap	720	--	Sold Out	--
2	End Cutting	--	1,300	--	Re-Used in Steel Melting Furnace
3	Misroll	--	2,730		
4	Mill Scale	--	6,970		
	Total	720	11,000		

2.18.2 OTHER SOLID & HAZARDOUS WASTE

S.No.	Solid Wastes	Quantity (T/A)		Method of Disposal	
		Existing	After Expansion		
1	STP Sludge	NIL	0.5	Used as manure	Used as manure
2	Dust from Dry Scrubber	NIL	0.01	Reused in the melting furnace	For slag thickening
Hazardous Wastes					
1	Solar Evaporation Pan Residues	0.015	0.015	Stored in the MS Drums inside the closed shed	Will be disposed off through TNWML
2	Slag from Furnace	NIL	12,000	Collected and stored inside the premises.	Will be sent to cement industries for further beneficial use.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 2

2.19 SOURCE OF EMISSION AND AIR POLLUTION CONTROL MEASURES

Existing

Stack No.	Sources of Emission	Details of APC measures
1	Re-heating furnace 18 TPH – 1 No.	Wet scrubber with stack height of 30 m
2	DG set 200 KVA – 1 No.	Stack height of 5.5 m from ground level has been provided. After Expansion existing stack height will be increased to 10.5 m with acoustic enclosures.

After Expansion

Stack No.	Sources of Emission	Details of APC measures
1	Re-heating furnace 18 TPH – 1 No.	Wet scrubber with stack height of 30 m
2	DG set 200 KVA – 1 No.	Stack height of 5.5m from ground level has been provided. After Expansion existing stack height will be increased to 10.5 m with acoustic enclosures.
3	Induction Furnace 25 TPH – 2 Nos. 30 TPH – 1 No.	Dry scrubber is proposed to be installed to control the emissions from the furnace. Common stack of 40 m height with 1.25 m dia, bag filters and solenoid valve for the induction furnace.
4	DG set 500 KVA – 2 Nos.	Stack height of 10.0 m will be provided for each with acoustic enclosures.

2.19.1 NOISE POLLUTION

The major sources of noise in the plant are blowers, compressor, furnace operation, DG set etc., Several noise suppression and attenuation features shall be designed into the plant for the protection of personnel at all normally accessible locations within the plant boundary, both inside and outside the plant and for the protection of the inhabitants living in the vicinity of the plant.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

- Noise Level Measurements at 8 Locations for both Leq-Day and Leq-Night values.
- Water Quality-both Surfaces Waters (2 Locations) and Ground Waters (6 Locations) for IS: 10500 Norms.
- Soil Quality (8 Locations) for Textural & Physical Parameters, Nutrients, etc.
- Present & Post-project Land Use Pattern based on Satellite Imagery.
- Biotic Attributes: Flora & Fauna -Core zone & Buffer zone-Diversity Index.
- Socio-Economic Profile (2011 Census): Total Population, Household Size, Age, Gender Composition, SC/ST, Literacy Level, Occupational Structure, etc.

3.15 SAMPLING LOCATIONS

Locations of sampling stations for micrometeorology, air, noise, and water and soil quality are presented in Fig 3.4 - 3.7 respectively.

3.16 MICROMETEOROLOGY

As a part of the study, the micrometeorology and microclimatic parameters were recorded by installing a weather monitoring station in the Plant site at 9 m height. Data of wind velocity, wind direction, ambient temperature, relative humidity, cloud cover and atmospheric pressure were recorded at hourly intervals along with rainfall for 24 hours throughout the monitoring period.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Micrometeorological Data (On Project Area)
Meteorological Data-Project Site for the Month of April 2015

Date	Temperature (°C)	Wind Direction	Wind Velocity (m/s)	Relative Humidity
01-04-2015	33	130	2	72
02-04-2015	33.4	225	3	79
03-04-2015	35	180	4	78
04-04-2015	34.8	220	3	67
05-04-2015	36.1	215	2	61
06-04-2015	36.5	210	3	60
07-04-2015	35.4	225	4	74
08-04-2015	35.5	130	3	70
09-04-2015	34.3	205	3	72
10-04-2015	35	210	3	71
11-04-2015	35	230	3	64
12-04-2015	34.4	270	2	73
13-04-2015	29	250	3	75
14-04-2015	28.3	240	2	79
15-04-2015	30.5	245	2	91
16-04-2015	29.3	195	1	88
17-04-2015	30.5	205	2	78
18-04-2015	30.5	215	2	71
19-04-2015	31.3	220	1	70
20-04-2015	32.3	230	2	76
21-04-2015	31.7	235	2	69
22-04-2015	32.3	240	3	71
23-04-2015	33.5	245	3	79
24-04-2015	31.9	240	3	71
25-04-2015	33.4	235	2	83
26-04-2015	31.3	230	2	74
27-04-2015	30.8	230	1	87
28-04-2015	31.1	235	3	84
29-04-2015	32.6	240	3	84
30-04-2015	33	230	3	71

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Micrometeorological Data (On Project Area)
Meteorological Data-Project Site for the Month of May 2015

Date	Temperature (°C)	Wind Direction	Wind Velocity (m/s)	Relative Humidity
01-05-2015	33.4	220	3	70
02-05-2015	33.8	230	3	79
03-05-2015	33.3	225	4	77
04-05-2015	32	235	2	84
05-05-2015	31.1	240	2	74
06-05-2015	31.5	230	2	78
07-05-2015	30.7	225	2	75
08-05-2015	31.7	235	3	75
09-05-2015	33.4	240	3	75
10-05-2015	33.1	235	3	77
11-05-2015	31.2	215	2	76
12-05-2015	31.5	210	3	76
13-05-2015	32	220	1	83
14-05-2015	28.5	215	1	80
15-05-2015	29.6	230	2	82
16-05-2015	31.2	205	2	78
17-05-2015	30.1	210	2	89
18-05-2015	29.6	235	4	90
19-05-2015	31.2	220	2	76
20-05-2015	32	225	4	85
21-05-2015	33	230	6	81
22-05-2015	32	225	7	84
23-05-2015	32	240	7	79
24-05-2015	31.1	235	6	82
25-05-2015	33.3	230	6	80
26-05-2015	33	220	6	77
27-05-2015	32.2	225	6	79
28-05-2015	29.8	235	5	88
29-05-2015	28.2	240	3	84
30-05-2015	32.4	230	5	71
31-05-2015	32.2	315	4	81

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Micrometeorological Data (On Project Area)
Meteorological Data-Project Site for the Month of June 2015

Date	Temperature (°C)	Wind Direction	Wind Velocity (m/s)	Relative Humidity
01-06-2015	32.5	225	5	86
02-06-2015	31	215	4	82
03-06-2015	28.6	210	3	79
04-06-2015	30.5	215	3	78
05-06-2015	29.4	230	2	96
06-06-2015	30.6	235	4	81
07-06-2015	32	220	5	68
08-06-2015	31.2	235	7	79
09-06-2015	31.2	250	6	80
10-06-2015	30.7	245	6	85
11-06-2015	32	230	5	88
12-06-2015	31.4	215	6	86
13-06-2015	28.9	210	5	86
14-06-2015	29.7	220	6	91
15-06-2015	27.2	225	13	83
16-06-2015	29	235	6	88
17-06-2015	28.3	230	6	81
18-06-2015	27.2	250	7	84
19-06-2015	27.4	215	7	86
20-06-2015	26.4	230	7	91
21-06-2015	28.3	205	8	93
22-06-2015	25.7	220	8	85
23-06-2015	28.7	240	9	86
24-06-2015	28.2	225	10	86
25-06-2015	30.3	180	9	83
26-06-2015	30.6	220	9	86
27-06-2015	27.4	225	8	83
28-06-2015	29	220	8	83
29-06-2015	30.4	215	7	83
30-06-2015	32	225	5	88

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

3.16.1 TEMPERATURE

The average daily maximum and minimum temperature for each of the 12 months for the period of 2011-2014 recorded at Dharmapuri District has been furnished in the Table 3.2. July is the hottest month with maximum temperature of 41⁰C. January is the coolest month with minimum temperature of 11.9⁰C.

3.16.2 RAINFALL

The rainfall data collected for the period from 2011-2014 are presented in Table 3.2. While the predominant rainy season is the north-east monsoon (Oct – Dec). The region is also influenced to some extent by south-west monsoon (June - Sep). While maximum rainfall of 301 mm is received during the month of October 2014, the minimum of traces is received during June (1.0 mm). Monthly average rain fall & yearly average rainfall are shown in Table 3.2.

3.16.3 WIND SPEED

The minimum wind speed was 1 km/h and the maximum average speed was 13 km/h. The Pasquill stability class for wind speed is given in Table 3.1.

Table 3.1 Pasquill Stability Class

Surface Wind Speed (m/s) (at 10m)	Day			Night	
	Incoming Solar Radiation				
	Strong	Moderate	Slight	Thinly overcast or $\geq 4/8$ low cloud	$\leq 3/8$ cloud
< 2	A	A-B	B	E	F
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C-D	D	D	D
> 6	C	D	D	D	D

Note: A = extremely unstable, B = moderately unstable, C = slightly unstable, D = neutral, E = slightly stable, F = moderately stable. Neutral class D should be assumed for overcast conditions during day or night.

Fig.3.1. Wind Rose for April 2015

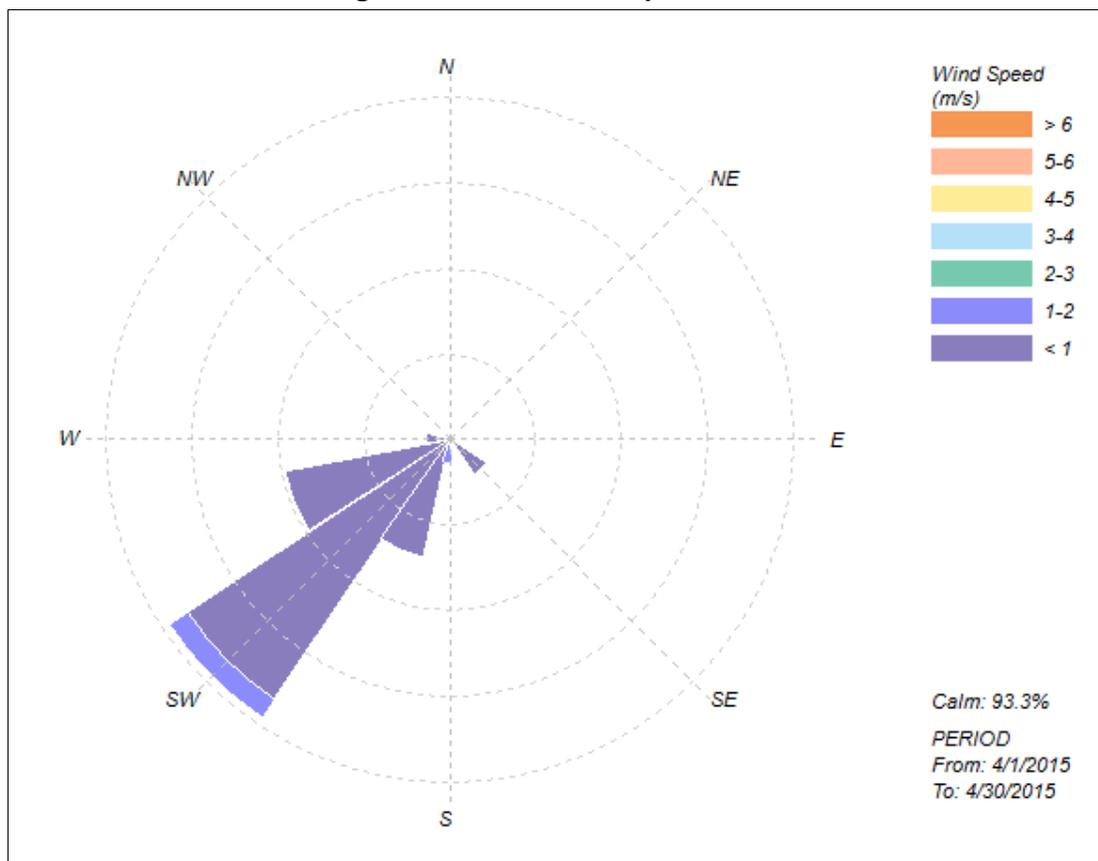


Fig.3.2. Wind Rose for May 2015

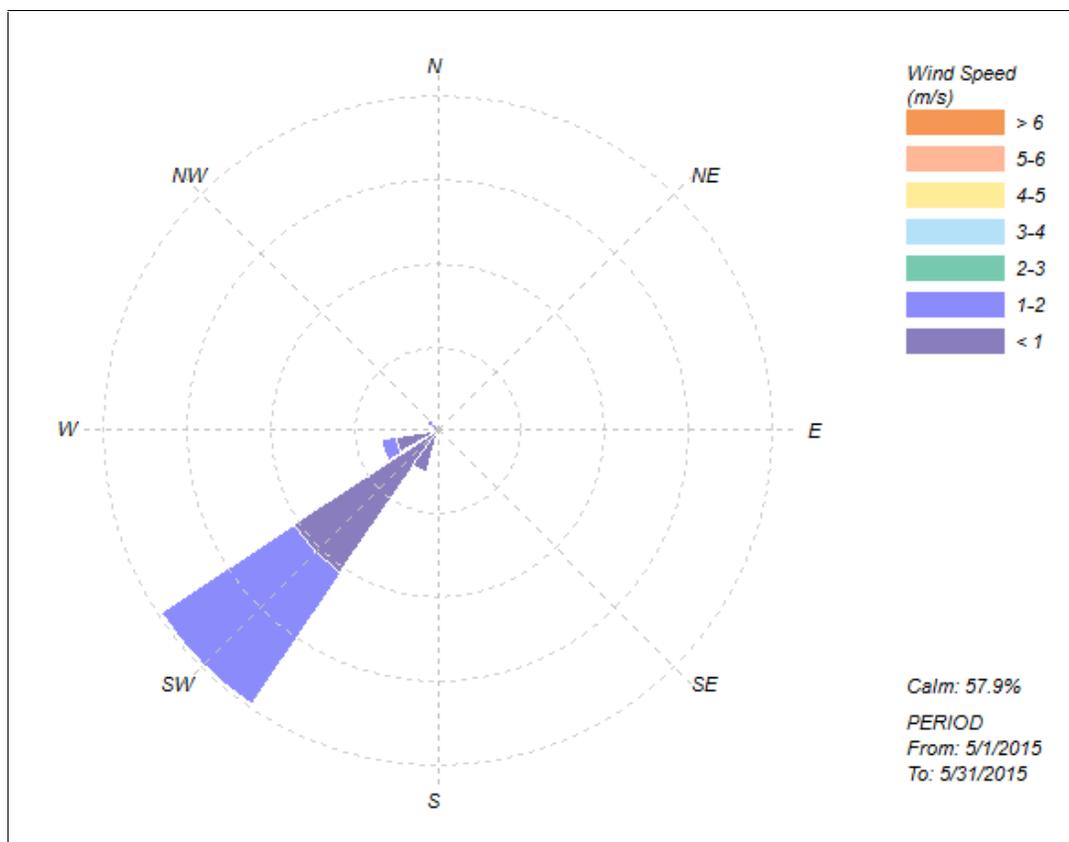
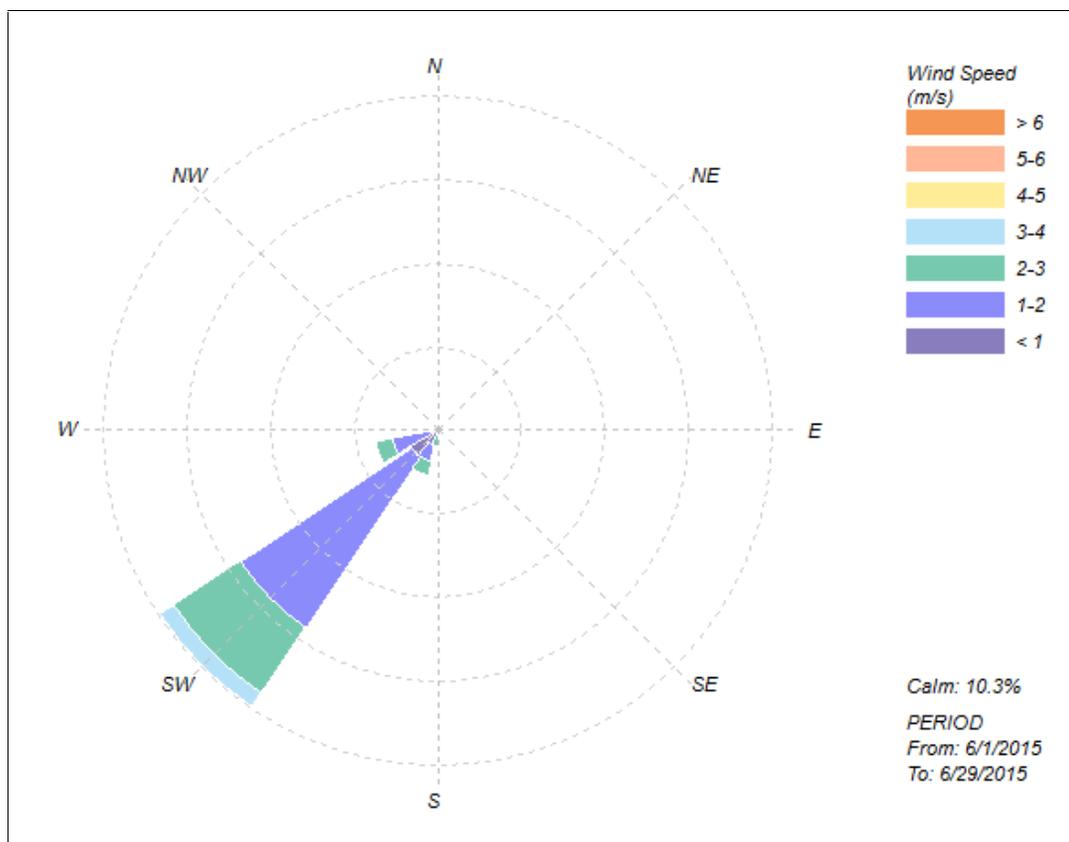


Fig.3.3. Wind Rose for June 2015



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Table 3.2 Meteorological Data

Station: Dharmapuri

Period : 2011- 2014

INDIA METEOROLOGICAL DEPARTMENT												
STATION: DHARMAPURI												
PERIOD: JANUARY 2011 TO DECEMBER 2014												
1. ELEMENT: MONTHLY MEAN MAXIMUM TEMPERATURE (DEG C)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	29.2	31.3	34.8	35.3	34.7	33.3	33.6	32.0	32.3	31.5	28.4	28.4
2012	29.3	32.5	36.2	37.0	36.0	35.2	33.2	32.7	33.1	30.0	30.2	29.5
2013	31.4	32.5	35.8	37.8	37.8	33.3	33.0	33.5	31.7	31.8	29.7	29.0
2014	28.8	32.7	35.5	38.6	36.7	34.9	33.5	33.5	33.6	31.2	28.9	28.1
2. ELEMENT: MONTHLY HIGHEST MAXIMUM TEMPERATURE (DEG C)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	31.1	33.5	37.2	37.8	39.9	35.5	41.0	36.0	35.0	34.0	30.8	31.0
2012	31.0	36.4	37.9	39.2	39.1	39.0	36.4	35.6	36	34.5	33.0	32.4
2013	33.3	35.2	38.7	39.8	40.5	35.0	35.1	36.1	35.5	34.8	32.2	32.0
2014	32.0	34.7	39.5	40.2	39.2	38.0	35.8	36.0	35.5	34.7	32.0	31.3
3. ELEMENT: MONTHLY MEAN MINIMUM TEMPERATURE (DEG C)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	17.4	18.2	20.2	23.0	24.0	24.0	23.4	26.0	23.0	22.0	20.0	18.0
2012	17.0	17.6	19.8	23.7	24.2	23.9	22.7	22.0	21.8	20.0	18.2	17.6
2013	16.6	18.0	20.0	23.5	23.2	22.1	21.6	21.3	20.0	20.0	19.5	17.7
2014	17.2	18.4	20.0	24.0	23.6	23.6	23.2	22.5	22.2	21.3	18.7	18.4
4. ELEMENT: MONTHLY LOWEST MINIMUM TEMPERATURE (DEG C)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	13.9	13.0	15.4	21.1	21.1	21.8	22.2	22.0	20.6	20.8	15.1	13.2
2012	11.9	14.0	16.2	19.7	21.0	22.0	21.0	21.0	20.0	14.2	13.3	14.5
2013	12.9	14.0	15.9	20.5	18.2	20.5	20.0	19.6	18.6	18.2	16.5	14.5
2014	16.0	13.6	15.5	21.1	19.5	21.0	21.5	21.0	20.5	19.0	15.5	14.7
5. ELEMENT: MONTHLY MEAN R.H. AT 0830 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	79	73	67	72	72	71	70	76	75	84	82	83
2012	83	73	70	67	67	61	70	74	71	83	82	84
2013	79	69	69	65	61	66	67	68	79	80	86	80
2014	79	74	64	59	67	65	62	71	69	84	82	82

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

6. ELEMENT: MONTHLY HIGHEST R.H. AT 0830 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	89	84	93	95	91	96	84	96	90	96	96	96
2012	96	91	91	84	88	78	96	90	88	96	93	98
2013	94	90	88	84	92	87	88	90	96	93	94	96
2014	87	91	83	77	91	84	79	90	90	93	93	96
7. ELEMENT: MONTHLY LOWEST R.H. AT 0830 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	62	51	39	57	58	52	57	61	62	76	60	58
2012	71	38	41	54	53	46	56	59	54	55	65	58
2013	59	51	49	48	45	57	49	39	55	64	67	66
2014	76	55	32	39	50	55	49	39	55	64	67	66
8. ELEMENT: MONTHLY MEAN R.H. AT 1730 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	47	38	25	40	49	53	53	60	59	69	82	58
2012	45	35	29	33	46	43	48	55	50	68	57	56
2013	39	38	30	34	39	9	52	47	64	62	67	53
2014	45	38	30	27	46	44	47	55	52	67	65	64
9. ELEMENT: MONTHLY HIGHEST R.H. AT 1730 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	77	76	45	96	66	88	78	90	92	95	98	93
2012	62	57	64	92	90	95	87	88	88	96	85	93
2013	49	72	59	70	92	71	87	67	93	93	92	77
2014	67	76	53	37	91	65	71	88	91	95	93	97
10. ELEMENT: MONTHLY LOWEST R.H. AT 1730 HRS IST (%)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	29	15	15	18	37	26	37	37	38	48	43	35
2012	21	17	15	18	29	26	32	32	26	37	36	34
2013	29	18	16	22	23	34	33	33	43	32	53	34
2014	33	22	16	16	27	28	34	36	31	39	48	41
11. ELEMENT: MONTHLY TOTAL RAINFALL (MM)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	0.0	0.0	0.0	176	142	20	35	167	26	148	197	23
2012	0.0	0.0	4	25	91	98	97	107	84	227	49	14
2013	0.0	7	0.0	17	190	1.0	15	33	274	131	132	0.0
2014	0.0	4	2	4	166	99	8	56	79	301	20	12

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

12. ELEMENT: MONTHLY HEAVIEST RAINFALL IN 24 HRS. (MM)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	0.0	0.0	0.0	50	47	10	14	65	13	33	45	14
2012	0.0	0.0	4	11	43	55	45	30	38	83	39	6
2013	0.0	7	0.0	9	75	1.0	6	19	65	37	49	0.0
2014	0.0	4	2	4	46	42	6	17	30	70	6	3

13. ELEMENT: NUMBER OF RAINY DAYS [2.5 MM AND ABOVE]												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	0	0	0	8	8	3	4	9	4	10	7	3
2012	0	0	1	3	5	6	4	10	4	11	2	2
2013	0	1	0	2	6	1	2	3	9	7	4	0
2014	0	1	0	1	9	4	1	8	5	13	4	3

14. ELEMENT: MONTHLY MEAN WINDSPEED (KMPH)												
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2011	3	4	4	4	5	7	7	6	5	3	4	4
2012	4	4	4	4	6	8	6	6	5	4	4	4
2013	4	4	4	4	5	7	4	11	5	4	3	4
2014	5	4	4	3	4	6	7	5	5	3	3	4

3.17 AMBIENT AIR QUALITY

The ambient air quality with respect to the study zone of 10 km radius around the project site forms the baseline information. The prime objective of the baseline air quality study was to assess the existing air quality of the area. This will also be useful for assessing the conformity to standards of the ambient air quality during the operation of the proposed project. The study area represents mostly residential environment. This section describes the selection of sampling locations, methodology adopted for sampling, analytical techniques and frequency of sampling. The results of monitoring carried out for study period of April to June 2015.

3.17.1 AMBIENT AIR QUALITY STANDARDS

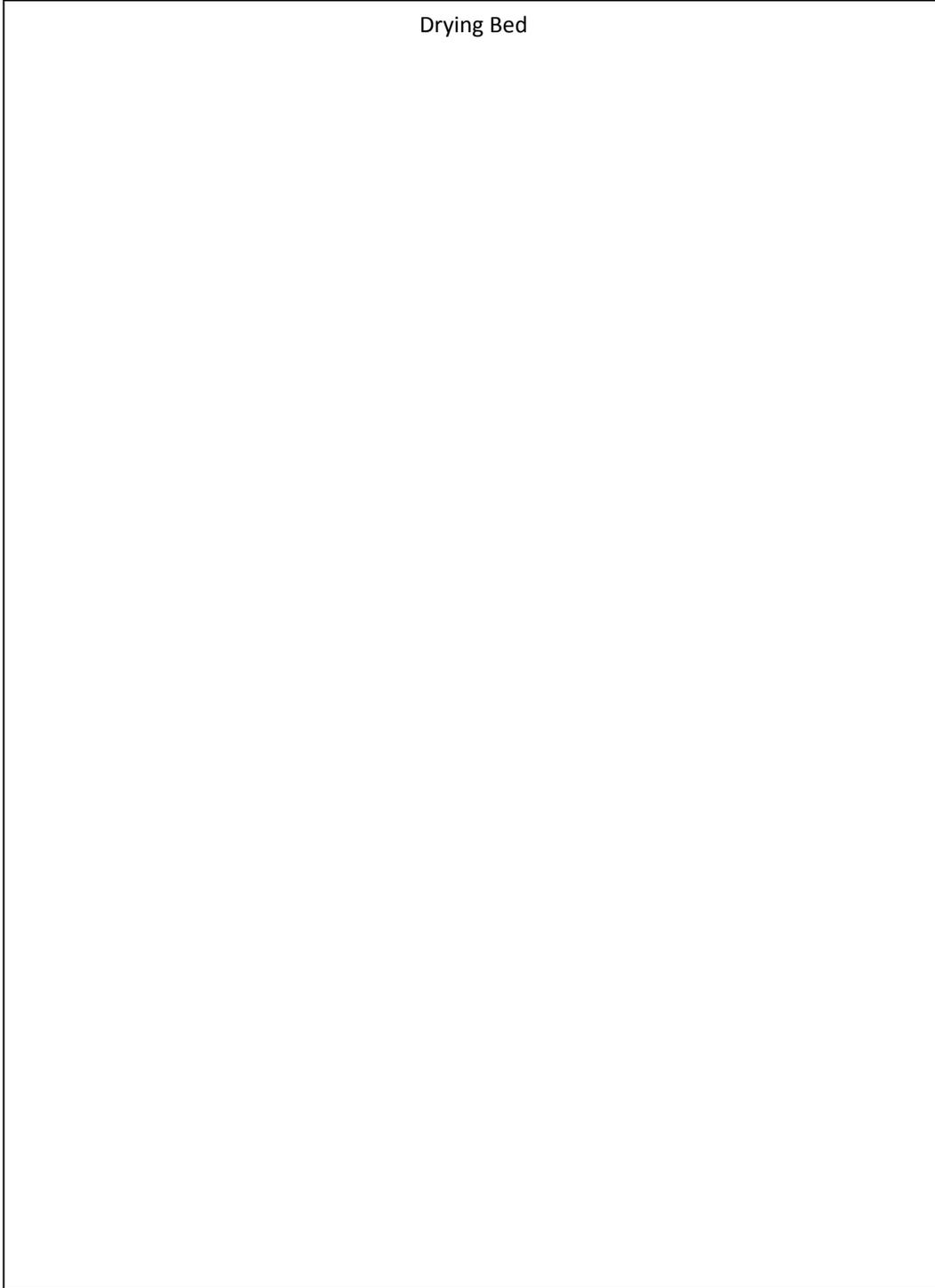
Ambient Air Quality standards has been notified by the MoEF vide Gazette Notification dated 18th November 2009 are presented in Table 3.9.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Table 3.3: National Ambient Air Quality Standards

dge Drying Bed

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

3.17.2 SELECTION OF SAMPLING LOCATIONS

The baseline status of the ambient air quality has been assessed through a scientifically designed ambient air quality monitoring network. The design of monitoring network in the air quality surveillance program has been based on the following considerations:

- Meteorological conditions are synoptic scale
- Topography of the study area
- Representative of regional background air quality for obtaining baseline status
- Representatives of likely impact areas

Ambient Air Quality Monitoring (AAQM) stations were set up at eight locations with due consideration to the above mentioned points. The AAQM locations are depicted in Figure 3.8.

3.17.3 PARTICULATE MATTER (PM₁₀ & PM_{2.5})

The PM₁₀ and PM_{2.5} among the eight sampling stations covering the study region varied from 31 to 58 µg/m³ and 14 to 26 µg/m³ respectively. These results are presented in Table 3.10 and 3.11

3.17.4 SULPHUR DIOXIDE (SO₂)

During the present study SO₂ concentration is from 07 to 18 µg/m³ presented in Table 3.12.

3.17.5 OXIDES OF NITROGEN (NO₂)

Nitrogen dioxide was in the range of 13 to 34 µg/ m³ presented in Table 3.13.

3.17.6 CARBON MONOXIDE (CO)

CO during the present study was below the detectable limit.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Table 3.4–Ambient Air Quality Status (PM₁₀) – (April – June 2015)

Averaging Time: 24 Hrs

Unit: µg/m³

SA. No.	Sampling Station	Bearing	Distance (KM)	Max	Min	Arithmetic Mean	Standard Deviation	98 th Percentile
AAQ1	Project Site	--	--	53	41	50	3.6	53
AAQ2	Chinna Balagondapalli	ENE	4.3	53	46	50	2.8	53
AAQ3	Nangandopalli	ENE	3.8	58	43	48	3.8	58
AAQ4	Muduganapalli	ESE	3.6	51	40	47	3.6	51
AAQ5	Devaganapalli	ESE	4.6	49	38	43	2.7	49
AAQ6	Sathanur	WNW	3.9	41	34	38	2.3	41
AAQ7	Madagondapalli	SSW	3.5	43	31	39	3.7	43
AAQ8	Sarakapalli	S	4.3	47	38	43	3.4	47

* With respect to project site

Permissible limit for industrial, Residential, Rural and other area 100 µg/m³

Table 3.5 – Ambient Air Quality Status (PM_{2.5}) April – June 2015

Averaging Time: 24 Hrs

Unit : µg/m³

SA. No.	Sampling Station	Bearing *	Distance * (KM)	Max	Min	Arithmetic Mean	Standard Deviation	98 th Percentile
AAQ1	Project Site	--	--	26	21	24	1.6	26
AAQ2	Chinna Balagondapalli	ENE	4.3	25	18	23	1.8	25
AAQ3	Nangandopalli	ENE	3.8	23	18	22	1.5	23
AAQ4	Muduganapalli	ESE	3.6	25	18	21	1.8	25
AAQ5	Devaganapalli	ESE	4.6	21	16	19	1.2	21
AAQ6	Sathanur	WNW	3.9	20	15	17	1.4	20
AAQ7	Madagondapalli	SSW	3.5	21	14	18	2.0	21
AAQ8	Sarakapalli	S	4.3	22	16	19	1.8	22

* With respect to project site

Permissible limit for industrial, Residential, Rural and other area 60 µg/m³

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Table 3.6 – Ambient Air Quality Status (SO₂) April – June 2015.

Averaging time: 24 hrs.

Unit : µg/m³

SA. No.	Sampling Station	Bearing *	Distance * (KM)	Max	Min	Arithmetic Mean	Standard Deviation	98 th Percentile
AAQ1	Project Site	--	--	18	13	15	1.6	18
AAQ2	Chinna Balagondapalli	ENE	4.3	13	08	11	1.6	13
AAQ3	Nangandopalli	ENE	3.8	10	07	9.0	1.0	10
AAQ4	Muduganapalli	ESE	3.6	19	09	12	2.3	19
AAQ5	Devaganapalli	ESE	4.6	15	11	13	1.4	15
AAQ6	Sathanur	WNW	3.9	12	07	10	1.6	12
AAQ7	Madagondapalli	SSW	3.5	17	12	14	1.7	17
AAQ8	Sarakapalli	S	4.3	16	10	13	1.6	16

* With respect to project site

Permissible limit of SO₂ for Industrial, Residential, Rural and other area = 80 µg/m³

Table 3.7 – Ambient Air Quality Status (NO₂) March - April – June 2015.

Averaging Time: 24 hrs.

Unit : µg/m³

SA. No.	Sampling Station	Bearing *	Distance* (KM)	Max	Min	Arithmetic Mean	Standard Deviation	98 th Percentile
AAQ1	Project Site	--	--	34	24	27	2.8	34
AAQ2	Chinna Balagondapalli	ENE	4.3	20	17	19	1.1	20
AAQ3	Nangandopalli	ENE	3.8	16	13	15	1.0	16
AAQ4	Muduganapalli	ESE	3.6	21	15	19	1.6	21
AAQ5	Devaganapalli	ESE	4.6	24	18	22	2.9	24
AAQ6	Sathanur	WNW	3.9	18	14	17	1.4	18
AAQ7	Madagondapalli	SSW	3.5	30	21	26	2.6	30
AAQ8	Sarakapalli	S	4.3	27	18	24	3.2	27

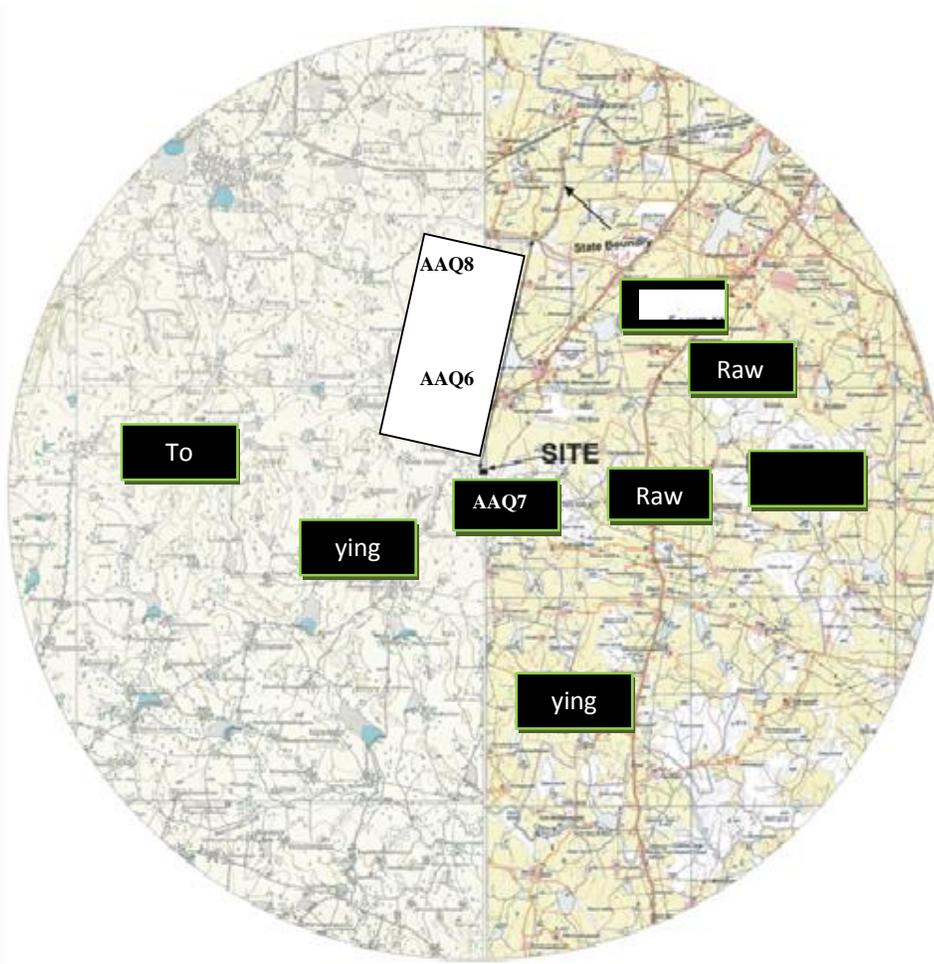


Fig 3.4 AAQ Sampling Location Map

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

3.17.7 NOISE ENVIRONMENT

The noise monitoring has been conducted for determination of noise levels at eight locations around the study area. Levels of noise have been monitored during 6am to 10 pm and night levels during 10pm to 6am. In the residential cum rural areas equivalent day night noise levels ranges from 45 to 68 dB(A). The details of sampling locations with respect to the plant site and the equivalent day night levels are tabulated in Table 3.14.

3.17.8 AMBIENT NOISE STANDARDS

Ambient Noise level standards have been notified by the MoEF vide Gazette Notification dated 26th December 1989 and also in the Schedule III of the Environmental (Protection) Rules 1986. It is based on the 'A' weighted equivalent noise level (Leq). These are presented in Table 3.13.

Table 3.8: National Ambient Noise Standards

Category of Zones	Leq in dB(A)	
	Day *	Night+
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone **	50	40

Source: Central Pollution Control Board

* Day Time is from 6.00 AM and 9.00 PM.

+ Note –2: Night Time is reckoned between 9.00 PM and 6.00 AM

** Silence Zone is defined as an area up to 100m around premises of Hospitals, Educational Institutions and Courts. Use of vehicle horn, loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

3.17.9 IDENTIFICATION OF SAMPLING LOCATIONS

A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the study area. Noise at different noise generating sources have been identified based on the activities in the village area, ambient noise due to small scale industries, traffic and noise at sensitive areas like hospitals and schools.

Table 3.9– Equivalent Day-Night Noise Level Details

SA. No.	Village	Bearing *	Distance (km)	Equivalent Levels dB(A)	
				Day	Night
SN1	Project Site	--	--	68.7	60.8
SN2	Chinna Balagondapalli	ENE	4.3	65.9	59.2
SN3	Nangandopalli	ENE	3.8	46.8	45.9
SN4	Muduganapalli	ESE	3.6	55.2	51.3
SN5	Devaganapalli	ESE	4.6	50.6	46.5
SN6	Sathanur	WNW	3.9	51.6	46.5
SN7	Madagondapalli	SSW	3.5	52.9	45.1
SN8	Sarakapalli	S	4.3	51.6	47.9

* With respect to project site

	Day	Night
Permissible limit for Industrial Area	- 75	70
Permissible limit for Rural Area	- 55	45

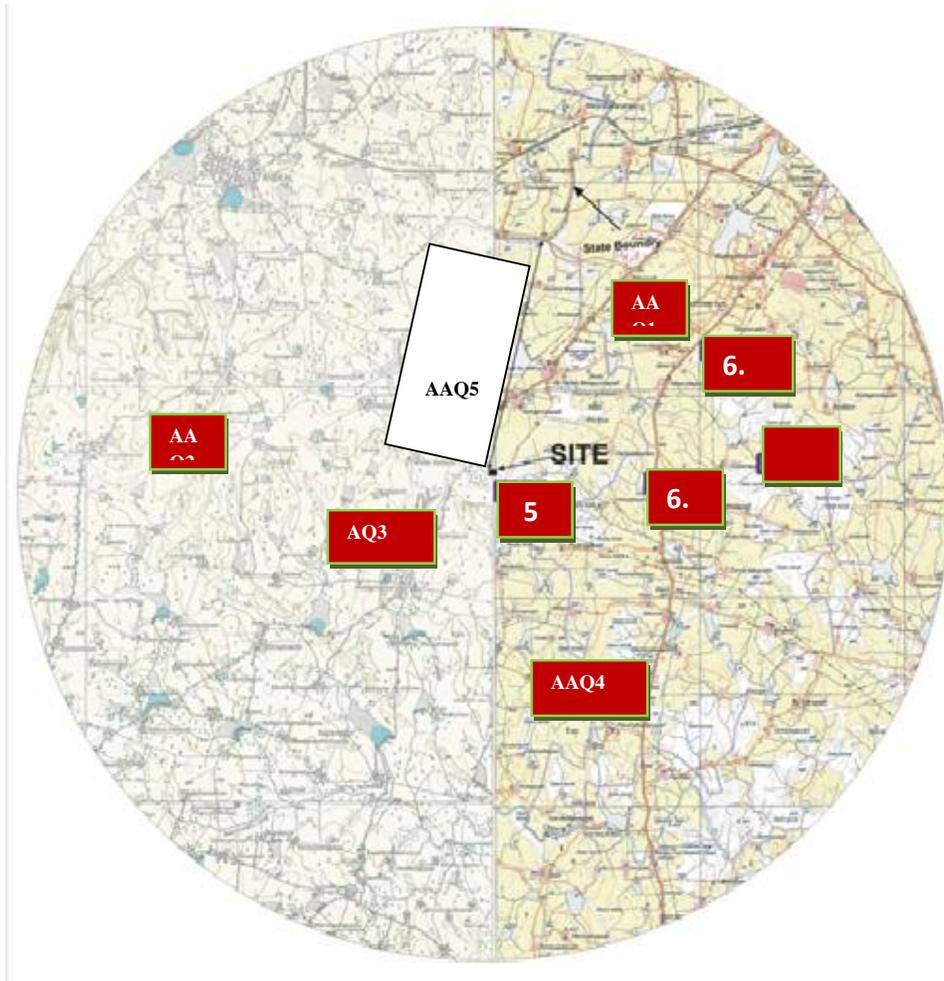


Fig 3.5 Noise Sampling Location Map

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

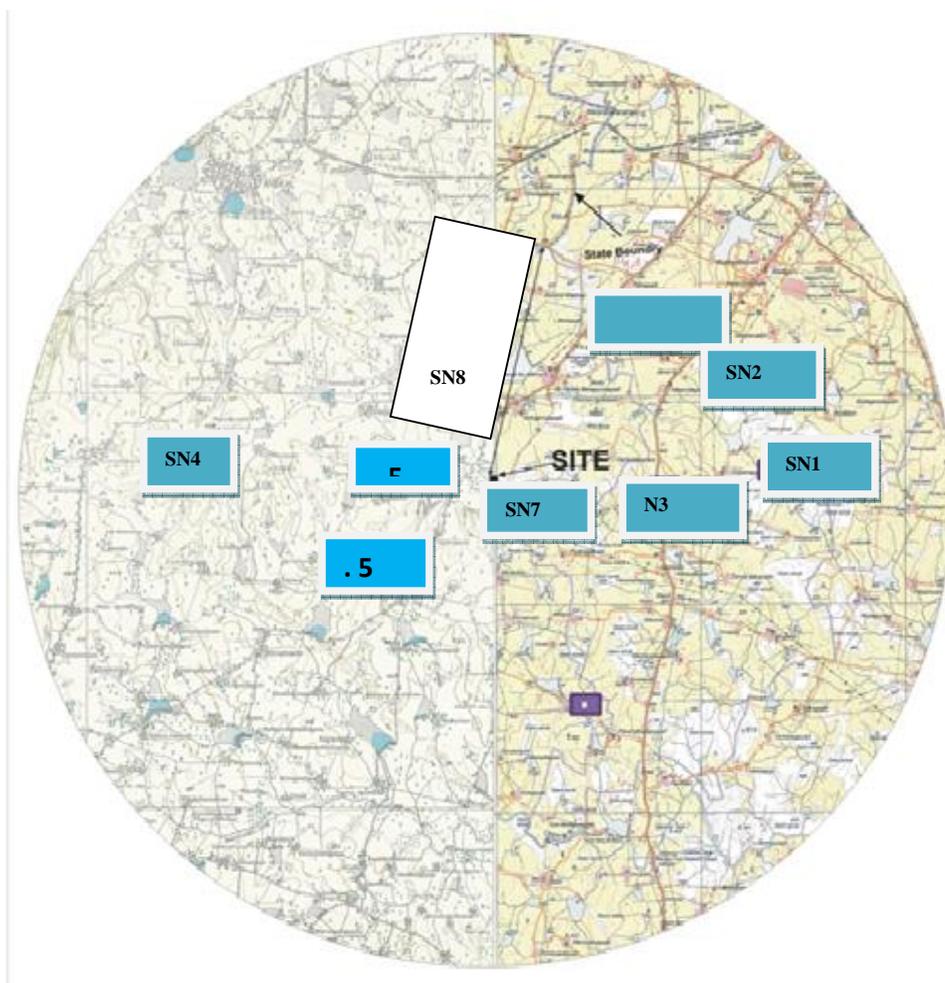
3.18 WATER QUALITY

The water samples are collected from eight locations in the study area. We have submitted the permissible limit for the drinking purposes as well as the permissible limits in the absence of alternative sources. Generally, the desirable limit is obtained by the river water only, whereas we have received the water samples from bore well & open wells. The water from sampled location falls in the range mentioned for drinking water when there is no alternative source. In case, water for drinking purposes to be used is no alternative source.

Table 3.10 – Water Analysis Results

Parameters	Units	GW1	GW2	GW3	GW4	GW5	GW6	SW1	SW2
Calcium as Ca	mg/l	182	90	182	339	151	306	13	174
Chlorides as Cl	mg/l	188	487	179	901	272	975	16	247
Color	Hazen	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.1
Electrical Conductivity	µmhos/cm	1535	1431	1372	2410	1798	5661	137	1498
Fluoride as F	mg/l	0.4	0.4	0.2	0.4	1.2	0.6	<0.1	0.4
Iron as Fe	mg/l	0.16	0.12	0.09	0.18	0.11	0.51	<0.01	0.14
Magnesium as Mg	mg/l	67	34	45	85	58	112	7.4	59
Nitrate Nitrogen as NO ₃	mg/l	2.2	1.6	1.8	3.2	2.2	4.8	<1.0	2.0
Odour		Agreeable							
pH		7.3	7.8	7.6	7.0	7.2	7.1	8.9	7.9
Sulphates	mg/l	18	106	26	114	114	244	12	28
Total Alkalinity as CaCO ₃	mg/l	460	332	277	138	449	510	55	389
Total Dissolved Solids	mg/l	998	930	892	1564	1169	3680	89	973
Total Hardness	mg/l	619	365	640	1191	613	1222	44	675
Turbidity	NTU	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3



	Ground Water Sampling Location		Surface Water Sampling Location
GW1	Project Site	SW1	Uliveeranapalli Lake
GW2	Chinna Balagondapalli	SW2	Madagondapalli Lake
GW3	Nangandopalli		
GW4	Muduganapalli		
GW5	Devaganapalli		
GW6	Sathanur		

Fig.3.6 Water Sampling Locations

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

3.19 SOIL QUALITY

It is essential to determine the potential of soil in the area and identify the impacts of urbanization and industrialization on soil quality. Accordingly, a study of assessment of the soil quality has been carried out.

3.19.1 DATA GENERATION

For studying soil profile of the region, sampling location was selected to assess the existing soil condition in and around the plant representing various land use conditions. The physical, chemical and heavy metal concentrations were determined. The samples were collected by ramming a core-cutter into the soil up to a depth of 90 cm. Simultaneously, in-situ infiltration test using double ring infiltrometer was carried out at all location to determine the permeability.

The present study on the soil profile establishes the baseline characteristics and identifies the incremental concentrations if any, due to the existing and proposed activities.

The sampling locations have been identified with the following objectives:

- To determine the baseline soil characteristics of the study area;
- To determine the impact on soil more importantly from agricultural productivity point of view.

Eight locations within 10 km radius of the plant site were selected for soil sampling. At each location, soil samples were collected from three different depths viz. 30 cm, 60 cm, and 90 cm below the surface and homogenized. The homogenized samples were taken during March- May 2014 to identify soil conditions.

The details of the sampling location are given in Table – 3.16 and are shown in Figure – 3.11.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Table 3.11 – Soil Quality

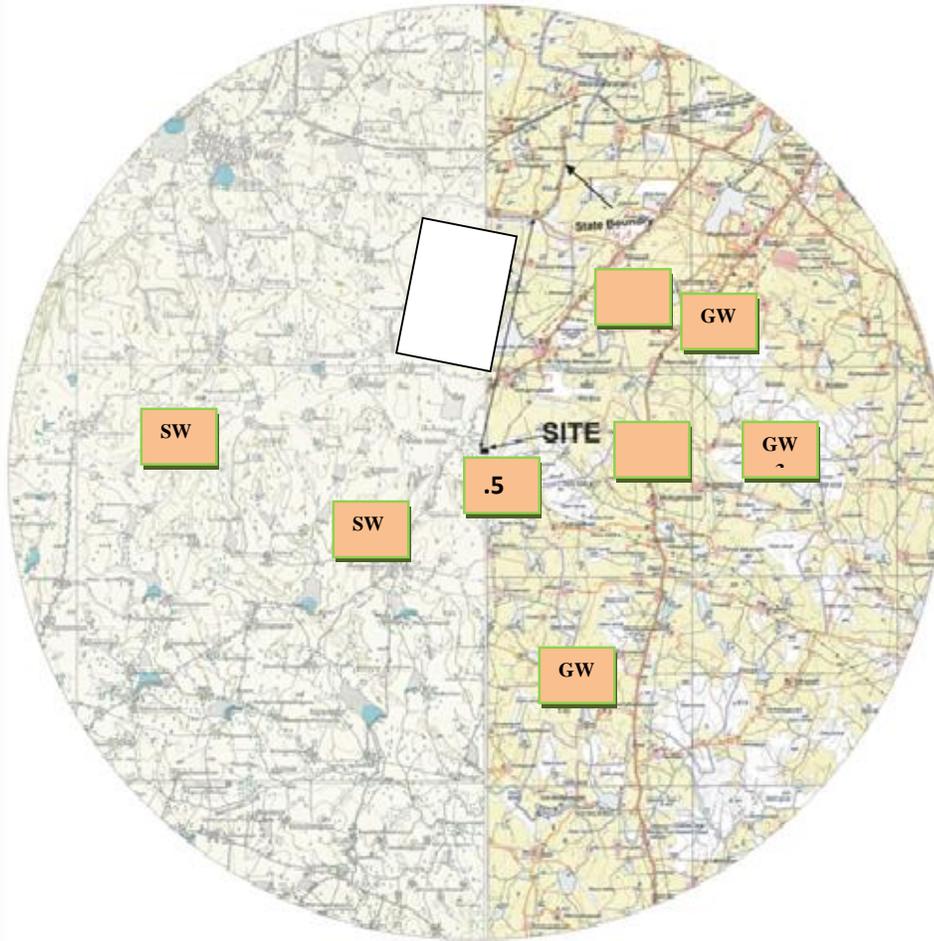
S.No	PARAMETERS	UNITS	RESULTS							
			SA-1	SA-2	SA- 3	SA- 4	SA- 5	SA - 6	SA-7	SA-8
1	pH	No.	8.0	6.8	6.8	6.9	8.3	7.4	8.4	7.2
2	EC	mmhos/cm	425	95	95	97	178	134	216	160
3	Texture	---	Loamy sand	Silty sand	Silty sand	Loamy sand	Silty sand	Loamy sand	Loamy sand	Silty sand
Macro Nutrients:										
4	Nitrogen	%	3.4	1.2	1.4	0.8	0.4	1.4	1.2	1.0
5	Phosphorus	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
6	Potassium	Kg/Ac	38	18	58	12	64	92	26	108
Micro Nutrients:										
7	Iron	mg/Kg	14164	8868	9344	9144	11615	11618	10144	9654
8	Manganese	mg/Kg	165	121	166	116	194	208	158	156
9	Zinc	mg/Kg	1.6	5.4	14	1.4	10	12	1.0	1.0
10	Copper	mg/Kg	1.9	1.0	6.9	1.0	1.4	1.4	1.2	4.4

Table – 3.12 – Standards of Soil Classification

Sl.No.	Soil Test	Classification
1.	pH	<p><4.5 Extremely acidic</p> <p>4.51 – 5.00 Very strongly acidic</p> <p>5.51 – 6.0 moderately acidic</p> <p>6.01 – 6.50 slightly acidic</p> <p>6.51 – 7.30 Neutral</p> <p>7.31 – 7.80 slightly alkaline</p> <p>7.381 – 8.50 moderately alkaline</p> <p>8.51 – 9.0 strongly alkaline</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

		9.01 very strongly alkaline
2.	Salinity Electrical Conductivity (mmhos/cm)	Upto 1.00 Average 1.01 – 2.00 Harmful to germination 2.01 - 3.00 Harmful to crops (Sensitive to salts)
3.	Organic Carbon	Upto 0.2 : Very less 0.21 – 0.4 : Medium, 0.51 – 0.8 : On an average sufficient 0.81 – 1.0 : Sufficient > 1.0 : More than sufficient
4.	Nitrogen (kg/ha)	Upto 50 : Very less 51 – 100 : Less 101 – 150 : Good 151 – 300 : Better > 300 : Sufficient
5.	Phosphorus (kg/ha)	Upto 15 Very less 16 -30 Less 31 – 50 Medium, 51 – 65 On an average sufficient 66 – 80 Sufficient > 80 More than sufficient
6.	Potash (kg/ha)	0 - 120 Very less 120 – 180 Less 181 - 240 Medium 241 – 300 Average 301 – 360 better > 360 More than sufficient



S. No.	Location Name
SA1	Project Site
SA2	Chinna Balagondapalli
SA3	Nangandopalli
SA4	Muduganapalli
SA5	Devaganapalli
SA6	Sathanur
SA7	Madagondapalli
SA8	Sarakapalli

Fig.3.7. Soil Sampling Locations

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
CHAPTER - 3	

3.20 LAND ENVIRONMENT

3.20.1 INTRODUCTION

The site is located at Kalukondapalli Village, Krishnagiri District, Tamil Nadu.

3.20.2 TOPOGRAPHY

Topography of the proposed site is plain.

3.20.3 DRAINAGE

The average elevation of the area is about 950 meter from Mean Sea Level (MSL). River Chinnar is about 5.2 Km from the project site. The area in general is not intersected by large water courses and small gullies, which remains flooded during most part of the year.

3.21 BIOLOGICAL ENVIRONMENT

3.21.1 BIOLOGICAL ENVIRONMENT ASSESSMENT

A habitat or an area comprises of different kinds of plants and animals within its boundary. The distribution of flora and fauna in the given area represents the biological environment. The biological portion of the environment includes, what is present in the study area, its values, and its responses to impacts description of community uniqueness, the dominant species, and an evaluation of rare or endangered species.

Natural vegetation is scanty and the bio-diversity of the area is low and it forms a part of deciduous area. Species diversity and food web index of the surrounding area will be negligible. However, the proposed proper re-vegetation techniques and development of green belt around the ultimate pit limit, the impact on the terrestrial environment will be nominal.

The unit has earmarked more than 33% of total area of for developing the Green Belt and Lawns as per the existing Environmental Quality Policy of the Company. The proposed Green Belt will have significant long term impact during the Operation Phase.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Flora-fauna: An ecological survey of the study area was conducted particularly with reference to recording the existing biological resources. The objectives of the survey were intended to:

- Generate baseline data from field observations from various terrestrial ecosystems,
- Collect secondary data from Government records,
- Compare the data so generated with authentic past records to understand changes,
- Understand the impact of the proposed activity on vegetational structure in the site.

To accomplish the above objectives, a general ecological survey covering an area of 10 km radius area was conducted. The locations were identified for phyto-sociological aspects to assess the current status. Phyto-sociological studies were carried out by using least count quadrature method. Trees species were surveyed by taking quadrates of 100 m x 10 m distributed randomly. Shrub species were surveyed by taking quadrates of 10 m x 10 m. Herb species were surveyed by taking quadrates of 1 m x 1 m. The data obtained was further used to estimate Relative Dominance, Relative Density (RD), Relative Frequency (RF) and Importance Value Index (IVI) as per the formula.

Faunal survey covers the Terrestrial Fauna, Avian Fauna and Aquatic Fauna. The survey was based on Personal observation, Enquiry with local population and Records available. This survey will include identification of endangered and rare species as per Red Book.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Flora and Fauna

Survey Methodology

An ecological survey of the study area was conducted particularly with reference to recording the existing biological resources. The objectives of the survey were intended to:

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To accomplish the above objectives, a general ecological survey covering an area of 10 km radius area was conducted. The locations were identified for phyto-sociological aspects to assess the current status. Phyto-sociological studies were carried out by using least count quadrat method. Trees species were surveyed by taking quadrates of 100 m x 10 m distributed randomly. Shrub species were surveyed by taking quadrates of 10 m x 10 m. Herb species were surveyed by taking quadrates of 1 m x 1 m. The data obtained was further used to estimate Relative Dominance, Relative Density (RD), Relative Frequency (RF) and Importance Value Index (IVI) as per the formula.

Faunal survey covers the Terrestrial Fauna, Avian Fauna and Aquatic Fauna. The survey was based on Personal observation, Enquiry with local population and Records available. This survey will include identification of endangered and rare species as per Red Book.

The flora and fauna studies were carried out in the entire study area of 10 km radius around the proposed site. The diversified plant genera distributed in this area. The natural vegetation of the study area had more population with variety of species. Many varieties of plant species were growing naturally.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

The overall aerial and close observations lead to the conclusion that the diversity of plant species was more in the buffer zone.

Flora: The Study of flora involved intensive sample survey of vegetation in the project site and other locations applying standard methods (e.g., Greig-Smith 1983, Caustan 1988). To examine the trees and shrubs, quadrats of 25 x 25 m and for herbs 2 x 2 m were laid. In each of the larger quadrats (i) Species (ii) their number, and (iii) Girth at Breast Height (GBH), were measured. (Chaturvedi and Khanna, 1982). The species of vegetation found in each station were identified and listed according to their families, both in dicotyledons and monocotyledons of the plant kingdom. The plant species were classified as per the classifications of "Bentham and Hooker" and identified by using Gambles book on "Flora of Madras Presidency" and Mathew's book on "Flora of the Tamil Nadu Carnatic".

Fauna: Both direct and indirect observation methods were used to survey the fauna. Visual encounter (search) method was employed to record vertebrate species. Additionally survey of relevant literature was also done to consolidate the list of vertebrate fauna distributed in the area (Smith 1933-43, Ali and Ripley 1983, Daniel 1983, Prater 1993, Murthy and Chandrasekhar 1988). Since birds may be considered as indicators for monitoring and understanding human impacts on ecological systems (Lawton, 1996) attempt was made to gather quantitative data on the group.

Point Survey Method: Observations were made in each site for 15 minutes duration.

Road Side Counts: The observer traveled from site to site, all sightings were recorded (this was done both in the day and night time). An index of abundance of each species was also established.

Pellet and Track Counts: All possible animal tracks and pellets were identified and recorded (South Wood, 1978).

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Based on the Wildlife Protection Act, 1972 (WPA 1972, Anonymous 1991, Upadhyay 1995, Chaturvedi and Chaturvedi 1996) species were short-listed as Schedule II or I and considered herein as endangered species.

Species listed in Ghosh (1994) are considered as Indian Red List species.

Baseline Status-Fauna

The list of Flora & Fauna is given below:

LIST OF FLORA IN THE STUDY AREA

Technical name	Family	Distribution
<i>Acacia leucoflora</i>	<i>Mimosaceae</i>	Abundant
<i>Mimosa pudica</i>	<i>Mimosaceae</i>	Frequent
<i>Calotropis gigantia</i>	<i>Asclepidaceae</i>	Very common
<i>Calotropis procera</i>	<i>Asclepidaceae</i>	Very common
<i>Datura strumarium</i>	<i>Solanaceae</i>	Common
<i>Croton bonplandium</i>	<i>Euphorbiaceae</i>	Very common
<i>Tridax procumbens</i>	<i>Compositae</i>	Very common
<i>Tephrosia purpurea</i>	<i>Fabaceae</i>	Very common
<i>Cassia tora</i>	<i>Caesalpinaceae</i>	Very common
<i>Cassia occidentalis</i>	<i>Caesalpinaceae</i>	Very common
<i>Achyranthes aspera</i>	<i>Amaranthaceae</i>	Common
<i>Amaranthus</i>	<i>Amaranthaceae</i>	Common
<i>Zizyphus jujube</i>	<i>Rhamanaceae</i>	Common
<i>Andrographis Spp.</i>	<i>Acanthaceae</i>	Common
<i>Mangifera indica</i>	<i>Anacardiaceae</i>	Common
<i>Parthenium hysterophorous</i>	<i>Asteraceae</i>	Very abundant
<i>Echinops echinatus</i>	<i>Asteraceae</i>	Common
<i>Eclipta alba</i>	<i>Asteraceae</i>	Common
<i>Anona squamosa</i>	<i>Annonaceae</i>	Common
<i>Anona racemosa</i>	<i>Annonaceae</i>	Common
<i>Polyalthia longifolia</i>	<i>Annonaceae</i>	Common
<i>Aristolochia spp.</i>	<i>Aristolochaeae</i>	Common

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Technical name	Family	Distribution
<i>Allemande spp.</i>	<i>Spocyanaceae</i>	Common
<i>Pongamia pinnata</i>	<i>Caesalpinaceae</i>	Planted, Common
<i>Cassia auriculata</i>	<i>Caesalpinaceae</i>	Common
<i>Cassia occidentalis</i>	<i>Caesalpinaceae</i>	Common
<i>Cassia fistula</i>	<i>Caesalpinaceae</i>	Common
<i>Bauhinia purpurea</i>	<i>Caesalpinaceae</i>	Common
<i>Cleome viscosa</i>	<i>Capparidaceae</i>	Common
<i>Cleome icosandra</i>	<i>Capparidaceae</i>	Common
<i>Ipomoea palmate</i>	<i>Covulvalaceae</i>	Common
<i>Tamarindus incica</i>	<i>Caesalpinaceae</i>	Common
<i>Euphorbia hirta</i>	<i>Euphorbiaceae</i>	Common
<i>Butea monosperma</i>	<i>Fabaceae</i>	Planted, Common
<i>Abrus precatorius</i>	<i>Papillonaceae</i>	Rare
<i>Dasmodium triflorum</i>	<i>Fabaceae</i>	Common
<i>Caesalpina pulcherima</i>	<i>Caesalpinaceae</i>	Common
<i>Lawsonia innermis</i>	<i>Lythraceae</i>	Rare
<i>Asparagus</i>	<i>Lilliaceae</i>	Rare
<i>Ocimum basilicum</i>	<i>Labiatae</i>	Common
<i>Ocimum americanum</i>	<i>Labiatae</i>	Common
<i>Leucaea aspera</i>	<i>Labiatae</i>	Common
<i>Azadirachta indica</i>	<i>Meliaceae</i>	Planted, Common
<i>Peltoforum ferruginum</i>	<i>Caesalpinaceae</i>	Planted, Common
<i>Ficus bengalensis</i>	<i>Moraceae</i>	Planted
<i>Casuarina spp.</i>	<i>Casuarinaceae</i>	Common
<i>Acacia Arabica</i>	<i>Mimosaceae</i>	Common
<i>Ficus hispida</i>	<i>Moraceae</i>	Rare

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

The list of few animals is given below (Fauna of the Study area)

Technical Name	Common Name	Distribution
<i>Acridotheres tristis</i>	Common myna	Common
<i>Alcedo atthis</i>	Common Kinafisher	Common
<i>Anas acuta</i>	Common Teal	Rare
<i>Anas cresa</i>	Common teal	Observed
<i>Anas paecilarhynacha</i>	Spotbilled duck	Pond in TVS campus
<i>Ardea alba</i>	Large egret	Common
<i>Ardea cinerea</i>	Grey heron	Common
<i>Bubo</i>	Indian great horned Owl	Common
<i>Bubulcus ibis</i>	Cattle Egret	Common
<i>Caorimulaus asiaticus</i>	Common Indian iar	Common
<i>Centropus sinensis</i>	Crow Pheasant	Common
<i>Cinnvris lotensis</i>	Loten's sunbird	Common
<i>Corvus corvus</i>	Jungle crow	Common
<i>Corvus splendens</i>	House crow	Common
<i>Coryllis vaeralis</i>	Lorikeet	Common
<i>Dicrurus macrocerus</i>	Black Drongo	Common
<i>Egretta garzetta</i>	Little Egret	Common
<i>Estrilda amanda va</i>	Red munia	Rare
<i>Gallinula chloropus</i>	Moor hen	Rare
<i>Gallus gallus</i>	Red Jungle fowl	Common
<i>Haliastur Indus</i>	Brahmny kite	Common
<i>Hierococys varius</i>	Common Hawk Cuckoo	Common
<i>Holcyons mysoorensis</i>	Indian roller	Common
<i>Lalage Sykesi</i>	Black headed cochoo Shrike	Common
<i>Megalaima merulinus</i>	Indian Cuckoo	Common
<i>Merops leschenaultia</i>	Chestnut headed Bee Eater	Common
<i>Microfus affinis</i>	House swift	Common
<i>Micropterus brachyrus</i>	RufoursWoodoecker	Observed
<i>Muscicapa latirostris</i>	Brown flycatcher	Rare
<i>Myctrea leucopcephala</i>	Painted stork	Pond in TVS campus

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Nectarinia asiatica	Purple sunbird	Observed
Nycteria leucopceohala	Painted stork	Observed
oriolus oriolus	Indian Oriole	Common
Passer domesticus	House Sparrow	Common
Phalococorax carbo	Large coramant	Common
Phalococorax nicer	Little coramant	Common
Ploceus phillppines	Weaver bird	Common
Podiceps yuficolis	Little grebe	Observed
Pycnonotus cafer	Red vented bulbul	Common
pycnonotus jokonus	White brewed Bulbul	Common
Temenuchus pagodarum	Brahmny Myna	Common
Tringa ochropus	Green sandpiper	Pond near TVS campus
Turdoides striatus	White headed babler	Common
calotes versicolor	Common garden lizard	Rare
Bangarus spp	Krait	Rare
Naja Naja	Indian cobra	Rare
Vipera spp	Russels viper	Rare
Rana hexadactyla	Frog	Common
Rana tigrina	Bull frog	Common
Lepus nigricollis	Hare	Herbivorous
Funabulus palmarum	Squirrel	Herbivorous
Rattus norvegicus	Field mouse	Herbivorous
Herpestes edwardii	Common mongoose	Carnivorous
Bandicota indica	Bandicoot	Herbivorous
Vulpus benghalensis	Wild fox	Scavenger

Source: DFO

3.21.2 TERRESTRIAL ECOLOGY

The site is proposed in a remote dry agricultural and predominantly barren lands covered with some thorny bushes in patches. There is no tree cutting or removal of plantations is anticipated. There is no forest land is involved. There is no Wild Life Sanctuary or National Park or Biosphere or Hotspots within the study area of 10 km.

3.22 SOCIOECONOMIC ENVIRONMENT

Total population of the selected 11 villages within 10 km radius from the project site is 92044. The detail of population is given in the below table.

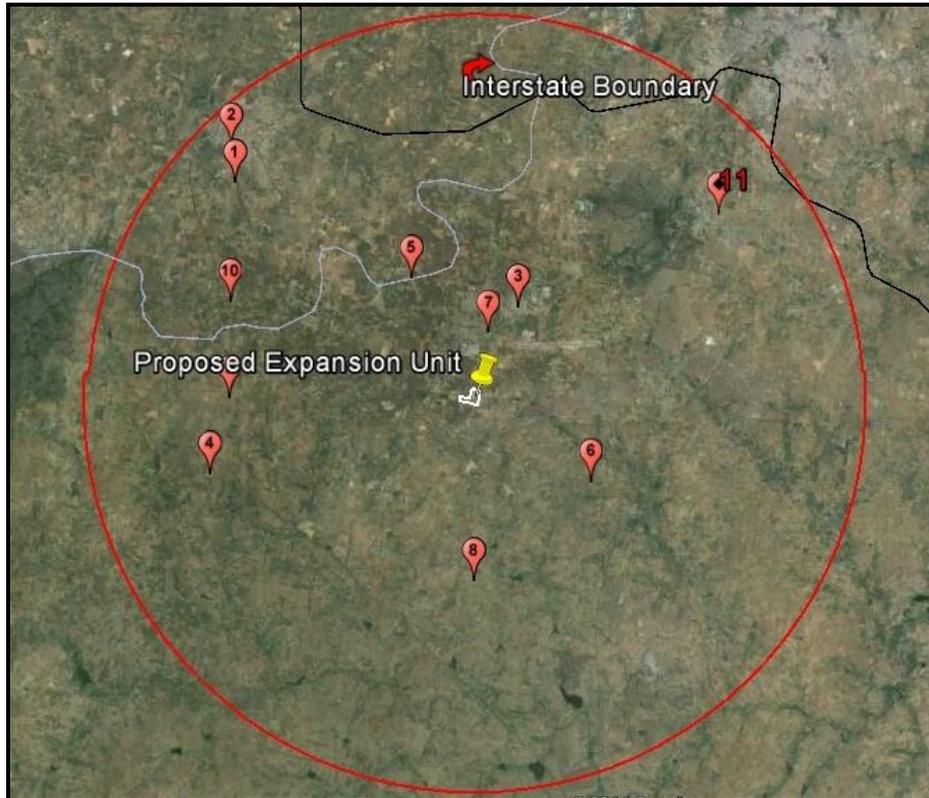


Fig 3.8 Villages Selected for Population Study

S.No.	Villages Selected within 10 Km Study Area
1	Anekal (Rural)
2	Anekal (TMC)
3	Belagundapalli
4	Binnamangalam
5	Geratiganabele
6	Hanumanthapuram
7	Kalugundapalli
8	Saragapalli
9	Sathanur
10	Vanakanahalli
11	Mathigiri (TP)

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

DETAILS OF VILLAGES (AS PER 2011 CENSUS)

S.No.	Villages Selected within 10 Km Study Area	STATE	DISTRICT	SUB-DISTRICT	VILLAGE NAME	LEVEL
1	Anekal (Rural)	Karnataka (29)	Bangalore (572)	Anekal(05545)	Anekal (Rural)(613326)	VILLAGE
2	Anekal (TMC)	Karnataka (29)	Bangalore (572)	Anekal(05545)	Anekal (TMC)(803163)	TOWN
3	Belagundapalli	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Belagundapalli(644000)	VILLAGE
4	Binnamangalam	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Binnamangalam(644039)	VILLAGE
5	Geratiganabele	Karnataka (29)	Bangalore (572)	Anekal(05545)	Geratiganabele(613340)	VILLAGE
6	Hanumanthapuram	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Hanumanthapuram(644050)	VILLAGE
7	Kalugundapalli	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Kalugundapalli(644001)	VILLAGE
8	Saragapalli	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Saragapalli(644003)	VILLAGE
9	Sathanur	Tamil Nadu (33)	Krishnagiri (631)	Denkanikotta(05892)	Sathanur(644035)	VILLAGE
10	Vanakanahalli	Karnataka (29)	Bangalore (572)	Anekal(05545)	Vanakanahalli(613334)	VILLAGE
11	Mathigiri (TP)	Tamil Nadu (33)	Krishnagiri (631)	Hosur(05890)	Mathigiri (TP)(803952)	TOWN

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of KALUGUNDAPALLI

Population	Persons	Males	Females
Total	3,640	1,890	1,750
In the age group 0-6 years	396	212	184
Scheduled Castes (SC)	378	183	195
Scheduled Tribes (ST)	0	0	0
Literates	2,294	1,302	992
Illiterate	1,346	588	758
Total Worker	1,696	1,166	530
Main Worker	1,645	1,128	517
Main Worker - Cultivator	564	450	114
Main Worker - Agricultural Labourers	355	163	192
Main Worker - Household Industries	6	4	2
Main Worker - Other	720	511	209
Marginal Worker	51	38	13
Marginal Worker - Cultivator	8	6	2
Marginal Worker - Agriculture Labourers	1	0	1
Marginal Worker - Household Industries	0	0	0
Marginal Workers - Other	42	32	10
Marginal Worker (3-6 Months)	47	35	12
Marginal Worker - Cultivator (3-6 Months)	7	6	1
Marginal Worker - Agriculture Labourers (3-6 Months)	1	0	1
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	39	29	10
Marginal Worker (0-3 Months)	4	3	1
Marginal Worker - Cultivator (0-3 Months)	1	0	1
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	0	0	0
Marginal Worker - Other Workers (0-3 Months)	3	3	0
Non Worker	1,944	724	1,220
Number of Households		925	

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of ANEKAL (RURAL)

Population	Persons	Males	Females
Total	1,575	800	775
In the age group 0-6 years	135	76	59
Scheduled Castes (SC)	440	234	206
Scheduled Tribes (ST)	20	7	13
Literates	916	516	400
Illiterate	659	284	375
Total Worker	696	474	222
Main Worker	577	409	168
Main Worker - Cultivator	38	33	5
Main Worker - Agricultural Labourers	16	14	2
Main Worker - Household Industries	22	14	8
Main Worker - Other	501	348	153
Marginal Worker	119	65	54
Marginal Worker - Cultivator	3	0	3
Marginal Worker - Agriculture Labourers	30	16	14
Marginal Worker - Household Industries	1	0	1
Marginal Workers - Other	85	49	36
Marginal Worker (3-6 Months)	111	63	48
Marginal Worker - Cultivator (3-6 Months)	3	0	3
Marginal Worker - Agriculture Labourers (3-6 Months)	30	16	14
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	78	47	31
Marginal Worker (0-3 Months)	8	2	6
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	1	0	1
Marginal Worker - Other Workers (0-3 Months)	7	2	5
Non Worker	879	326	553
Number of Households	370		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of ANEKAL (TOWN)

Population	Persons	Males	Females
Total	44,260	22,539	21,721
In the age group 0-6 years	4,803	2,477	2,326
Scheduled Castes (SC)	4,833	2,445	2,388
Scheduled Tribes (ST)	524	261	263
Literates	32,268	17,297	14,971
Illiterate	11,992	5,242	6,750
Total Worker	18,125	13,453	4,672
Main Worker	16,865	12,871	3,994
Main Worker - Cultivator	326	282	44
Main Worker - Agricultural Labourers	316	210	106
Main Worker - Household Industries	1,056	816	240
Main Worker - Other	15,167	11,563	3,604
Marginal Worker	1,260	582	678
Marginal Worker - Cultivator	37	19	18
Marginal Worker - Agriculture Labourers	97	43	54
Marginal Worker - Household Industries	187	48	139
Marginal Workers - Other	939	472	467
Marginal Worker (3-6 Months)	1,149	543	606
Marginal Worker - Cultivator (3-6 Months)	37	19	18
Marginal Worker - Agriculture Labourers (3-6 Months)	81	39	42
Marginal Worker - Household Industries (3-6 Months)	170	46	124
Marginal Worker - Other (3-6 Months)	861	439	422
Marginal Worker (0-3 Months)	111	39	72
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	16	4	12
Marginal Worker - Household Industries (0-3 Months)	17	2	15
Marginal Worker - Other Workers (0-3 Months)	78	33	45
Non Worker	26,135	9,086	17,049
Number of Households	10322		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of BELAGUNDAPALLI

Population	Persons	Males	Females
Total	4,092	2,073	2,019
In the age group 0-6 years	470	247	223
Scheduled Castes (SC)	686	347	339
Scheduled Tribes (ST)	0	0	0
Literates	2,824	1,575	1,249
Illiterate	1,268	498	770
Total Worker	1,839	1,255	584
Main Worker	1,623	1,144	479
Main Worker – Cultivator	309	230	79
Main Worker - Agricultural Labourers	394	192	202
Main Worker - Household Industries	20	13	7
Main Worker – Other	900	709	191
Marginal Worker	216	111	105
Marginal Worker – Cultivator	1	0	1
Marginal Worker - Agriculture Labourers	131	64	67
Marginal Worker - Household Industries	2	0	2
Marginal Workers – Other	82	47	35
Marginal Worker (3-6 Months)	216	111	105
Marginal Worker - Cultivator (3-6 Months)	1	0	1
Marginal Worker - Agriculture Labourers (3-6 Months)	131	64	67
Marginal Worker - Household Industries (3-6 Months)	2	0	2
Marginal Worker - Other (3-6 Months)	82	47	35
Marginal Worker (0-3 Months)	0	0	0
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	0	0	0
Marginal Worker - Other Workers (0-3 Months)	0	0	0
Non Worker	2,253	818	1,435
Number of Households	1018		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of BINNAMANGALAM

Population	Persons	Males	Females
Total	2,463	1,246	1,217
In the age group 0-6 years	257	137	120
Scheduled Castes (SC)	641	320	321
Scheduled Tribes (ST)	0	0	0
Literates	1,423	803	620
Illiterate	1,040	443	597
Total Worker	1,241	823	418
Main Worker	1,238	822	416
Main Worker – Cultivator	608	455	153
Main Worker - Agricultural Labourers	370	174	196
Main Worker - Household Industries	1	1	0
Main Worker – Other	259	192	67
Marginal Worker	3	1	2
Marginal Worker – Cultivator	2	0	2
Marginal Worker - Agriculture Labourers	1	1	0
Marginal Worker - Household Industries	0	0	0
Marginal Workers – Other	0	0	0
Marginal Worker (3-6 Months)	3	1	2
Marginal Worker - Cultivator (3-6 Months)	2	0	2
Marginal Worker - Agriculture Labourers (3-6 Months)	1	1	0
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	0	0	0
Marginal Worker (0-3 Months)	0	0	0
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	0	0	0
Marginal Worker - Other Workers (0-3 Months)	0	0	0
Non Worker	1,222	423	799
Number of Households	590		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of GERATIGANABELE

Population	Persons	Males	Females
Total	1,078	517	561
In the age group 0-6 years	118	56	62
Scheduled Castes (SC)	380	178	202
Scheduled Tribes (ST)	1	0	1
Literates	637	341	296
Illiterate	441	176	265
Total Worker	499	331	168
Main Worker	356	254	102
Main Worker – Cultivator	109	97	12
Main Worker - Agricultural Labourers	139	81	58
Main Worker - Household Industries	4	3	1
Main Worker – Other	104	73	31
Marginal Worker	143	77	66
Marginal Worker – Cultivator	6	5	1
Marginal Worker - Agriculture Labourers	119	61	58
Marginal Worker - Household Industries	4	3	1
Marginal Workers – Other	14	8	6
Marginal Worker (3-6 Months)	140	75	65
Marginal Worker - Cultivator (3-6 Months)	5	4	1
Marginal Worker - Agriculture Labourers (3-6 Months)	119	61	58
Marginal Worker - Household Industries (3-6 Months)	2	2	0
Marginal Worker - Other (3-6 Months)	14	8	6
Marginal Worker (0-3 Months)	3	2	1
Marginal Worker - Cultivator (0-3 Months)	1	1	0
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	2	1	1
Marginal Worker - Other Workers (0-3 Months)	0	0	0
Non Worker	579	186	393
Number of Households	218		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of HANUMANTHAPURAM

Population	Persons	Males	Females
Total	5,241	2,712	2,529
In the age group 0-6 years	705	366	339
Scheduled Castes (SC)	652	328	324
Scheduled Tribes (ST)	739	373	366
Literates	2,667	1,578	1,089
Illiterate	2,574	1,134	1,440
Total Worker	2,983	1,653	1,330
Main Worker	2,694	1,497	1,197
Main Worker - Cultivator	1,011	545	466
Main Worker - Agricultural Labourers	1,367	723	644
Main Worker - Household Industries	17	10	7
Main Worker - Other	299	219	80
Marginal Worker	289	156	133
Marginal Worker - Cultivator	217	113	104
Marginal Worker - Agriculture Labourers	65	36	29
Marginal Worker - Household Industries	1	1	0
Marginal Workers - Other	6	6	0
Marginal Worker (3-6 Months)	282	150	132
Marginal Worker - Cultivator (3-6 Months)	216	113	103
Marginal Worker - Agriculture Labourers (3-6 Months)	60	31	29
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	6	6	0
Marginal Worker (0-3 Months)	7	6	1
Marginal Worker - Cultivator (0-3 Months)	1	0	1
Marginal Worker - Agriculture Labourers (0-3 Months)	5	5	0
Marginal Worker - Household Industries (0-3 Months)	1	1	0
Marginal Worker - Other Workers (0-3 Months)	0	0	0
Non Worker	2,258	1,059	1,199
Number of Households		1125	

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of SARAGAPALLI

Population	Persons	Males	Females
Total	2,862	1,451	1,411
In the age group 0-6 years	284	137	147
Scheduled Castes (SC)	778	393	385
Scheduled Tribes (ST)	0	0	0
Literates	1,712	964	748
Illiterate	1,150	487	663
Total Worker	1,270	888	382
Main Worker	824	712	112
Main Worker – Cultivator	476	458	18
Main Worker - Agricultural Labourers	231	166	65
Main Worker - Household Industries	13	9	4
Main Worker – Other	104	79	25
Marginal Worker	446	176	270
Marginal Worker – Cultivator	142	26	116
Marginal Worker - Agriculture Labourers	254	132	122
Marginal Worker - Household Industries	8	2	6
Marginal Workers – Other	42	16	26
Marginal Worker (3-6 Months)	314	140	174
Marginal Worker - Cultivator (3-6 Months)	123	15	108
Marginal Worker - Agriculture Labourers (3-6 Months)	160	110	50
Marginal Worker - Household Industries (3-6 Months)	7	2	5
Marginal Worker - Other (3-6 Months)	24	13	11
Marginal Worker (0-3 Months)	132	36	96
Marginal Worker - Cultivator (0-3 Months)	19	11	8
Marginal Worker - Agriculture Labourers (0-3 Months)	94	22	72
Marginal Worker - Household Industries (0-3 Months)	1	0	1
Marginal Worker - Other Workers (0-3 Months)	18	3	15
Non Worker	1,592	563	1,029
Number of Households	709		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of SATHANUR

Population	Persons	Males	Females
Total	2,330	1,221	1,109
In the age group 0-6 years	247	131	116
Scheduled Castes (SC)	691	356	335
Scheduled Tribes (ST)	0	0	0
Literates	1,415	822	593
Illiterate	915	399	516
Total Worker	1,148	751	397
Main Worker	934	698	236
Main Worker – Cultivator	418	401	17
Main Worker - Agricultural Labourers	352	164	188
Main Worker - Household Industries	2	2	0
Main Worker – Other	162	131	31
Marginal Worker	214	53	161
Marginal Worker – Cultivator	12	10	2
Marginal Worker - Agriculture Labourers	93	28	65
Marginal Worker - Household Industries	0	0	0
Marginal Workers – Other	109	15	94
Marginal Worker (3-6 Months)	211	52	159
Marginal Worker - Cultivator (3-6 Months)	12	10	2
Marginal Worker - Agriculture Labourers (3-6 Months)	91	28	63
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	108	14	94
Marginal Worker (0-3 Months)	3	1	2
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	2	0	2
Marginal Worker - Household Industries (0-3 Months)	0	0	0
Marginal Worker - Other Workers (0-3 Months)	1	1	0
Non Worker	1,182	470	712
Number of Households	508		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of VANAKANAHALLI

Population	Persons	Males	Females
Total	1,374	716	658
In the age group 0-6 years	142	82	60
Scheduled Castes (SC)	352	188	164
Scheduled Tribes (ST)	20	7	13
Literates	888	527	361
Illiterate	486	189	297
Total Worker	519	409	110
Main Worker	515	407	108
Main Worker - Cultivator	161	151	10
Main Worker - Agricultural Labourers	183	118	65
Main Worker - Household Industries	1	1	0
Main Worker - Other	170	137	33
Marginal Worker	4	2	2
Marginal Worker - Cultivator	1	1	0
Marginal Worker - Agriculture Labourers	2	0	2
Marginal Worker - Household Industries	0	0	0
Marginal Workers - Other	1	1	0
Marginal Worker (3-6 Months)	4	2	2
Marginal Worker - Cultivator (3-6 Months)	1	1	0
Marginal Worker - Agriculture Labourers (3-6 Months)	2	0	2
Marginal Worker - Household Industries (3-6 Months)	0	0	0
Marginal Worker - Other (3-6 Months)	1	1	0
Marginal Worker (0-3 Months)	0	0	0
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	0	0	0
Marginal Worker - Household Industries (0-3 Months)	0	0	0
Marginal Worker - Other Workers (0-3 Months)	0	0	0
Non Worker	855	307	548
Number of Households	326		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

Population Status of MATHIGIRI

Population	Persons	Males	Females
Total	23,129	11,725	11,404
In the age group 0-6 years	2,900	1,471	1,429
Scheduled Castes (SC)	5,128	2,620	2,508
Scheduled Tribes (ST)	33	14	19
Literates	17,357	9,165	8,192
Illiterate	5,772	2,560	3,212
Total Worker	8,510	6,635	1,875
Main Worker	8,130	6,431	1,699
Main Worker - Cultivator	227	172	55
Main Worker - Agricultural Labourers	308	198	110
Main Worker - Household Industries	153	57	96
Main Worker - Other	7,442	6,004	1,438
Marginal Worker	380	204	176
Marginal Worker - Cultivator	22	16	6
Marginal Worker - Agriculture Labourers	20	6	14
Marginal Worker - Household Industries	21	4	17
Marginal Workers - Other	317	178	139
Marginal Worker (3-6 Months)	312	168	144
Marginal Worker - Cultivator (3-6 Months)	22	16	6
Marginal Worker - Agriculture Labourers (3-6 Months)	18	5	13
Marginal Worker - Household Industries (3-6 Months)	10	2	8
Marginal Worker - Other (3-6 Months)	262	145	117
Marginal Worker (0-3 Months)	68	36	32
Marginal Worker - Cultivator (0-3 Months)	0	0	0
Marginal Worker - Agriculture Labourers (0-3 Months)	2	1	1
Marginal Worker - Household Industries (0-3 Months)	11	2	9
Marginal Worker - Other Workers (0-3 Months)	55	33	22
Non Worker	14,619	5,090	9,529
Number of Households	5627		

3.23 BASELINE STATUS SUMMARY

The findings of baseline environmental status of the study area are summarized below:

- The monitored ambient air quality in the study area was found to be in compliance with the National Ambient Air Quality (NAAQ) Norms of 100 ug RPM/m³, 200 ug SPM/m³, 80 ug SO₂/m³ and 80 ug NO₂/m³ for Residential, Rural and other areas.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 3

- Ambient equivalent noise levels (Leq) during day and night times were found to be well within the MoEF Norms.
- The water quality of surface waters was found to be in compliance with CPCB norms.
- The ground water quality was found to be in compliance with the IS:10500 Norms.
- The absence of Oil & Grease, Phenols, Cyanides, low BOD & COD levels, trace metals below their detectable limits, etc. confirm the fact that the water quality in the vicinity was not getting polluted due to any industrial activity.
- The soil in the study area would very well support vegetation after amending it suitably.
- There is no Wild Life Sanctuary or National Park or Biosphere or Hotspots within the study area of 10 km.
- Domesticated animals and common fauna only exist in the study area.
- The area is thinly populated. All the villages are electrified, road connected and provided with water supply. The basic amenities are there almost at all villages.

Thus, there is **adequate buffer** for the proposed Project in the physical, biological and edaphic environments of the study area.

There are significant numbers of non-workers in the area and the project would provide direct or indirect job opportunities to them. Also, there will be some migration of labour force from outside also during construction phase which may result in social stress on the local settlements. However, this impact is envisaged to be marginal and temporary in nature.

Thus, the **overall impact** on environment during construction phase due to the proposed Project **would be short term and insignificant.**

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

CHAPTER - 4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4 GENERAL

In this chapter, identification of environmental impacts and the proposed mitigation measures for the proposed expansion scrap melting plant have been described. Generally, the environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly to the project. Secondary impacts are those, which are indirectly induced and typically include the associated investment and changed patterns of social and economic activities by the proposed expansion activities.

The impacts have been prepared for the proposed project, assuming that the status of existing site conditions has already been covered under baseline environmental monitoring and continue to remain same during the operation of the project.

4.1 IMPACTS AND MITIGATION MEASURES DUE TO PROJECT SITING

The construction and operation of the proposed project comprises of various activities each of which will have an impact on same or other environmental parameters. Various impacts during the operation phase on the environment parameters have been studied to estimate the impact on the environment and are discussed briefly below and elaborated in the subsequent sections.

The proposed scrap melting plant is located in the premises of existing steel rolling mill of Indus TMT Industries Limited. The existing roads will be used for transportation during construction and operation phase.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.2 IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION PHASE

This includes the activities related to leveling of site, construction of additional buildings for scrap melting plant and other related structures and installation of equipment.

4.2.1 LAND USE AND SOIL QUALITY

4.2.1.1 IMPACT ON LAND USE

The proposed project does not involve any removing of vegetation and reshaping topography as the land is vacant under non-planning area land use category. Thus, the overall impact will be beneficial in nature.

4.2.1.2 IMPACT ON SOIL QUALITY

The soil at the plant site predominantly consists of sandy loam. The construction activities will result in minimum loss of top soil to some extent in the plant area. The top soil requires proper handling like separate stacking so that it can be used for green belt development. Apart from localized constructional impacts at the proposed plant site, no significant adverse impact on soil in the surrounding area is anticipated.

4.2.1.3 MITIGATION MEASURES

As soon as construction is over, construction debris and surplus earth will be utilized to fill up low-lying areas. The rubbish will be cleared and all un-built surface reinstated. During construction phase, the top soil from excavated areas shall be preserved in separate stack for reuse during additional plantation. Development of green belt shall be taken up along with construction works, so plantation will grow to adequate height by the time of plant commission. Thus green belt will be effective.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.2.2 AIR IMPACT

4.2.2.1 IMPACT ON AIR QUALITY

During the construction phase, suspended particulate matter will be the main pollutant which would be generated from the site development activities and vehicular movement on the road. Further concentration of NO_x and CO may also slightly increase due to increased vehicular traffic movement. However the increase in ambient concentrations of air quality will be negligible. As most of the construction equipment will be mobile, the emissions are likely to be fugitive. The dust generated will also be fugitive in nature which will be controlled by sprinkling of water.

4.2.2.2 MITIGATION MEASURES

To mitigate the constructional impacts, regular sprinkling of water will be done at the site. The approach roads will be black carpeted and vehicle kept in good order to minimize automobile exhaust. Construction equipment shall be maintained and serviced regularly such that the gaseous emissions from this equipment are maintained within the design specification. Sufficient vegetation around the site is some of the measures will be taken to reduce the impacts during the construction phase.

4.2.3 NOISE IMPACT

4.2.3.1 IMPACT DUE TO NOISE LEVEL

The major sources of noise during the construction phase are vehicular traffic, construction equipment like dozers, scrapers, concrete mixers, cranes, pumps, compressors, pneumatic tools, vibrators etc. The operation of these equipments will generate noise ranging between 85-90 db (A) near the source at 1.0 m distance. These noises will be generated within the plant boundary and will be transient in nature.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.2.3.2 MITIGATION MEASURES

Equipments will be maintained appropriately to keep the noise level within 85 db (A). Whenever possible, equipment will be provided with silencers and mufflers. Construction activities will be restricted to day time only. Green belt will be developed from construction stage. Further, workers working in high noise areas will be provided with necessary protective devices example ear-plug, ear-muffs etc.

4.2.4 WATER IMPACT

4.2.4.1 IMPACT ON WATER QUALITY

The estimated water requirement during construction phase is 5- 6 KLD and water source will be local panchayat water. The wastewater generation during construction phase will be from sanitary units provided for the workers. This wastewater will be treated in the existing septic tank and discharged into soak pits. Hence there will not be any impact on the water regime due to discharge of sanitary treated waste water.

4.2.4.2 MITIGATION MEASURES

The earthwork (cutting and filling) will be avoided during rainy season and will be completed during summer season. Settling pond is planned for storage and recycling of surface water for use in the plant area. Soil binding and fast growing vegetation will be grown within the plant premises to arrest the soil erosion.

4.2.5 ECOLOGICAL IMPACT

The expansion activities will be carried out in the existing plant premises. In addition, the topographical map shows that the surroundings of the plant area are barren and vacant land. There is no fauna habitat recorded in the proposed project area. The site is neither an ecologically sensitive nor a place of ecological importance. Therefore, it is envisaged that the expansion activities doesn't make significant impact on biotic and abiotic environment.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.2.6 SOCIO-ECONOMIC IMPACT

The construction workers will be mainly employed from the adjacent villages. There will be considerable beneficiary impact on social life of the people around the site. Displacement of the people is not required, as site is free of habitation. Therefore, livelihood of the people will not alter. Hence rehabilitation & resettlement (R&R) is not required.

4.3 IMPACTS AND MITIGATION MEASURES DURING OPERATIONAL PHASE

The envisaged operation that will impact the environment would be the production activities of the scrap melting plant. Activities related to the operational phase will have varying impacts on the following attributes.

- Land Use
- Soil
- Topography and Climate
- Air Quality
- Water Resources and Quality
- Noise Levels
- Terrestrial and Aquatic Ecology and
- Demography and Socio – Economics

4.3.1 LAND USE

No significant change in land use was observed in the project site. The existing plant features the good infrastructure development and hence, any additional impact on land use will be insignificant.

4.3.2 SOIL QUALITY

The soil quality remains the same as the proposed expansion project doesn't involve a change in land use pattern. The solid waste generated from the plant includes the following;

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

General scrap

(End Cutting, Misroll and Mill Scale) and Dust from Dry Scrubber will be re-used in steel melting furnace

Other wastes STP Sludge will be used as manure and Solar Pan Residue will be disposed off through TNWML.

4.3.3 AIR QUALITY

4.3.3.1 IMPACTS ON AIR QUALITY

Being a scrap melting plant, the major source of air pollution is from melting machineries like furnace. The furnaces generate pollutant like SO₂, NO_x, and PM. Air pollution dispersion modeling has been carried out for SO₂, NO_x, and PM. These emissions will disperse in the atmosphere depending on the atmospheric conditions. The atmospheric conditions that affect the dispersion of pollutants are:

- Wind direction and wind speed
- Ambient temperature
- Atmospheric stability: Atmospheric stability depends on the wind speed and solar radiation intensity or cloud cover. During night time, the cloud cover, wind speed is considered for the stability calculation. More unstable condition will lead to better dispersion and stable condition will have less dispersion.
- Mixing Height: Mixing height is the region between the bottom of the inversion layer and the ground. The inversion layer is a dynamic region, which changes depending on the atmospheric condition.

INPUTS USED FOR DISPERSION MODELING

The important pollutant of the proposed scrap melting plant is mainly SO₂, NO_x, and SPM. Therefore, predictions of GLCs are considered for SO₂, NO_x, and PM. The emission from the stack is considered to be constantly distributed throughout the day for the dispersion analysis. The stacks considered for the model are as follows,

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

TABLE 4.1

SOURCE OF EMISSION FOR EXISTING & PROPOSED EXPANSION:

Existing

Stack No.	Sources of Emission	Details of APC measures
1	Re-heating furnace 18 TPH – 1 No.	Wet scrubber with stack height of 30 m
2	DG set 200 KVA – 1 No.	Stack height of 5.5 m has been provided. After Expansion existing stack height will be increased to 10.5 m with acoustic enclosures.

After Expansion

Stack No.	Sources of Emission	Details of APC measures
1	Re-heating furnace 18 TPH – 1 No.	Wet scrubber with stack height of 30 m
2	DG set 200 KVA – 1 No.	Stack height of 2.8 m has been provided. After Expansion existing stack height will be increased to 10.5 m with acoustic enclosures.
3	Induction Furnace 25 TPH - 2 Nos. 30 TPH – 1 No.	Dry scrubber is proposed to be installed to control the emissions from the furnace. Common stack of 40 m height with 1.25 m dia, bag filters and solenoid valve for the induction furnace.
4	DG set 500 KVA – 2 Nos.	Stack height of 10.0 m will be provided for each with acoustic enclosures.

Calculation of Stack Height

The minimum height of stack to be provided with each generator set can be worked out by using the following formula:

$$H = h + 0.2 \times \sqrt{\text{KVA}}$$

Where,

H = Total height of stack in meter, h = Height of the building in meters where the generator set is installed, KVA = Total generator capacity of the DG set in KVA.

Diesel Generator Capacity 200 KVA -1 No

$$= 3 + 0.2 \times \sqrt{200}$$

$$= 5.83$$

Required Height of Stack = 5.83 m, Hence Unit will provide 10.5 m height stack.

Diesel Generator Capacity 500 KVA -1 No

$$= 3 + 0.2 \times \sqrt{500}$$

$$= 7.47$$

Required Height of Stack = 10.0 m, Hence Unit will provide 10.0 m height stack.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

METEOROLOGICAL PARAMETERS

The surface meteorological parameters for the site were monitored from April 2015 to June 2015. The air pollutant dispersion modeling was done for this season.

MODELING PROCEDURE

US-Environmental Protection Agency's (US-EPA) Industrial Source Complex Short Term Model (ISCST3) was used for the air quality dispersion analysis.

DESCRIPTION OF THE MODEL

The Industrial Source Complex Short-Term (ISCST-3) model provides options to model emissions from a wide range of sources that might be present at a typical industrial source complex. The basis of the model is the straight-line steady state Gaussian Plume equation, which is used with some modifications, to model simple point source emissions from stacks.

The ISCST-3 model accepts hourly meteorological data records to define the conditions for plume rise, transport, diffusion and deposition. The model estimates the concentration or deposition value for each source and receptor combination for each hour of input meteorology, and calculates user-selected short-term averages.

RESULTS OF DISPERSION MODELING

The incremental SO₂, NO_x, and PM were predicted and concentrations are likely to be well within the prescribed limits after proposed machineries come into operation.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

TABLE 4.2
MAXIMUM INCREMENTAL CONCENTRATION

Pollutant	Concentration ($\mu\text{g}/\text{m}^3$)	Distance in Meter	Direction
PM	0.7	4000	W
SO ₂	0.0	4000	W
NO _x	0.1	4000	W

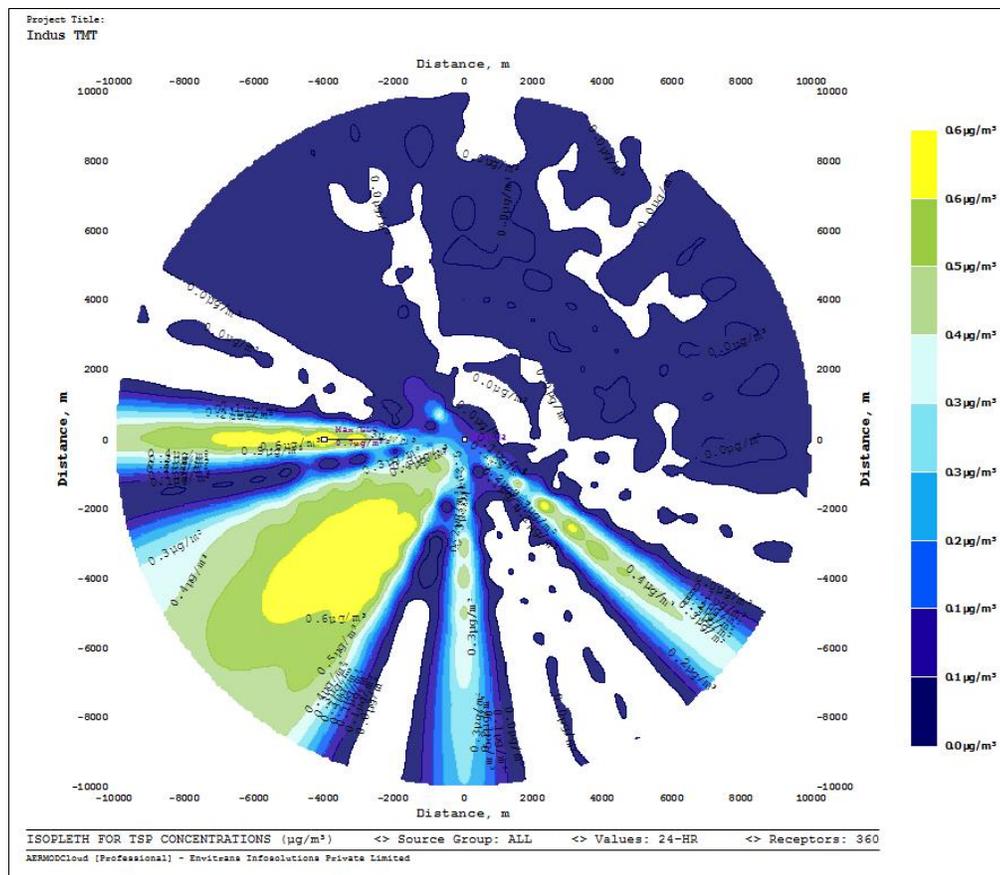


Fig 4.1 Short Term 24 Hourly Incremental GLCs of SPM

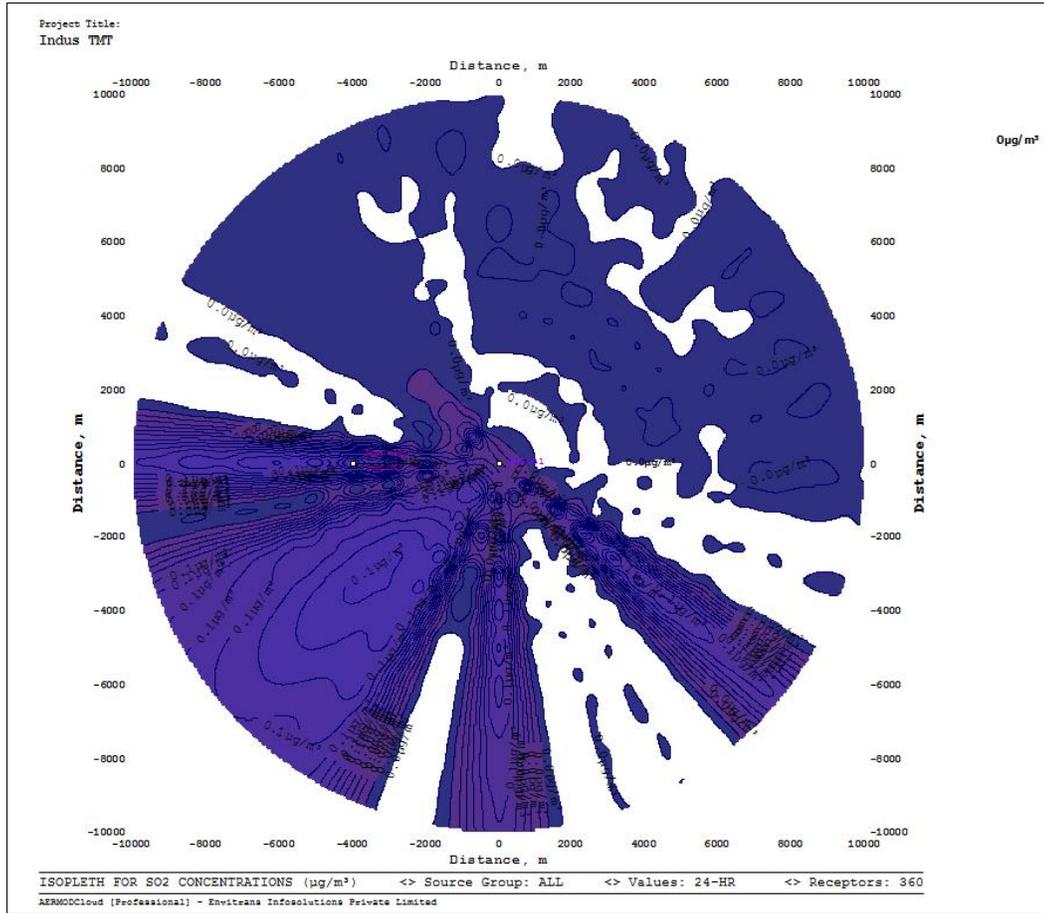


Fig 4.2 Short Term 24 Hourly Incremental GLCs of SO₂

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.3.3.2 MITIGATION MEASURES

Dry scrubber is proposed to be installed to control the emissions from the Induction Furnaces. Common stack of 40 m height with 1.25 m dia, bag filters and solenoid valve for the induction furnace. Stack height of 2.8 m has been provided for exiting DG set of capacity 200 KVA and after expansion existing stack height will be increased to 10.5 m. Separate stack height of 10.0 m will be provided for the proposed expansion of DG set 500 KVA – 2 Nos. The DG set is provided with acoustic enclosure to reduce the noise level.

4.3.4 WATER RESOURCES & WATER QUALITY

4.3.4.1 WATER RESOURCES

Water requirement for the proposed expansion of scrap melting plant will be 56 KLD. The entire water will be met from local panchayat.

4.3.4.2 IMPACT ON WATER QUALITY & MITIGATION MEASURES

As scrap melting plant will be operated on the dry process, water is mainly used at certain stages in the process like cooling tower make up. No wastewater is generated from the process and there is no cooling blow down and the entire quantity of makeup water lost into the atmosphere due to evaporation. There will not be any trade effluent generation from the scrubber, since dry scrubber will be used.

Sewage water of capacity 13 KLD will be generated from the domestic uses and will be treated in the Sewage Treatment Plant of capacity 15 KLD and the treated sewage water will be used for gardening.

4.3.5 NOISE IMPACT

4.3.5.1 IMPACT ON NOISE

The major source of noise in a rolling mill will be due to furnace operation, motor, engine, DG sets etc. No worker is working continuously at high noise generating source, however the workers going for the inspection of such machines are provided with earplugs. For computing the noise levels due to

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

the proposed project at various distances with respect to the plant site, noise levels are predicted using a user-friendly model.

Input for the Model

The prediction of incremental noise levels due to the operation phase of the proposed plant has been carried out using mathematical model. The noise sources have been defined with respect to plant.

Work Zone Noise Levels:

The damage risk criteria as enforced by OSHA (Occupational Safety and Health Administration) to reduce hearing loss, stipulates that noise level up to 90 dB (A) are acceptable for 8-hour working shift per day. It was observed from the existing plant, noise level ranging from 71 - 73 dB (A) are limited to work zone only. At the corners of the plant boundary, a noise level is varying between dB (A) to dB (A).

Community Noise Levels:

Day and Night sound pressure levels L_{dn} is often used to describe the community noise exposure, which includes 10 dB (A) night time penalty. The predicted noise levels at a distance of 0.5 Km and above from plant site, would be less than <45.0 dB (A). Most of the human settlements are at a distance greater than 0.5 km from the plant site. Hence, impact on general population would be insignificant.

Vibration:

In this unit there is some minor source of vibration in existing and in After expansion. So there will not be any impacts due to the vibration in the surrounding.

4.3.5.2 MITIGATION MEASURES

Adequate protective measures in the form of ear muffs/ear plugs will be provided to personnel working in high noise areas. All the necessary noise protective equipment will be supplied to workmen operating near high noise generating sources. In addition, reduction in noise levels in the high noise

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

machinery areas could be achieved by adoption of suitable preventive measures such as suitable building layout in which the equipment are to be located. The greenbelt proposed around the boundary of the plant will attenuate the noise emitted by the various sources in the plant.

4.3.6 IMPACT ON ECOLOGY

4.3.6.1 IMPACT ON ECOLOGY

The baseline flora and fauna has been described in chapter 3. There are no ecologically sensitive areas like wildlife sanctuaries in 10 km radius from the plant. Similarly there is no endangered or rare species of flora and fauna are reported or observed in the study area.

The impact on terrestrial ecology will be due to emission of pollutants like SPM, NO_x and SO₂. However, the incremental concentrations of these pollutants are less and the impacts on terrestrial ecology will be insignificant.

4.3.6.2 MITIGATION MEASURES

Extensive greenbelt is recommended to reduce the impact on ecological environment. Greenbelt is a set of row of trees planted in such a way that they form an effective barrier between the working zone and the surroundings.

- **Plantation Species**

The plantation species will be considered based on the following

- Adoption to the geo-climatic condition of the area;
- Mix of round, spreading, oblong and conical canopies;
- Different height ranging from 4m to 20m
- Preferably green trees;
- Fast growing type;
- A thick canopy cover;
- Preferably of native origin; and
- Having large leaf area index.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

4.3.7 SOCIO-ECONOMIC IMPACT

It is obvious to assume that the activities of the proposed scrap melting plant will produce some improvements in the Socio – economic levels in the study area. The anticipated impact of this project on various aspects is described in the following sections.

- **Impact on Human Settlements**

The proposed project will be carried in the existing plant area and hence no impact on human settlement is envisaged.

- **Impact on Population Growth**

This project will not have any impact on the population growth, as the proposed increase in manpower for the expansion project is not meager. Hence, increase in the population and related strain on infrastructure of the study area is not anticipated.

- **Impact on Economic Aspects**

The impact of industrialization on the economic aspects was clearly observed. The existing plant activities already provided the employment to persons of different skills and trades. The local population is the largest beneficiary among the employees. The proposed expansion will enhance the opportunities in both directly and indirectly in the area surrounding the project site.

- **Impact on Human Health**

Impact on health, if any, will be primarily due to air pollution i.e. emissions of PM, NO_x and SO₂ and noise generation. Adequate air pollution and noise pollution control measures will be provided to conform to regulatory standards. Employees working in high noise work place will be provided protective with Personal Protective Equipments (PPEs) like ear plugs/ear muffs for ensuring minimum impact on human health. The environmental management and emergency preparedness plans are proposed to ensure

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 4

that the probability of undesired events and consequences are greatly reduced and adequate mitigation is provided to face any emergency.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 5

CHAPTER - 5 ANALYSIS OF ALTERNATIVES

5.0 INTRODUCTION

Alternative sites and design process should be critically examined to maintain the positive environmental impact, socio-economic benefits & profitability and minimize the temporary adverse impact. Normally, the extent of displacement of people, the loss of agricultural land, relocation of flora & fauna and irreversible loss of natural resources permanently, will be deciding factors in selection/rejection of site. Project planning and the design process need to be flexible enough to adopt the modified basic project alternatives. The following steps will help in this process.

5.1 ANALYSIS OF ALTERNATIVE SITE

Since this project is to be developed in the existing facility of steel rolling mill and proposes to continue the similar process along with manufacture of M.S. Billet for expansion phase, the site chosen in the existing premises is most suitable and the project site is in accordance with MoEF guidelines.

- Uliveeranapalli Village at a distance of 2.0 Km. from the Plant.
- There are no National Parks, Wild life Sanctuaries and Bird Sanctuaries within 10 Km radius.
- No forest land is involved in the plant.
- There are no Reserve Forests within 10 Km. radius.

Hence there is no alternative site considered.

5.2 ANALYSIS OF ALTERNATIVE TECHNOLOGIES

Induction Furnace to produce Billets and Rolling Mill to produce Steel Bars & Rods are well proven technologies all over the world. Hence no technological failures are anticipated. Hence no alternative technologies are considered.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

CHAPTER - 6 ENVIRONMENTAL MONITORING PROGRAM

6.0 GENERAL

This Chapter includes the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules). The details include summary matrix of environmental monitoring during construction and operation stage; requirement of monitoring facilities and frequency, location, parameters of monitoring; compilation and analysis of data; comparison with base line data and compliance to accepted norms and reporting system and plantation monitoring programme.

6.1 ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental policy at Industry level is yet to be defined formally. Standards are stipulated by various regulatory agencies to limit the emission of pollutants in air and water. Similarly, a mandatory practice is recommended for preparing an Environment Statement each year in order to encourage the industries to allow efficient use of resources in their production process and reduce the quantities of waste per unit of product. This in itself is not sufficient since this does not provide an assurance that its Environmental performance not only meets, will continue to meet, legislative and policy requirements.

Hence Environmental Management System (EMS) are suggested at the industry level for ensuring that the activities, products and services of the region conform to the carrying capacity (Supportive and Assimilative capacity) of the Environment. Since this is more in line with the quality systems, it is proposed to develop one as outlined in the following sub sections. The EMS- its set-up, role and responsibilities – is given below.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

6.1.1 FORMATION OF AN ENVIRONMENTAL MANAGEMENT SYSTEM

The environmental management system for the scrap melting plant will enable it to maximize its beneficial effects and minimize its adverse effects with emphasis on prevention. It will:

- Identify and evaluate the environmental effects arising from the plant's activities;
- Identify and evaluate the environmental effects arising from incidents, accidents and potential emergency situations;
- Identify the relevant legislative and regulatory requirements;
- Enable priorities to be identified and pertinent environmental objectives and targets to be set;
- Facilitate planning, control, monitoring, auditing and review of activities to ensure that the policy is complied with; and
- Allow periodic evaluation to suit changing circumstances so that it remains relevant.

6.2 IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

The top management of the scrap melting plant is committed to develop its activities in an environmentally sound manner and supports all efforts in achieving this objective. In pursuance of this, formal environmental management system shall be established during the operating phase of the plant which shall carry out periodic environmental review, covering the following four areas:

- Legislative and regulatory requirements;
- Evaluation and registration of significant parameters and their environmental impacts;
- Review of environmental management practices and procedures being proposed; and
- Assessment of feedback from investigation of previous environmental incidents and non-compliance with legislation, regulations or existing policies and procedures.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

The environmental review shall address the following:

- The nature and extent of problems and deficiencies;
- The priorities to be accorded to rectify them; and
- An improvement program designed to ensure that the personnel and material resources required are identified and made available.

Environment Management Records

The plant shall establish and maintain a system of records to demonstrate compliance with the environmental management systems and the extent of achievement of the environmental objectives and targets. In addition to the other records (legislative, audit and review reports), management records shall address the following:

- Details of failure in compliance and corrective action;
- Details of complaints and follow-up action
- Appropriate contractor and supplier information;
- Inspection and maintenance reports;
- Monitoring data; and
- Environmental training records

Environmental Management Reviews

The senior management shall periodically review the Environmental Management System (EMS) to ensure its suitability and effectiveness. The need for possible changes in the environmental policy and objectives for continuous improvement shall be ascertained and revisions made accordingly.

Implementation Schedule of Mitigation Measures

The mitigation measures suggested in Chapter – 4 shall be implemented so as to reduce the impact on environment due to the operations of the proposed project. In order to facilitate easy implementation of mitigation measures, the phased priority of implementation is given in the below Table.6.1.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

Table.6.1. Implementation Schedule

S. No	Recommendations	Time Requirement	Schedule
1	Air Pollutions Control Measure	Before Commissioning of respective units	Immediate
2	Water Pollution control measures	Before Commissioning of the plant	Immediate
3	Noise Control Measures	Along with the commissioning of the plant	Immediate
4	Ecological Preservation and up gradation	Stage wise implementation	Immediate & Progressive

6.3 ENVIRONMENTAL MONITORING

(a) A technical plan which spells out in detail the methodologies for measurement, the required frequencies of measurement, the planned location of measurement, data storage and analysis, reporting schedules and emergency procedures, and

(b) Detailed budgets and procurement schedules for, necessary equipment and supplies, technical and administrative manpower.

The environmental monitoring for the proposed plant operations shall be conducted as follows:

- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil Quality; and
- Greenbelt Development.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

6.4 ENVIRONMENTAL MONITORING CELL

A Centralized environmental monitoring cell will be established for monitoring of important and crucial environmental parameters which are of immense importance to assess the status of environment during Plant operation. With the knowledge of baseline conditions, the monitoring program can serve as an indicator for any deterioration in environmental conditions due to operation of the plant, and helps in planning suitable mitigatory steps that of control of pollution since the efficiency of control measures can only be determined by monitoring. The following routine monitoring program will be implemented under the post-project monitoring in the proposed plant. The Monitoring program proposed to be implemented is given below.

6.5 POST PROJECT MONITORING SCHEDULE OF ENVIRONMENTAL PARAMETERS

Environmental Monitoring Programme

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

Particulars	Parameter	Frequency of Monitoring
Stack Emissions	SPM, SO ₂ , NO _x , CO	Once in a month
Ambient Air Quality	PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂	Once in a month
Waste water	pH, TDS	Continuous
Noise monitoring	Noise Levels	Monthly (Industrial Noise) Seasonal (Ambient Noise)
Ecology	Vegetation density and Biodiversity	Once a year
Safety and Occupational Health	--	Once a year

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

6.6 MONITORING EQUIPMENTS AND CONSUMABLES

A well-equipped laboratory (NABL Certified) with consumable items will be provided for the monitoring of Environmental parameters.

The following equipments will be provided for the monitoring of Environmental parameters.

EQUIPMENT DETATILS FOR ENVIRONMENTAL MANAGEMENT

Name of the Equipment	Purpose
High Volume/ Respirable Dust Sampler	AAQ Monitoring
Stack Monitor	Particulates, SO ₂ , NOx and Fluoride
Automatic Weather monitor	Meteorological data collection at Site
Sound level meter	Noise levels
UV-Spectrophotometer	Chemical Analysis
Atomic Absorption Spectrophotometer (AAS)	Chemical Analysis
Micro Balance	Chemical Analysis
BOD Incubator	BOD Estimation
COD Reflux set up	COD Estimation
Refrigerator	Preserving Samples
Oven	Heating
pH Meter	pH Analysis
Distilling Unit	Distilled water
DO Analyser	DO Analysis
Burette & Pipette Box	Chemical Analysis
Titration Setup	Chemical Analysis
Chemicals	Chemical Analysis

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 6

6.7 BUDGETARY ALLOCATION FOR ENVIRONMENTAL PROTECTION

Budgetary Allocation for Environmental Management programme

Category	Capital Investment	Annual Operating Costs
	(Rupees in lakhs)	
Air Pollution Management	95	15
Water and Wastewater Management	20	5.0
Solid Waste Management	10.0	0.25
Greenbelt	2.0	0.5
Environmental Monitoring and Training	1.8	2.5
CSR Activities	10.0	2.00
Total	131	25.25

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

CHAPTER - 7

ADDITIONAL STUDIES

7. RISK ASSESSMENT

Any new industrial activity involving any hazardous chemical named or classified in the various schedules under the Environment (Protection) Act, 1986/Hazardous Waste (Management and Handling) Rules 1989 attracts compliance with the rules. A brief risk assessment study was undertaken for the proposed unit.

The major elements of the Risk Assessment include:

- Hazard & Operability (HAZOP) Studies for identification of hazards and vulnerable sections of the storage,
- Consequence Analysis for various release scenarios,
- Presentation of damage contour for worst damage from fire or explosion,
- Risk Assessment and
- Provision of guidelines for emergency preparedness based on the findings of the risk analysis.

The details of the present study are:

1. Hazard Identification and Visualization of Credible Accident Scenarios

- Identification of hazards,
- Analysis of past accident data to develop the credibility of worst accident scenarios and
- Visualization of Credible Accident scenarios (CAS).

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

2. Analysis of CAS

Analysis of identified CAS and quantification of effects pertaining to the cases of:

- Outflow and releases
- Heat radiation
- Explosion
- Application of damage criteria for heat radiation and explosion.
- Presentation of damage contours for worst damages from fire or explosion.
- Effect of the proposed project on neighboring areas (including cascade effects if any).

3. Guidelines for emergency planning and other safety recommendations based on the studies.

7.0.1 Hazard Classification Based on External Factors

The extent of the consequences of an accident in a M.S. Billet manufacturing Plant installation depends on type and quantity of the product stored, handled, mode of containment, and external factors like location, density of population in the surrounding area, etc. In many cases realization of hazard and its potential also is depended on prevailing meteorological conditions and availability of ignition source. Thus the most serious consequence would arise from a large inventory of products located in a density populated area.

Analysis of past accidents to establish the credibility of accident scenarios

A scientific analysis of past accidents has been made to establish the credibility of accident scenarios. This helps to check the soundness of the engineering analysis.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Based on Fire & Explosion Index

The next stage of hazard identification involves the estimation of Fire & Explosion Indices (Fand EI) for all the units in the facility to give the relative severity of the units from the fire angle. These are evaluated from the knowledge of the Material Factor (MF), General Process Hazard (GPH) and Special Process Hazard (SPH) factors. Material Factor (MF) is the measure of the energy potential of a particular chemical or its mixture with other chemicals. GPH and SPH are evaluated by taking into account the exotherm or endotherm of a reaction, material handling and transfer hazards, accessibility, severity of process conditions and possibilities, dust and other explosions, inventory level of flammable material, etc. The F & EI value is then calculated as the product of MF, (GPH and SPH). Detailed fire and explosion Indices were carried out for the major sections of the unit.

Analysis of F & EI Results

A summary of the results including the material factors for each of the chemicals or metals processed on site is given in the following Table. From the results of the F & EI studies, it can be observed that all the manufacturing units having F & EI values with index of Steel Bars & rods and M.S. Billet fall under the light degree of fire and explosion hazard index.

F & EI Calculations

<i>Units</i>	<i>Material Factor MF</i>	<i>Fire & Explosion Index (F & EI)</i>	<i>Degree of Hazard</i>
1.Iron as (Steel Bars & Rods and M.S. Billet)	14	29.4	Light

Material factor for iron metal is derived from NFPA ratings as 14.

NH (Health)	-	1	} for Iron
NF (Flammability)	-	2	
NR (Reactivity)	-	1	

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Material factor is the measure of energy potential of the most hazardous material. Material factor is the number in the range 1 to 40 and it is determined using only two properties, the flammability and reactivity.

Tabulation for Material Factor

<i>Nr</i>	<i>Material Factor</i>				
	0	1	2	3	4
0	1	14	24	29	40
1	4	14	24	29	40
2	10	14	24	29	40
3	16	16	24	29	40
4	21	21	24	29	40

Toxicity Index (TI)

The toxicity index is calculated for the purpose of evaluating the process exposure level for Toxic hazard.

It is expressed as

$$TI = \frac{T_h (P+S)}{100}$$

Where T_h is the factor for the most hazardous material in the process that is present in an appreciable quantity with lowest threshold limit value (TLV), P the total GPH and, S the total SPH penalties used.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

The chart for the T_h value is

N_h	--	T_h
0	--	0
1	--	50
2	--	125
3	--	250
4	--	325

Add to the above T_h value if TLV value is less than 100 ppm. The chart is

TLV	--	Add to T_h
≤ 5 ppm	--	125
5 - 50 ppm	--	75
50 - 100 ppm	--	50

From the above Toxic Index values, category of Toxic hazard is prepared as follows

<u>Category</u>	--	<u>Toxity Index (TI)</u>
Category – I	--	< 6
Category – II	--	6 to 10
Category – III	--	> 10

Category – I is less toxic hazard, Category – II is medium toxic hazard whereas category – III is highly toxic hazard.

By Toxic Calculation, Steel Bars & Rods and M.S. Billet manufacturing process, the Toxic Index value is Nil. Hence it comes under nontoxic hazard category.

Fire & Explosion Indices (F & EI) for all the storage units in the facility have been estimated to give the relative degree of severity of the units using the criteria given below,

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Index Range	Degree of Hazard
1 – 20	Mild
21 – 40	Light
41 – 60	Moderate
61– 75	Moderately heavy
76-90	Heavy
91 – 115	Extreme
116 – 150	Very Extreme
151 – 200	Potentially catastrophic
> 200	Highly catastrophic

The worksheet for the F & EI estimated for the M.S.Billet, Steel Bars and Rods is given in **Annexure – 4** Refer page no: 197.

7.0.2 Hazard and Operability Study (HAZOP)

A HAZOP study identifies hazards and operability problems. The concept involves investigating how the plant might deviate from the design intent. If, in the process of identifying problem during a HAZOP study, a solution becomes apparent, it is recorded as part of the HAZOP result; however, care must be taken to avoid trying to find solutions which are not so apparent, because the prime objective for the HAZOP is problem identification. Although the HAZOP study was developed to supplement experience-based practices when a new design or technology is involved, its use has expanded to almost all phase of a plant's life. HAZOP is based on the principle that several experts with different backgrounds can interact and identify more problems when working together than when working separately and combining their results.

The success or failure of the HAZOP depends on several factors:

- The completeness and accuracy of drawings and other data used as a basis for the study
- The technical skills and insights of the team

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

- The ability of the team to use the approach as an aid to their imagination in visualizing deviations, causes and consequences
- The ability of the team to concentrate on the more serious hazards which are identified.

The process is systematic and it is helpful to define the terms that are used:

- a. STUDY NODES – The locations (on piping and instrumentation drawings and procedures) at which the process parameters are investigated for deviations.
- b. INTENTION – The intention defines how the plant is expected to operate in the absence of deviations at the study nodes. This can take a number of forms and can either be descriptive or diagrammatic: e.g., flow sheets, line diagrams, P & IDs.
- c. DEVIATIONS – These are departures from the intention which are discovered by systematically applying the guide words.
- d. CAUSES – these are the reasons why deviations might occur. Once deviations has been show to have a credible cause. It can be treated as a meaningful deviation. These causes can be hardware failures, human errors, an unanticipated process state, external disruptions, etc.
- e. CONSEQUENCES – These are the results of the deviations
- f. GUIDE WORDS - These are simple words which are used to qualify or quantify the intention in order to guide and to discover deviations. The guide words are the ones most often used in a HAZOP: Each guide word is applied to the process variables at the point in the plant (study node).

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Guide words	Parameter	Deviation
No	Flow	No flow
More	Pressure	More pressure
Less	Pressure	Less pressure
As well as	Temperature	Less temperature
Part of	Temperature	Less temperature
Reverse	Flow	Reverse flow
Others	Composition	Other material

These guide words are applicable to both the more general parameters (e.g. react, transfer) and the more specific parameters (e.g., pressure, temperature).

HAZOP GUIDE WORDS AND MEANINGS

Guide words	Meaning
No	Negation of the Design intent
Less	Quantitative Decrease
More	Quantitative Increase
Part of	Quantitative Increase
As well As	Quantitative Increase
Reverse	Logical Opposite of the Intent
Other Than	Complete substitution

Guidelines for using procedure

The concepts presented above are put into practice in the following steps:

1. Define the purpose, objectives, and scope of the study
2. Select the team
3. Record the results

It is important to recognize that some of these steps can take place at the same time. For example, the team reviews the design, records the findings, and follows up on the findings continuously. Each step will be discussed below as separate items.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Define the purpose, objectives, and scope of the study

The purpose, objectives, and scope of the study should be made as simple as possible. These objectives are normally set by the person responsible for the plant or project, assisted by the HAZOP study leader. It is important that this interaction take place to provide the proper authority to the study and to ensure that the study is focused. Also, even though the general objective is to identify hazards and operability problems, the team should focus on the underlying purpose or reason for the study. Examples of reasons for a study might be to:

- Check the safety of a design
- Decide whether and where to build
- Check operating / safety procedures
- Improve that safety of an existing facility
- Verify that safety instrumentation is reacting to best parameters

It is also important to define what specific consequences are to be considered:

- Employee safety
- Loss of plant or equipment
- Loss of production
- Public safety
- Environmental impacts

Select the team

The team leader should have experience in leading a HAZOP. The rest of the team should be experts in areas relevant to the plant operation. For example, a team might include:

- Design engineer
- Process engineer
- Operations supervisor
- Instrument design engineer
- Chemist

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

- Maintenance supervisor
- Safety engineer

The team leader's most important job is to identify problems, not necessarily to solve them.

Record the results

The recording process is an important part of the HAZOP. It is impossible to record manually all that is said, yet it is very important that all ideas are kept. It is very useful to have the team members review the final report.

Hazard work sheet for M.S. Billet, Steel Bars & Rods process is attached

HAZOP WORK SHEETS

Node : Induction furnace (Proposed)

Parameter : Flow of molten Iron liquid

Intention : Mold into Billet and rolled into rods.

Guide words	Deviation	Causes	Consequences	Safety guards	Recommendations
More	More flow of material	Over flow	Spillage	Controlled transfer	Limit switch for controlled flow
Less	Less flow of material	Less flow	Less weight	Controlled transfer	-
More	Higher Temperature of molten metal	Over melting of Iron ingots	Process upset	Temperature indicator	-
Less	Lesser Temperature of molten metal	Induction Furnace	Molten metal freeze	Temperature indicator	-

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

7.0.3 ONSITE EMERGENCY PLAN

Introduction

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

Although a great deal of efforts and money are spent to reduce the scale and probability of accidents, there always remain a finite but small probability that disaster may occur. The accidents of Texas City, Mexico and Feyzin are grim reminders to the necessity of an effective emergency planning. There have been many cases where, because of effective action taken, the full potential loss has been avoided or minimized.

Disaster Management Plan is an essential part of the loss prevention strategy. This is a preplan to handle any emergency situation effectively — so as to reduce the possibility of serious loss/damage to public, plant, machinery, documents etc. Losses can be measured in both human and monetary terms.

The plan is a comprehensive one detailing the procedures to tackle an emergency situation both on-site and off-site depending upon the magnitude of the disaster. Hence Disaster Management Plan is outlined in TWO parts, viz.

- a) On-site Emergency Plan utilizing only internal resources,
- b) Off-site Emergency Plan utilizing the combined resources.

Disaster Management Plan assumes great importance particularly in case of a plant like ours, which handles MS Scrap and Sponge Iron into mold as Steel Bars & Rods and MS Billet.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Effective and timely action can be taken to tackle a major disaster, only if a comprehensive and practiced procedure in line with the Disaster Management Plan is existing.

Main Objective of the Plan

- Provide resources & method for effective control of emergency,
- Prevent emergency turning into disaster,
- Synchronize actions from all coordinating agencies in the least possible time.
- Minimize damage to people, property & environment,
- Timely execution of rescue operations & treatment of casualties,
- Restore normality in least possible time.

Possible Causes for Disasters

Nature of Disaster	Causes
1. Fire	<ul style="list-style-type: none"> - Static Electricity - Friction - Lightning - Smoking - Naked Electrical Connection - Unapproved Hot Work
2. Explosion	<ul style="list-style-type: none"> - Bursting of Pipelines - Failure of Valves, Joints - Rise of temperature
3. Other Disasters	<ul style="list-style-type: none"> - Earthquakes - Not using protection equipments - Flouting operating procedures - Lack of proper inspection and Preventive maintenance - Lack of alertness - Unsafe walkways & driveways - Poor Housekeeping - Unsafe design & constructions - Poor illumination of workplace - Unguarded equipments - Violating Safety Precautions.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Scope

This Plan is expected to provide general guidelines for handling cases of emergencies inside the Plant — Involving molten metal and Al / Mg granules. It must be kept in mind that any unusual incident may develop into a major emergency, if remedial & controlling measures are not taken in time. The emergency response, therefore are planned in such a fashion as to adequately avert this eventuality.

Appointment of Key Personnel

Key Persons are the Site Controller, Incident Controller, Administrative Coordinator, Fire & Safety Coordinator and Communications & Maintenance Coordinator who are designed as follows:

Site Controller	:	Plant Manager, Also Designated as the Chief Coordinator
Incident Controller	:	Senior Operations Officer
Administrative Coordinator	:	Accounts Officer
Fire & Safety Coordinator	:	Safely Officer & Operations officer
Communication & Maintenance	:	Maintenance Officer, Operations Coordinator Officer
Security Controller	:	Security Supervisor

Emergency Control Centre

The Administrative Office is our Emergency Control Centre. This Centre will be the pivotal point in case of an emergency from where the operation to handle the emergency will be directed and coordinated. It is having the facilities of external & internal telephones and furnished with important information like List of Key Persons, their Addresses with Telephone Nos. and a copy of the Material Safety Data Sheet. This centre will also act as an operating point for Public Address System.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

Assembly Points

Assembly Points are the place inside plant premises where predesignated persons from the plant, contractors and visitors would assemble in case of emergency. Obviously, these are set up farthest from the location of likely hazardous events. In our plant, following area is identified as the Assembly Point:

1. Open Area

Escape Route

Following are the escape routes provided for evacuees in case of emergencies:

1. Emergency Gate
2. Main Gate

Responsibilities of Key Personnel

I. Site Controller or, Chief Coordinator

- Analyse & review the possible impact of the emergency
- Clarify & declare emergency
- Assess the magnitude of the situation and decide whether the staff need to be evacuated from the Assembly Points
- Establish contact with District Emergency Authorities like Police, Fire Brigade, Hospital, District Collector, Inspector of Factories etc.
- Monitor and review the events and also the possible developments in consultation with Incident Controller, Administrative, Safety and Maintenance Coordinators.
- Contact Mutual Aid partners, and alert them for any possible assistance, if needed,
- Ensure that record of all events, decisions taken, Government directives etc. are preserved for future analysis.
- Assess the damage after the Emergency is over.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

II. Incident Controller.

- On hearing the emergency alarm/siren, he will rush to the incident spot and taken overall charge, and report to the Site Controller.
- Direct all operations within the affected area with the priorities for safety of personnel minimize damage to the plant, property and environment and minimize loss of materials.
- Pending arrival of Site Controller, assume the duties of his post and in particular
 - a. Direct closure and evacuation of plant areas likely to be adversely affected by the emergency, and
 - b. Ensure that all key personnel and outside help are called in.
- Provide information and assistance to the Fire & Safety Officer and the local fire Brigade, as and when they arrive at the plant.
- Ensure that all non-essential workers/staff of the areas affected are evacuated to the appropriate Assembly Points, and the areas are searched for casualties.
- Report on all significant developments to the Communication Coordinator.

III. Administrative Coordinator

- Handle, under the direction of Site Controller, Police, Press and other enquiries.
- Receive reports from Assembly Points, and pass on the information to the Incident Controller.
- Ensure that casualties receive adequate attention, and arrange additional help, if required and inform relatives.
- Control traffic movements into the plant, and ensure that alternate transport is available when need arises.
- Make arrangements for relief of personnel and organise refreshments/catering facility.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

IV. Communication and Maintenance Coordinator

- On hearing the alarm, proceed to Control Centre and maintain communication with incident Controller.
- Advise Site Controller of the situation recommending, if necessary evacuation of staff from Assembly Points.
- Recruit suitable staff to act as runners between Incident Controllers and himself (if the telephone and other mode of Communications fail).
- Maintain a log of the Incident.
- In case of prolonged emergency involving risk to outside areas by wind blown materials, contact Police & Fire Brigade for warning, and if necessary, evacuating the nearby localities.

V. Fire & Safety Coordinator.

- On hearing the alarm, reach the emergency spot immediately, and analyse & review the situation.
- Organize and give instructions to the plant staff to fight emergency.
- Advise the Site Controller, Incident Controller & Communication Coordinator through intercom/messengers about the nature and spot of the incident.
- Ensure adequate materials and manpower to handle the emergency.
- Review the situation periodically, and inform the Site Controller.
- Advise Site Controller to seek help, if necessary from outside agencies like Police, Fire Brigade, and Medical etc.

VI. Security Controller

- Coordinate with Police, Ambulance and Fire Brigade, as required

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

- Ensure protection to all corporation personnel and their property, Close public traffic on Corporation roads as advised by Site Controller.
- Assist in evacuating personnel from affected areas.
- Control law & order in Corporation premises.

7.0.4 OFF-SITE EMERGENCY PLAN

An integral part of the Disaster Management Plan is the Off-site Emergency Plan, which is based on assessment of those incidents, which have the potential to affect the environment outside the plant premises. Obviously, the plan is mainly dependent upon a very close coordination and assistance from the local administration like Police, Fire Brigade, Medical Service etc.

Though according to the 'Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989' categorically states that responsibility to prepare and keep up-to-date an adequate 'Off-site Emergency Plan' solely rests with the District Emergency Authority' (Item No. 9 of Schedule –5), the Plant has developed a realistic Off-site Plan detailing the responsibility of local agencies during such emergencies.

Off-site Action

The Chief Coordinator will inform about the incidents like fire, explosion to

1. Police,
2. Fire Brigade,
3. Medical Services,
4. Technical Agencies,
5. Rehabilitation Agencies.

Responsibilities of the Service

I. Police

- Traffic & mob control by cordoning of the area,
- Arrangement for evacuation of people on advice from the Chief Coordinator/Chief Executive of local authority,

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

- Inform relatives about details of injured and casualties.

II. Fire Brigade

- Fighting fire & preventing its spread,
- Rescue and salvage operation.

III. Medical/Ambulance

- First Aid to the injured persons.
- Shifting critically injured patients to the hospitals,
- Providing medical treatment.

IV. Technical

Factory Inspectorate, Pollution Control Board, Technical Experts from Industries, Research & Training Institutions.

- Provide all technical informations to the emergency services, as required,
- Investigate the cause of the disaster.

V. Rehabilitation

Local Administration

- Arrange for rehabilitation of persons evacuated, and arrange for their food, medical and hygienic requirements,
- Coordinating with the Insurance Companies for prompt disbursement of compensation to the affected persons,
- Maintain communication channels of the affected industry like telephone, telex etc. in perfect working condition.

7.0.5 CONCLUSION

Since the unit does not have any toxic or flammable gases in large quantity, the off-site emergency plan does not arise at all.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

7.0.6 RECOMMENDATION

7.0.6.1 Worker's safety

It is gratifying to note that the workers safety have been given importance in M/s. Indus TMT Industries Limited it is advisable to provide adequate training for the workers to keep the plant clean. The fire extinguishers should be provided in important sections and it is necessary that the workers are given training in handling them during emergency.

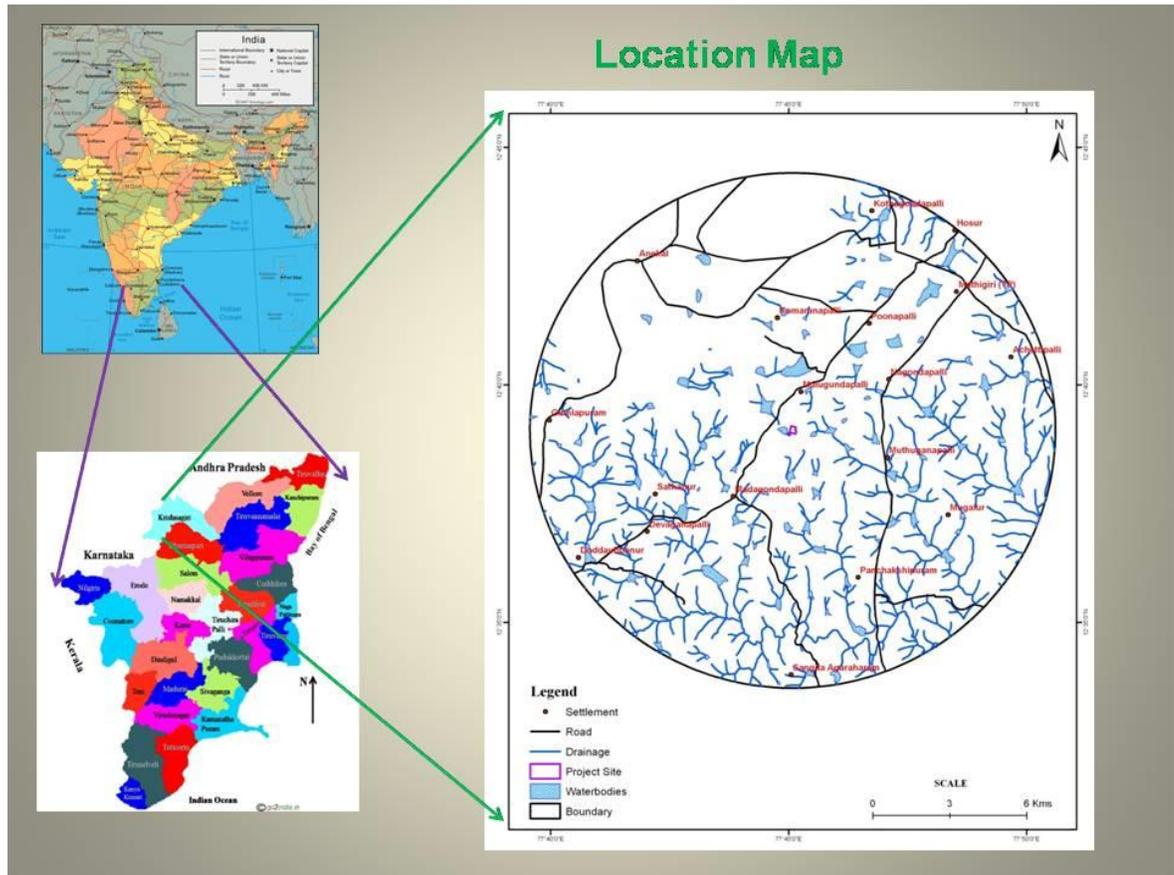
7.0.6.2 Conclusion

M/s. Indus TMT Industries Limited will follow the recommendations and design the plant area to keep the plant to minimize fire, if it occurs to eliminate the damage to men, mechanics and materials.

7.0.7 HYDROGEOLOGY & GEOLOGY STUDY OF THE AREA

7.0.7.1 INTRODUCTION

The project site is located in Hosur and part of the Krishnagiri District of Tamil Nadu State, lies at 12 : 44 Northern Latitude and 77 : 50 Eastern Longitude and at a distance of 294 km from Chennai city and 40 km from Bangalore city. It is also known as "Little England" because of its climate which is summer 25°C to 30°C and in winter 13°C to 25°C. This town is in the border area of Tamil Nadu, Karnataka and Andhra Pradesh states. During British period, Hosur was the head quarters for Salem district. Hosur is known for its manufacturing industries. Hosur is known on these days, not only for its climatic condition, but for the Thousands of industries located here. Hosur houses of industries from abrasives, automobiles, bakery to welding and wire mesh industries. Hosur is at the height of about 900 meters above the sea level. Study area Covers 12.62 Sq. KM. The population exceeds 2, 00,000 in Hosur.



7.0.7.2 RAINFALL AND CLIMATE

The study area receives the rain under the influence of both southwest and northeast monsoons. The normal annual rainfall over the district varies from about 750 to about 900 mm. It is the minimum around Hosur (767.7 mm) and Rayakottai (768.0 mm) in the northern and central parts of the district. It gradually increases towards west and east and is the maximum around Denkanikotai (910.7 mm) in the western part. The climate of the study area is comparatively more pleasant than that of the surrounding districts due to general dryness of atmosphere and appreciable drop in temperature in the monsoon season. The year may be divided into four seasons namely dry season from January to March, summer season April and May, southwest monsoon season from June to Sept. and northeast monsoon season from October to December. During summer season (April to May) the maximum temperature is about 37°C, and the mean daily minimum temperature of

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

about 25°C in the plains. There is a gradual decrease of both day and night temperatures from June onwards till December, when the mean daily maximum temperature is about 30°C and the mean daily min. is about 19°C in plains. The day temperature increases gradually from January onwards. The lowest temperature is reached in January when the mean daily minimum is about 19°C. However, in higher areas i.e., Hosur, Thally and Krishnagiri taluks day and night temperature is lower by about 2 to 3°C. In these areas weather is comparatively pleasant round the year.

7.0.7.3 DRAINAGE

The study area forms parts of Cauvery and East Coast Minor Rivers basins. Cauvery River forms the southwestern boundary of the district. Dodda Halla is the most important tributary of Cauvery draining the rugged terrain in the northwestern part of the district. Ponnaiyar is the major river draining the district and is ephemeral in nature. It originates from Nandhi hills in Karnataka, enters Tamil Nadu west of Bagalur and flows almost in a southeasterly direction till it reaches Manjamedu from where it flows along the district boundary before entering the district, again near Hanuman Tirtham. After flowing for a short distance in an easterly direction, it again follows the district boundary before entering the neighboring Dharmapuri district. Pambar and Burgur are among the important tributaries of Ponnaiyar draining part of the district.

7.0.7.4 IRRIGATION PRACTICES

The chief irrigation sources in the district are dug wells, tanks, canals and bore wells. Dug well irrigation is highest in Uthangarai block followed by Kaveri Pattanam. Highest canal and tank irrigation are seen in Kaveripattinam and Krishnagiri respectively.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

7.0.8 GEOMORPHOLOGY AND SOIL TYPES

7.0.8.1 GEOMORPHOLOGY

The prominent geomorphic units identified in the district through interpretation of satellite imagery are structural hills in the southwestern part of the district, denudational land forms like buried pediments in the plains and inselbergs and plateaus represented by conical hills aligned with major lineaments. Krishnagiri district forms part of the upland plateau region with many hill ranges and undulating plains. The western part of the district has hill ranges of Mysore plateau with a chain of undulating hills and deep valleys extending in NNE-SSW direction. The plains of the district have an average elevation of 488 m amsl. The plateau region along the western boundary and the northwestern part of the district has an average elevation of 914 m amsl. The Guthrayan Durg with an elevation of 1395 m amsl is the highest peak in the district.

7.0.8.2 SOILS

Soils have been classified into Black soil, mixed soil, red loamy soil, gravelly and sandy soils. Red loamy and sandy soils are predominant in Hosur taluk. Vast stretches of loam soils and black soils occur in Krishnagiri district.

7.0.9 GEOLOGY

Krishnagiri district forms part of the upland plateau region with many hill ranges and undulating plains. The western part of the district has hill ranges of Mysore plateau with a chain of undulating hills and deep valleys extending in NNE-SSW direction. The plains of the district have an average elevation of 488 m amsl.

Krishnagiri district is underlain by Archaean crystalline formations with Recent alluvial deposits of limited areal extent and thickness along the courses of major rivers.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

7.0.10 HYDROGEOLOGY

The district is underlain by Archaean Crystalline formations with recent alluvial deposits of limited areal and vertical extents along major rivers. The important aquifer systems in the district are constituted by i) unconsolidated & semi consolidated formations and (ii) weathered and fractured crystalline rocks. In the areas underlain by crystalline rocks, occurrence of ground water is essentially limited to zone of weathering and fracturing. Generally the hard rock aquifers are heterogeneous in nature, which is indicated by the variations in lithology, structure and texture. Ground water occurs under phreatic condition in the weathered mantle and semi confined to confined condition in the fracture and fissured zones of these rocks. Thickness of weathered material varied widely from less than 1m bgl to more than 15m bgl. The yield of large diameter wells in the district, tapping the weathered mantle of crystalline rocks ranges from 150-400 m³/day and are able to sustain pumping for 2 to 5 hours per day. The yield of large diameter wells tested in crystalline rocks ranges from 150 to 200 m³/day for drawdown of 2 to 3 m. The yield characteristics of wells vary considerably depending on the topographic set-up, lithology and nature of weathering. The transmissivity of weathered formations computed from pumping test data using empirical methods range from 14 to 24 m²/day. The specific capacity in the fissured formation ranges from 2.52 to 151.24 lpm/m/dd. In the porous formation the specific capacity values vary from 5.31 to 26.7 lpm/m/dd.

STATUS OF GROUNDWATER DEVELOPMENT

The water requirements of rural and urban areas in the district are met with either thorough surface water sources or through various mini water supply schemes or integrated water supply schemes utilizing the available ground water resources. There are more than 100 medium and large-scale industrial units in the district. Most of the units are located in Hosur taluk. Besides there are nine textile units in the large-scale sector were functioning in Krishnagiri and Hosur taluks. In the absence of any major water intensive

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

industry, the industrial water requirements of the district are met with from either surface water or ground water resources available locally.

7.0.11 GROUND WATER QUALITY

Eight water samples in post-monsoon season collected in poly ethylene bottles from various bore wells and in surface water covering the study area. Utmost care was taken during the collection of samples to avoid any kind of contamination. Volumetric and instrumental techniques were adopted for systematic analysis of the water samples using Standard procedures. The analysis was carried out immediately for pH, EC and for all other parameters within three hours of sampling time. Ground water in general, is colorless, odorless and predominantly alkaline in nature. The specific electrical conductance (EC) of groundwater (Micro Siemens at 25°C) during the study period was in the range of 1673 to 3218. Total hardness as CaCO₃ is observed to be in excess of permissible limits in some of the samples analyzed, whereas nitrate is found in below permissible limit of 45 mg/l. The incidence of high total hardness is attributed to the composition of litho-units constituting the aquifers in the district, whereas nitrate pollution is most likely due to the use of fertilizers and other improper waste disposal. The hydro chemical analysis of the study reveals that the groundwater in the study area is hard to moderately hard and alkaline in nature. The quality assessment of groundwater shows that in general, the water is suitable for domestic purposes

S.No	Village Name	pH	EC	TDS	TH	Cl	NO ₃	SO ₄	Mg	Ca
1	Malugundapalli	7.1	2376	1520	578	253	12	112	71	149
2	Kemeranapalli	7.3	1879	1202	342	197	16	93	67	126
3	Nagondapalli	7.2	2147	1374	493	221	10	107	82	107
4	Muthuganapalli	7.2	1867	1194	275	196	18	87	63	98
5	Mugalur	7.1	3218	2058	788	324	23	234	138	397
6	Anekal	7.7	2498	1600	437	211	29	128	112	135
7	Gumlapuram	7.4	1673	1070	368	178	18	113	59	96
8	Devaganapalli	7.3	1786	1143	476	167	15	97	74	87
9	Panchakshipuram	7.2	2100	1344	397	186	21	121	89	104

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

7.0.12 ARTIFICIAL RECHARGE AND RAINWATER HARVEST DESIGN

The factors influencing surface runoff at any place is as follows:

- Intensity of rainfall
- Soil moisture condition
- Type of soil in the catchment
- Type of the vegetative cover and interception by vegetation
- Slope and orientation of the catchment
- Amount of infiltration and evaporation
- The annual volume of runoff is computed by using the formula

$Q = kAP$ where Q = runoff; k = runoff co-efficient depending upon the surface of the drain area (0.36-0.95); A = catchment area; P = Annual rainfall. The effective catchment area after applying the runoff coefficient is calculated for the design. Surface run off can be used to recharge the ground water. This is achieved by recharge wells and/or direct tube-well recharge. Following are important Components of Rainwater Harvesting system.

- Conduit / Pipes
- Filtration
- Storage Structures
- Recharge Structures

Conduits/Pipes: Rainwater pipes/conduits carry water from the roof top to the ground. These pipes have to be connected and drawn to the required location by providing sufficient slope so that the water flows with gravity and no water is stored in the pipes after rain stops. The pipes can also be laid underground but sufficient care has to be taken in order to avoid damage to the pipe because of the vehicular movement. The cost of piping depends on various factors like quality of pipe and length of piping works to be done and many other site conditions.

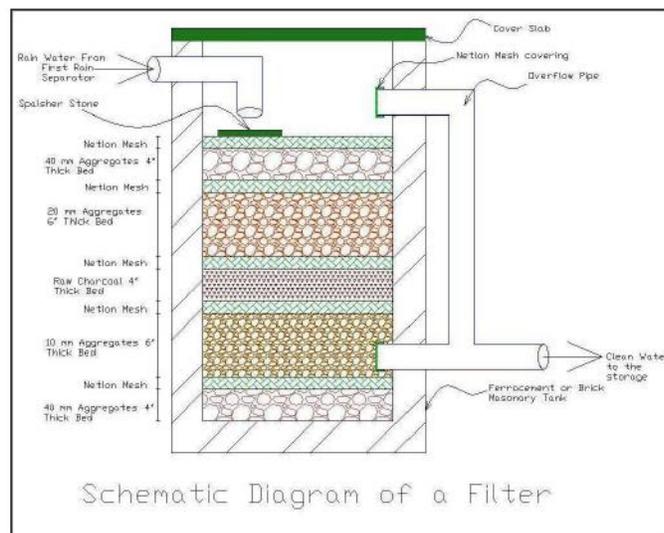
Filtration: Rainwater has to be filtered for silt and suspended impurities before allowing into any of the storage structures in order to store it for a longer time. Below are some of the filtration methods which can be implemented. Rainwater pipes/conduits carry water from the roof top to the ground. These pipes have to be connected and drawn to the required location by providing sufficient slope so that the water flows with gravity and no water is stored in the pipes after rain stops. The pipes can also be laid underground but sufficient care has to be taken in order to avoid damage to

the pipe because of the vehicular movement. The cost of piping depends on various factors like quality of pipe and length of piping works to be done and many other site conditions.

First Rain Separator: First rain separator is a mechanism where in first few minutes of rain which carries most of the impurities from the roof are not allowed to pass into the filter or storage structures. First rain separators play a major role in rainwater harvesting structures by reducing the amount of silt / debris flowing into the filter or storage structures. This in turn reduces maintenance of filter and cleaning of the storage structure. First rain separators can also act as bypass arrangement if the rain water is not to be collected. Provide a capacity of 0.2 to 0.3 Litres per square meter of the roof area in case the roof is maintained clean.

Filter: Rainwater from the roof carries dust and suspended particles from the roof top. These impurities have to be filtered before allowing the water for storage. This can be achieved by passing the rain water through a chamber having layers of graded aggregates and a layer of charcoal. The suspended particles get trapped in the aggregate bed and charcoal adsorbs gases and odour if any. Filter also reduces the velocity of water and hence helps in sedimentation of fine particles in the filter. The size of the filter depends on the roof area and the cleanliness of the roof. The filter can be designed to a capacity of 0.5 to 0.8 Liters per square meter of the roof area

Schematic Diagram of Filter



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 7

STORAGE STRUCTURES

Design of Underground Sump:

Source: Rain water from terrace & open areas

RWH system includes:

- Rainwater down take pipes
- Storm water manholes/channels
- Sumps

DESCRIPTION OF AREA	AREA IN SQ.M	INTENSITY OF RAINFALL (M/HR)	SURFACE RUNOFF COEFFICIENT	TOTAL RUNOFF CUM/HR
Roof Area	19300	0.1	0.95	1833.5
Greenbelt Area & Open space	82400	0.1	0.15	1236
Total Rainwater recharging (KL/Hr)				3069.5

The storage of rain water on surface is a traditional techniques and structures used were underground tanks, ponds, check dams, weirs etc. Recharge to ground water is a new concept of rain water harvesting and the structures generally used are:-

Pits Size

1. 30 x 15 x 10 Ft

Pond Size

1. 100 x 50 x 10 Ft

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 8

CHAPTER - 8 PROJECT BENEFITS

8. GENERAL

This chapter includes the benefits accruing to the locality, neighborhood, region and nation as a whole. It should bring out details of benefits by way of:

- Improvements in the physical infrastructure by way of addition of project infrastructure, ancillary industries that may come up on account of the project
- Improvements in the social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions, hospitals, effluent treatment plants, improved waste disposal systems, improved environmental conditions, etc.
- Employment potential -skilled; semi-skilled and unskilled labour both during construction and operational phases of the project with specific attention to employment potential of local population as well as necessity for imparting any specialized skills to them to be eligible for such employment in the project on a long term basis i.e., during operational and maintenance stages of the project and
- Other tangible benefits like improved standards of living, health, education etc.

8.0.1 CONSTRUCTION PHASE

The community structure will be benefited by generation of employment during construction phase.

8.0.2 OPERATION PHASE

The lessee shall extend social benefits like drinking water, health care measure and educational benefits to the neighboring villagers in addition to his own employees. Further, this project is expected to yield a positive impact on the socio-economic environment of the region. It helps in

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 8

sustainable development of this area including further development of physical infrastructural facilities. During operation phase, the unit will create a considerable amount of jobs.

8.0.3 HEALTH, SAFETY & ENVIRONMENTAL POLICY

The company has its Environment policy approved by all directors. It prescribes to avoid violation of the environment for standard operating process / procedures to bring into focus. The hierarchical system or administrative order of the company to deal with the environmental issues will be done in the premises. The company will report suddenly to the board of directors of the company and /or share holders or stake holders without absence.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

CHAPTER - 9 ENVIRONMENTAL MANAGEMENT PLAN

9. GENERAL

The chapter deals with the Environmental management Plan for construction and operational phase of the proposed expansion of steel rolling mill. The construction and operation phase environmental management plan has been aimed to achieve the following objectives:

- To ensure that the environmental control systems installed at the plant and are operating satisfactorily
- To ensure that quality of pollutants discharged from the plant is within the stipulated standards
- To ensure that pollutants concentration in the surrounding area does not exceed NAAQS
- To monitor impacts on the surrounding environment and the effectiveness of mitigation measures during the construction and operation

9.0.1 CONSTRUCTION PHASE ENVIRONMENTAL MANAGEMENT PLAN

The following construction engineering practices are recommended to minimize construction phase impacts:

- a. Proper disposal of construction wastes
- b. Minimize noise by using appropriate noise control measures
- c. Spraying of dust suppressants at regular intervals

9.0.2 OPERATION PHASE ENVIRONMENT MANAGEMENT PLAN

Important features of the Environmental Management Plan are the following:

- a. Environment management cell
- b. Ambient air and noise quality monitoring
- c. Water quality monitoring
- d. Meteorological data collection
- e. Periodic preventive maintenance & Occupational safety & health

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

9.0.3 ENVIRONMENT MANAGEMENT CELL

The major environmental considerations involved in the construction and operation will be taken up by a full-fledged multidisciplinary Environment Management Cell with key functions of environmental, safety and occupational health for management of the entire plant and surrounding environment. The Environment Management Cell will comprise a team of environmental engineers, chemists, safety specialists and well-trained staff for operation and maintenance of pollution control equipment. Staff training program in the areas of environment, ambient air, water quality monitoring, solid waste management, noise abatement, safety and health aspects would be conducted. The pollution control equipment would be provided with spares and maintenance facilities. Staff would be trained to operate ESP and other pollution control equipment at optimum efficiency. Environment Management Cell will be headed by a senior manager, assisted by a team of engineers, chemists, operating staff, etc. This management cell will take up additional responsibility of environmental functions related to proposed expansion of steel rolling mill.

9.0.4 ENVIRONMENTAL MONITORING PROGRAM

An environmental monitoring program is required to provide scientifically defensible information for determining the status of the environmental quality of the surrounding area of the project and to check whether the levels of critical pollutants are within the environmentally acceptable limits. This will help to obtain an early warning of unacceptable environmental conditions so that control measures can be taken immediately. It also helps to determine in a timely fashion, changes in local environmental quality.

a) Air Environment

The major emission sources are:

- Roads within the plant are properly maintained and water spraying will be done regularly.
- Mobile sweeper bobcat is continuously engaged for sweeping the roads.
- Saplings will be provided

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

- All storage and material handling system will be properly enclosed.
- All leakage point to be plugged thoroughly.
- In short, the fugitive emission shall be controlled by installation of dust extraction and / or dust suppression systems.
- An ambient air quality monitoring will be carried out on a regular basis throughout the year for the parameters SPM, SO₂, NO_x.
- Suitable sampling ports will be provided at the stack for in-situ monitoring of SPM, SO₂, NO_x emissions in the flue gas discharged through the stack.

b) Noise Environment

The major sources of noise in the plant are blowers, compressor, furnace operation, DG set etc., Several noise suppression and attenuation features shall be designed into the plant for the protection of personnel at all normally accessible locations within the plant boundary, both inside and outside the plant and for the protection of the inhabitants living in the vicinity of the plant.

c) Water Environment

The water quality monitoring program consists of parameters monitoring prior to discharge. The pH, BOD and TSS will be monitored in boiler blow down, treatment plant effluent.

d) Land Environment

- It should be ensured that there is no industrial solid waste from the Plants.
- Solid wastes from STP Plant shall be used as manure for Green Belt.

Green Belt

Green belt will be developed in lines with "CPCB Guidelines for Developing Greenbelts".

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

Corporate social responsibilities

The unit will carry out various Socio Measures as follows

1. Road side plantation in nearby areas
2. Construction and renovation of school & hospital buildings
3. Laying and maintenance of local village roads
4. Construction and renovation of temples
5. Street lights fittings
6. Free Medical Camps

Occupational Health, Safety & Protective measures

For protective of Occupational and relative hazards the Management already implemented the following measures to protective its works forces.

1. Occupational Health Centre.
2. Pre-employment Medical Examination.
3. Periodical Medical Examination.
4. Provision of First-Aid and treatment of common ailments.
5. Counseling and Health education to the employees and their wards.

Occupational Health Centre

The Management maintaining in good order an Occupational Health Centre with a services and facilities as per the Rules 62 – O Tamil Nadu Factories Rules 1950 is Occupational Health Centre headed by the Factory Medical Officer acting as residential Medical Officer. Our work force can availing Medial Assistance round the clock.

Occupational Health Safety

- Pre-periodic post medical checks for Employees
- Occupational health and Audit surveillance will be carried for workers
- Medical surveillance as prescribed in the section 41C of Factories act 1948
- For safety of working personnel the following steps will be undertaken

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

- Training for all working personnel
- All moving parts will be freely fenced
- Arrangement for prompt power cut from transmission equipment
- Hoist Crane etc., maintained and examined at intervals
- All working places will have safe means of access and exit
- Emergency fresh water for hazardous chemical handling areas
- PPEs use will be mandatory in the required places
- Boilers will be examined in proper manner by Authority as per statutory requirement

Post Project Monitoring

Periodical monitoring of the ambient air quality, stack emissions, noise levels, water and soil quality, etc. in and around the Plants shall be undertaken as per the MoEF/TNPCB Norms either departmentally or by appointing external agencies wherever necessary.

Environmental Monitoring Programme

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

Particulars	Parameter	Frequency
Stack Emissions	SPM, SO ₂ , NO _x	Once in a month
Ambient Air Quality	PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂	Once in a month
Waste water	pH, BOD, TSS	Continuous
Noise monitoring	Noise Levels	Monthly (Industrial Noise) Seasonal (Ambient Noise)
Ecology	Vegetation density and Biodiversity	Once a year
Safety and Occupational Health	--	Once a year

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 9

(b) Budgetary Allocation for Environmental Management

Category	Capital Investment	Annual Operating Costs
	(Rupees in Crores)	
Air Pollution Management	95	15
Water and Wastewater Management	20	5.0
Solid Waste Management	10.0	0.25
Greenbelt	2.0	0.5
Environmental Monitoring and Training	1.8	2.5
CSR Activities	10.0	2.00
Total	131	25.25

(c) Budgetary Allocation for Corporate social responsibilities (After Expansion)

Sl.No.	Particulars	Amount in Lakhs
1.	Providing drinking water supply, sanitation facility to the nearby middle school & Supply of drinking water to the nearby public during scarcity.	10.0
2.	Maintaining nearby kanmai/pond.	
3.	Distribution of notebooks, uniforms to the nearby primary school students.	
4.	Award to 10th and 12th standard school toppers in Denkanikottai Taluk & Thali Block.	
	Total	10.0

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 10

CHAPTER - 10 SUMMARY & CONCLUSION

10.0 SUMMARY & CONCLUSION

The proposed expansion of scrap melting plant has certain level of marginal impacts on the local environment. However, with the implementation of the proposed control and environment management measures, even the minor impacts anticipated due to construction and operation of the proposed unit will be mitigated. There will not be any displacement of population due to the proposed expansion project. The proposed expansion will enhance the opportunities in both directly and indirectly in the area surrounding the project site. This project will also generate indirect employment to a considerable number of families, who will render their services for the employees of the project.

The project will also encourage ancillary industries in the region, which will not only increase the employment potential but also the economic base of the region will be further strengthened. The overall assessment shows that the adverse effects on environment are insignificant when compare with their benefits and advantages through its proposed activity. In the view of considerable benefits from the project, the proposed project is most advantageous to the region as well as to the nation.

Thus, it can be concluded that with the judicious and proper implementation of the pollution control and mitigation measures, the proposed expansion project will be beneficial to the society and will help to reduce the demand – supply gap of billet.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 11

CHAPTER - 11 DISCLOSURE OF CONSULTANTS ENGAGED

11.0 PROFILE OF THE CONSULTANT

Enviro Care India Private Limited is the consultant involved in the EIA/EMP study and report preparation based on the TOR issued by SEAC, Tamil Nadu. Enviro Care India Private Limited (ISO 9001:2008 certified company) is a fast track project engineering organization started in the year 2004, dedicated to the field of Environmental Engineering with professionally qualified and experienced team of Environmental Engineers, Chemists, etc. with a client base of more than 1000+ industries in South India. By having over 10 years of experience in providing environmental services and solutions we have completed hundreds of projects in different domains. The laboratory is accredited by NABL (National Accreditation Board for Testing and Calibration Laboratories).

11.1 CONSULTANCY SERVICES

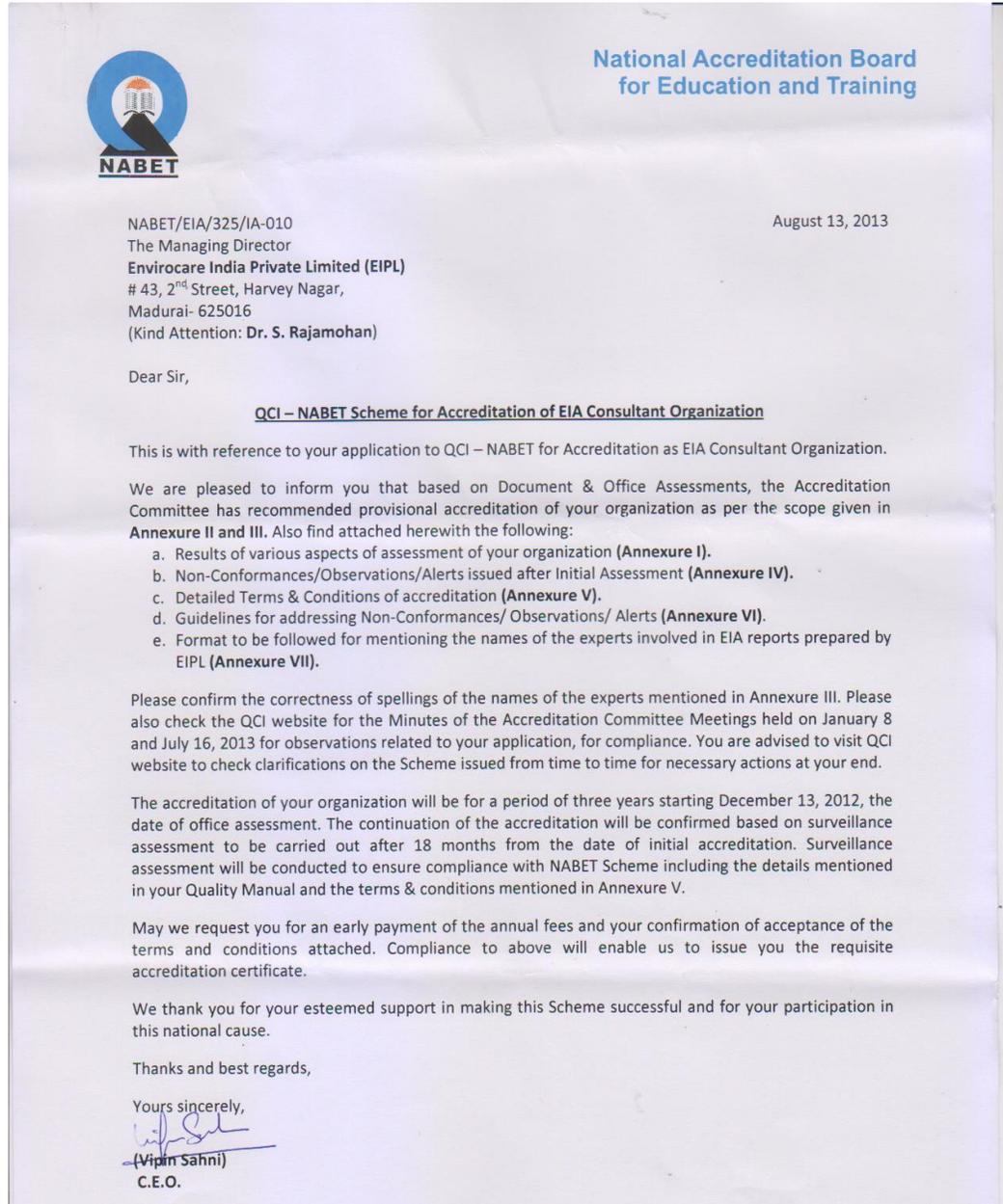
Enviro Care India Private Ltd undertakes,

- EIA/EMP Studies
- Risk analysis and assessment
- Life Cycle Assessment Study
- Design details of air pollution control equipments
- Feasibility Study for Hazardous waste management
- Preparation of detailed project report for municipal solid waste management, water & waste water treatment plant
- Water and waste water audit for industries
- Environmental awareness training for industries

Enviro Care India Private Limited is accredited by NABET as EIA Consultant for the following sectors.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 11

Sector Number	Name of the Sector	Category	Project or Activity as per Schedule of MoEF Notification dated September 14, 2006 and subsequent amendments
4	Thermal Power Plants	B	1(d)
8	Metallurgical Industries (ferrous and non-ferrous) – both primary and secondary	B	3(a)
22	Distilleries	A	5(g)
38	Building and large construction project including shopping malls, multiplexes, commercial complexes, housing estates, hospitals, institutions	B	8(a)



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 11

11.2 LABORATORY

Our laboratory Services Division is a state of the art analytical laboratory accredited by Department of Science and Technology, Government of India under National Accreditation Board for Testing and Calibration Laboratories as per ISO/IEC 17025:2005 in the field of chemical and environmental testing.

Water Analysis

- Packaged drinking water analysis as per IS 14543:2004
- Suitability of water for portability as per IS 10500:2001
- Suitability of water for Construction as per IS 456:2000
- Toxic trace metals analysis
- Surface, Ground, Sea water analysis
- Effluent/Sewage/Waste water analysis as per TNPCB norms
- Microbiological testing of water

Ambient/Workplace Air Quality Survey

- Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Particulate Matter (PM_{2.5}), Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x), Carbon monoxide (CO), Lead (Pb), Hydrocarbons (HC), Volatile Organic Compounds (VOCs), Ammonia (NH₃), Acid Mists, Oil Mist, etc).

Stack Monitoring

- Velocity & Volume of Flue Gas discharge, Dust/Particulate Emissions (PM), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x), Volatile Organic Compounds (VOCs), Orsat Analysis (CO, CO₂ and O₂) and Toxic trace metals.

Weather Monitoring

- Wind Speed, Wind Direction, Minimum Temperature, Maximum Temperature, Relative Humidity, Dew Point, Atmospheric Pressure, Solar Radiation, Rainfall, etc.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 11

Noise Monitoring

- Test the noise levels at various industrial operations.

Soil Testing

- Texture, Lime Status, Moisture, Organic Carbon, pH, EC, Sodium as Na, Nitrogen as N, Phosphorous as P, Potassium as K, Iron as Fe, Zinc as Zn, Copper as Cu, Manganese as Mn and Toxic heavy metals.

11.3 TURNKEY PROJECTS

Effluent Treatment Plant with Recycling System

- Zero Liquid Discharge System
- Chemical Treatment
- Electro Coagulation
- Packaged Treatment System
- Biological Treatment System

WTP and Drinking Water Plant

- Sand and Carbon Filtration
- Reverse Osmosis Plants
- Drinking water plant as per IS 14543 on BOOSC basis
- Industrial
- Softening Plants
- De-mineralized Plants
- Iron removal filters

Air Pollution Control Equipments

- Wet/Dry Scrubbers
- Caustic Scrubbers
- Dust Collectors
- Electro Static Precipitator (ESP)

Evaporator

- Single Stage
- Multi Stage

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	CHAPTER - 11

Secured Land Filling

- Completing the secured landfill facility as per CPCB norms
- Landfill facility for Hazardous sludge, Biomedical waste, etc

Sewage Treatment Plant with Recycling System

- Moving Bed Biological Reactor (MBBR)
- Fluidized Aerobic Bio Reactor (FAB)
- Activated Sludge Process
- Extended Aeration Process
- Sewage Recycle Process (SRP)
- Sand and Carbon Filtration
- Chlorination, UV and Ozonator
- Packaged Treatment System

11.4 OPERATION AND MAINTENANCE TREATMENT PLANT

- Sewage Treatment Plants
- Effluent Treatment Plants
- Reverse Osmosis Plants
- Softening Plants
- Sugar Process Laboratory

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

ANNEXURE-I

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

TERMS OF REFERENCE

**DR. H.MALLESHAPPA, I.F.S.,
MEMBER SECRETARY**



**STATE LEVEL ENVIRONMENT
IMPACT ASSESSMENT AUTHORITY,
TAMILNADU,
3rd Floor, Panagal Maaligal,
No.1 Jeeris Road, Saidapet,
Chennai – 600 015.**

Letter No. SEIAA-TN/F-3297/KRNGI/M-LXIV/TOR-216/2015 Dated 26.03.2015

To

The Director,
M/s Indus TMT Industries Limited,
(Formerly M/s Apple Rolling Mills Ltd)
Kappakal Road, Hosur-Tha y Road,
Uliveernapalli, Kalukondapalli Village,
Denkanikottai Taluk,
Krishnagiri District.
Pin code - 635 114.

Sir,

Sub: SEIAA, Tamil Nadu - Application seeking Environmental Clearance for the project proposal of expansion of existing steel rolling mill located at S.Nos 251/1,2, 277/1A1, 1A2, etc of Kalukondapalli village, Denkanikottai taluk, Krishnagiri district by M/s Indus TMT Industries Limited to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA - Project proposal comes under Item No. 3(a) & Category 'B1' of the Schedule to the EIA Notification, 2006 - **Terms of Reference (ToR)** prescribed for the preparation of EIA report - Regarding.

Ref: 1. Your Application received dated 09.01.2015.
2. Your letters dated 05.03.2015 & 06.03.2015.
3. 64th SEAC meeting held on 20.03.2015.

This has reference to your project proposal submitted to the State Level Impact Assessment Authority seeking Environmental Clearance for the project of expansion of existing steel rolling mill of M/s Indus TMT Industries Limited (formerly known as M/s Apple Rolling Mills Ltd) located at S.Nos 251/1,2, 277/1A1, 1A2, etc of Kalukondapalli village, Denkanikottai taluk, Krishnagiri district to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA. The expansion project involves setting up of metal scrap melting plant to produce M.S Billets (1,56,000 TPA) for captive use and production enhancement of the existing steel rolling mill.

The project proposal was appraised in the 64th SEAC meeting held on 20.03.2015 vide Item No. 64-41. The Committee observed that the project proposal falls under Category 'B1' and Item No. 3(a) of the Schedule to the EIA Notification, 2006. Based on the presentation made by the proponent and the documents furnished, the Committee decided to prescribe the following Terms of References (ToRs) for the preparation of EIA report & public consultation.

1. Present land use pattern based on the satellite imagery shall be furnished.
2. Location of National parks/Wildlife sanctuary/Reserve forests within 10 km radius around the project site shall be furnished.

Page 1 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

State Level Environment Impact Assessment Authority, TN | 2015

3. Details of industries/habitations/temples/schools/hospitals etc located within 10 km radius around the project site shall be furnished.
4. Site-specific micro-meteorological data including temperature, relative humidity, wind speed with direction and rainfall shall be furnished.
5. Co-ordinates of the project site indicating existing steel rolling mill & proposed scrap melting plant separately.
6. Land use pattern of the project site mentioning existing plant area and proposed expansion area separately.
7. Details of existing steel rolling mill, mentioning start of operation, yearwise production, machines installed, present production capacity & enhancement proposal, licenses obtained with compliance report etc.
8. Details of proposed scrap melting plant mentioning production capacity shall be furnished.
9. List of all raw materials required for production of existing & proposed expansion project indicating source of supply and its capacity utilization in the process shall be furnished.
10. Details of existing manpower and proposed addition for expansion project.
11. NOC obtained from Competent Authority (SGWA/WRO) for drawl of ground water for the needs of the existing as well as proposed expansion project.
12. Details of domestic waste water & its treatment & disposal.
13. Details of water requirement for cooling purposes in the process and the method of treatment and disposal of waste stream of bleed off.
14. Plan of improvement of solar evaporation pan taking into account of expansion proposal as well as increase in discharge during rainy seasons.
15. Technical specification of melting furnaces, re-heating furnaces, mill stand etc mentioning capacity utilisation in production process shall be furnished in existing & proposed expansion project separately.
16. Material balance for process activity shall be furnished separately for existing & proposed expansion project.
17. Manufacturing process shall be furnished in detail.
18. Details of storage of coal & metal scraps, method of utilisation in the melting, reheating furnace, pollution control measures proposed to control dust emission during handling of coal shall be addressed separately.
19. Total capital cost and recurring cost/annum earmarked for environment pollution control measures.
20. Ambient air quality observed at 8 locations within 10 km radius of the project site shall be furnished. Pictorial and tabular presentation of meteorological data shall be presented.
21. The suspended particulate matter present in the ambient air should be monitored. Chemical composition of the RSPM shall be furnished.
22. Air quality modeling for Steel Plant for specific pollutants should be applied. APC measures proposed for the control of emissions from the all process sources shall also be included.

Page 2 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

State Level Environment Impact Assessment Authority, TN | 2015

23. Design details of APC measures proposed for melting furnaces & reheating furnaces, mentioning quantity of water requirement initial and daily makeup and quantity of bleed off from each system.
24. Details of management solar pan residues and oil/sludge/scale generation in the continuous recycling of water for cooling purposes in the mill stand.
25. Impact on the environment by transport and handling of all raw materials and end products shall be assessed and furnished.
26. An action plan to control and monitor secondary and fugitive emissions as per CPCB guidelines shall be included.
27. Gaseous emissions for one season shall be observed other than monsoon season.
28. Permission for the drawl of ground water from the Competent Authority and water balance data including quantity of effluent generated, recycled, reused and discharged shall be provided. Scheme for STP for treatment of sewage shall be provided. Methods proposed to be adopted for the water conservation shall also be provided with acceptable design criteria.
29. Monitoring of ground water for assessing the level of pollutants identifiable with process and products at eight locations around the process production site, raw material storage area and near solid waste dump zone shall be done and included in the report. Geological and hydro geological and ecological observations made at the project site shall be carried out and the data shall be furnished.
30. Details of solid/hazardous wastes such as furnace slag, solar pan residues, ash, waste oil etc generated/to be generated from the process operation including scientific disposal of the same shall be furnished.
31. Firm commitment obtained from cement industries for utilisation of furnace slag generated in the process for further beneficial use.
32. Modelling on risk assessment of fire.
33. Risk assessment and damage control shall be addressed.
34. Plan for implementation of scheme on occupational health of the workers shall be furnished.
35. Green belt development plan (33% of total project area) as per CPCB guidelines shall be furnished.
36. Scheme for implementation of the rainwater harvesting shall be furnished.
37. Socio-economic development activities around the project site shall be highlighted.
38. Determination of atmospheric inversion level at the project site and assessment of ground level concentration of pollutants from the stack emission based on site specific meteorological features shall be done and data shall be provided.
39. Necessary environmental protection measures proposed for the generators (DG sets) as per the norms of CPCB shall be furnished.
40. Integrated study on noise & vibration including impacts from the existing steel rolling mill.

Page 3 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

State Level Environment Impact Assessment Authority, TN | 2015

41. Surface water quality of nearby water bodies (rivers and drains) if any at upstream and downstream of the project area shall be furnished.
42. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant reserves (existing as well as proposed) if any within 10 kms of the project site, necessary clearance due to proximity of the ecologically sensitive areas should be obtained from the State Wildlife Department/Chief Wildlife Warden under the Wildlife (Protection) Act, 1972. Hence, Clearance from NBWL shall be obtained, if the project site comes within 10 kms radius from 'Cauvery North Wild Life Sanctuary' formulated vide Notification dated 12.03.2014 by Government of Tamil Nadu.
43. Points raised during the public hearing and the commitment of the project proponent on the issues raised by the public shall be furnished. An action plan to address the issues raised during public hearing and the necessary allocation of funds for the same shall also be furnished.
44. Details of existing CSR activity and proposed CSR activity for the expansion project shall be furnished. CSR activity shall mainly focus on skill development, providing water supply & sanitation facility to the nearby government school and maintaining nearby kanmai/pond. Details in this regard shall be furnished.
45. Besides the above, the below mentioned general points should also be followed:-
 - a) A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
 - b) All documents may be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
 - d) Where the documents provided are in a language other than English, an English translation should be provided.
 - e) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M. No. J-11013/41/2005-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
 - f) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA/MoEF with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the Public Hearing process) will entail conducting the Public Hearing again with the revised documentation.

Page 4 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – I

State Level Environment Impact Assessment Authority, TN | 2015

After preparing the draft EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent **will get the public hearing conducted** and take further necessary action for obtaining Environmental Clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

The Terms of Reference (TOR) prescribed should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of FIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the TNPCB for public hearing. The issues emerged and response to the issues during public hearing process shall be incorporated in the EIA report. The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining environmental clearance.

The Terms of Reference (TOR) prescribed shall be valid for a period of two years from the date of issue, for submission of the EIA/EMP report including public hearing proceedings.

MEMBER SECRETARY
SEIAA-TN

Copy to

1. The Principal Secretary to Government,
Environment & Forests Dept, Govt. of Tamil Nadu,
Fort St. George, Chennai - 9.
2. The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai - 600 032.
3. The ACCF(C), Regional Office of MoEF,
34, HEPC Building, 1 & 2 nd Floors,
Cathedral Garden Road, Nungampakkam,
Chennai - 600 034.
4. Monitoring Cell, I A Division,
Ministry of Environment, Forests & Climate Change,
Paryavaran Bhavan, CGO Complex, New Delhi 110003.
5. Stock file

Page 5 of 5

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – II

ANNEXURE-II

LAND DOCUMENT



பெரிய காளையடி ஆலாமை - டி.ஐ.ஐ.
 கருவியாற்றத்தொகுப்பு, கிருஷ்ணாபேட்டி மாநகரம்
 பெயர் : கெடங்கனிமேட்டா
 கிராமம் : 008 கருவியாற்றத்தொகுப்பு

872

சிறுசுருட்டி மெல்லிய கெடங்கனி

பகுதி எண்	பகுதி பெயர்	நிலப்பரப்பு		புழைப்பு		மொத்தம்	
		மீட்டர் - சதுர	அட - சதுர	மீட்டர் - சதுர	அட - சதுர	மீட்டர் - சதுர	அட - சதுர
		மீட்டர் - சதுர	அட - சதுர	மீட்டர் - சதுர	அட - சதுர	மீட்டர் - சதுர	அட - சதுர
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269	6	-	-	16.0	0.23	-	-
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269	9	-	-	20.0	3.32	-	-
269	10	-	-	4.0	2.88	-	-
				4	17.0	7.72	-

(Signature)
 தலைவர் கெடங்கனிமேட்டா
 4.9.08

For APPLE ROLLING MILLS LTD.
(Signature)
 Director

1-0 2006

பக்கம் எண் : Page 1 of 1



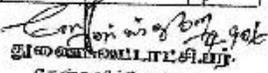
தமிழ்நாடு அரசு - L.L.I. n

செயல்பாட்டிற்கான
 இடம் : கலகண்டப்பள்ளி
 அளவு : 008 ஏக்கர்கள்/எ.என்.

பகுதி எண் : 460

உரிமையாளர் பெயர்
 1. எந்திரிமண்டலம்
 2. கலகண்டப்பள்ளி

பகுதி எண்	பகுதி		பகுதி		பகுதி	
	அளவு	தரம்	அளவு	தரம்	அளவு	தரம்
	மீட்டர்கள் - ஏ	சு. மீ	மீட்டர்கள் - ஏ	சு. மீ	மீட்டர்கள் - ஏ	சு. மீ
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	-	-	25.5	0.15	-	-


 இயக்குநர்
 கலகண்டப்பள்ளி
 கலகண்டப்பள்ளி

4.8.06

4.9.2006

பக்கம் எண் : Page 1 of 1



நீலம் அமைச்சு அமைச்சம் - 181.0

வருவாய்த்துறை, சிசுவுண்கிரி மாவட்டம்

பெ. நகலிகேட்டி கிராமம் : 008 கலுகொண்டபள்ளி

பெ. எண் 651

உரிமையாளன் பெயர்

1. மரக்கட்டிகள்	மரக்க	கேட்டியுள்ள
2.	சிதிரகட வெட்டல் விம்கொ
3. கட்டிடப்பொருள்கள்	மரக்க	கிருவண்டிய

பெ. எண்	தரப்பட்ட		புரக்க		முடிவாக	
	மட்டி	நிலை	மட்டி	நிலை	மட்டி	நிலை
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111	-	-	52.0	0.32	-	-
-	-	-	52.0	0.32	-	-

[Signature]
 துணை வெட்டிப்பர்
 தேன்கனிக் கோட்டை.
 8/9/06



சென்னை மாநகராட்சி - T.N.S.E.

சென்னை மாநகராட்சி, கிருஷ்ணகிரி மாவட்டம்

பெயர் : கலகண்டப்பள்ளி கிராமம் : 008 கலகண்டப்பள்ளி

பக்கம் எ. : Page 1 of 1

உரிமையாளர் பெயர்

1	நகரின் வட்டப் பிரதானம்
2	சிறுசூல சட்டம் கீழ்

பெயர்	தரம்		பரம்ப		புறநகர்	
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2	52.5	0.33	52.5	0.33	-	-

[Handwritten Signature]
சுற்றுச்சூழல் அமைச்சர்
 சென்னை மாநகராட்சி

[Handwritten Signature]
 4/9/06

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – II

9/7/2012


 தலை அமைவு ஆலயம் - பட்டி
 வருவாய்த்துறை, கிருஷ்ணகிரி மாவட்டம்
 கிராம : 008 கல்கண்டப்பள்ளி

பக்கம் : 1 of 1

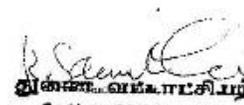
பக்கம் 24

உரிமையாளர் பெயர்

1	...	நத்தினி எஸ் பிரபாகர்
2	பட்டி	மகன் நத்தினி
3	...	

பகுதி எண் ச.ப.எண்	பகுதி		பகுதி		பகுதி		
	பட்டி	தலை	பட்டி	தலை	பட்டி	தலை	
	மீட்டர் - ஏ	சு - மீ	மீட்டர் - ஏ	சு - மீ	மீட்டர் - ஏ	சு - மீ	
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 பி.செந்தில்
 கல்கண்டப்பள்ளி
 கல்கண்டப்பள்ளி

3
19.7.12

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – II

பட்டா மாறுதல் உத்திரவு

வட்டம் : 10 சென்னைகோட்டா பற்றேடு 6 எண் 6648-04-05

மண்டலத்தளவண வட்டாட்சியர் திரு. (L. ஆர். சி. ஆர்) Q-A

அலுவலகம் உத்தரவுப்படி 008 008 கல்கொண்டபள்ளி

குறிப்பிட்ட நிர்வாக அலுவலருக்கு தாக்கீது.

அலுவலகம் வங்காளம் கேட்டுக்கொள்ளப்பட்டுள்ள மாறுதல் சான்று செய்ப்பட்டிக்குகிறது.

மேல்க்கண்ட 7-வது கருத்தின் கண்ட நபர்களின் பெயர்களில் பட்டியலும், சிபாரிசும் அப்படிப்பட்ட தயாரிக்கப்பட வேண்டும்.

நாள் :
 முகம் : (மு.மு.அ.10) தரப்பினர்.

பற்றேடு 6 எண்	நிலை அளவை எண்	பகுதி	பற்றேடு - ஏ	மொத்த தரவை ந - மய எண்	பற்றேடு பட்டி எண்	பற்றேடு பற்றேடு 6 எண்
(1)	(2)	(3)	(4)	(5)	(6)	(7)
3 04 05	378 1A	பற்றேடு	3 40.5	4.70	394	1057

பட்டா எண் பற்றேடு பட்டி எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டியலில் பெயர்

பட்டா எண் பற்றேடு பட்டி எண்ணுக்குரிய விவரங்கள் யார் பெயரில் மாற்றப்பட்டதோ அல்லது பெயர்

1057 1 சிதாசல மெட்டல் மெட்டல்
 2 மெட்டல் மெட்டல் மெட்டல்

பெயர் :
 நகல் : நிர்வாக அலுவலர் 008 கல்கொண்டபள்ளி
 குறிப்பிட்ட நிர்வாக அலுவலர் தயாரிக்கப்பட வேண்டும்.

**சென்னை வட்டாட்சியர்
 தயாரிக்கவேண்டும்.**

1/10/17

Statement given by Taxation for duties & Profit

For APPLE ROLLING MILLS LTD.
S. S. S. S. S.
 Director

TS/07/2015 Page 1 of 1

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – II

இடம் : 10 தெற்க்கனிதோட்டா
 மண்டலத்தினை வட்டாட்சியின் கீழ்
 காவல்களின் உத்தரவுபடி OOS OCS கண்கொடைபள்ளி
 குழுப் கிராம நிர்வாக அலுவலருக்கு தாக்கீது.

அடியிற்கண்ட வர்களால் கேட்டுக்கொள்ளப்பட்ட மாற்றல் சான்றுகள் செய்யப்பட்டிருக்கிறது.

ம் பரவியில் 7-வது கலத்தில் கண்ட நாள்களின் பெயர்களில் பட்டாவும், சட்டாவும் அப்படியே தயாரிக்கப்பட்டு, வேண்டும்.

நாள் :
 முகம் : மு.மு.(அ.10) தா.ப.மா.

0870721085 Page 1 of 3

புதிய பட்டா எண்ணுக்குரிய விவரங்கள்		புதிய பட்டா எண்ணுக்குரிய விவரங்கள்		புதிய பட்டா எண்ணுக்குரிய விவரங்கள்		புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	
புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்	புதிய பட்டா எண்ணுக்குரிய விவரங்கள்
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
6448-05-B3	277	ID	புதுசா	0 52.0	0.32	634	634
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் யார் பெயரில் மாற்றப்பட்டதோ அவர் பெயர்							
634	1						
1 - சிதரகூட மெட்டல் விபிசெட்							
2 - சிதரகூட மெட்டல் விபிசெட்							
3 - அபாயமா(ஏழு)மீட்டர் மகன் சிதரகூடமபா							
4							
6448-05-B3	286	1	புதுசா	0 73.0	0.45	74	872
6448-05-B3	278	1B	புதுசா	0 16.0	0.23	24	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
6448-05-B3	278	ID	புதுசா	0 15.5	0.20	460	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
6448-05-B3	285	4	புதுசா	0 20.0	0.12	591	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
6448-05-B3	285	6	புதுசா	0 8.0	0.06	626	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
6448-05-B3	286	2	புதுசா	0 28.5	0.17	676	872
6448-05-B3	278	1C	புதுசா	0 12.0	0.17	676	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
6448-05-B3	286	5	புதுசா	0 20.0	0.12	872	872
6448-05-B3	251	1	புதுசா	1 20.0	3.32	872	872
6448-05-B3	251	2	புதுசா	1 4.0	2.88	872	872
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் ஏற்கனவே உள்ள பட்டாதார பெயர்							
புதிய பட்டா எண்ணுக்குரிய விவரங்கள் யார் பெயரில் மாற்றப்பட்டதோ அவர் பெயர்							
872	1						
1 - சிதரகூட மெட்டல் விபிசெட்							
2							

பெயர் :
 நகல் : திராம நிர்வாக அலுவலர் 008 கல்கண்டப்பள்ளி
 குடிப் பிராமக் கணக்கில் தயக்கமாறுதல் செய்யவும்.

Don
PV

தலைவர்
தலைவிக்ரேஸ்வரன்

Page 3 of 3

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – III

ANNEXURE-III

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – IV

ANNEXURE-IV

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – IV

RISK ANNEXURE

	Name of the Plant	INDUS TMT		
	Manufacturing Unit	M.S.Billet, Steel Bars and Rods		
	Basic Material(s) for MF	Iron	Nh (Health) - 1	
	State of Operation	Melting	Nf (Flammability) - 2	
	Materials in Unit	Iron	Nr (Reactivity) - 1	
	Material Factor			14.00
1.	General Process Hazards		Penalty Factor Range	Penalty Factor Used
	Base Factor		1.00	1.00
	A. Exothermic Chemical Reactions		0.30 - 1.25	0.00
	B. Endothermic Processes		0.20 - 0.40	0.00
	C. Material Handling and Transfer		0.25 - 1.05	0.25
	D. Enclosed or Indoor Process Units		0.25 - 0.90	0.00
	E. Access		0.20 - 0.35	0.00
	F. Drainage and Spill Control	0.00m ³	0.25 - 0.50	0.25
	General Process Hazards Factor (F₁)			1.5
2.	Special Process Hazards			
	Base Factor		1.00	1.00
	A. Toxic Material(s)		0.20 - 0.80	0.00
	B. Sub-Atmospheric Pressure (<500 mm Hg)		0.50	0.00
	C. Operation in or Near Flammable Range	Not Inerted		
	1. Tank Farms Storage Flammable Liquids		0.50	0.00
	2. Process Upset or Purge Failure		0.30	0.00
	3. Always in Flammable Range		0.80	0.00
	D. Dust Explosion		0.25 - 2.00	0.00
	E. Pressure	Operating Pressure: 0.00 kPa gauge Relief Setting: 0.00 kPa gauge	0.00	0.00
	F. Low Temperature		0.20 - 0.30	0.00
	G. Quantity of Flammable	Quantity: 10000.00 kg Unstable Material: HC: 18590000.00 J/kg		0.00
	1. Liquids or Gases in Process		0.10 - 10.00	0.00
	2. Liquids or Gases in Storage		0.10 - 10.00	0.00
	3. Combustible Solids in Storage, Dust in Process		0.10 - 10.00	0.00
	H. Corrosion and Erosion		0.10 - 0.75	0.1
	I. Leakage - Joints and Packing		0.10 - 1.50	0.30
	J. Use of Fired Equipment		0.10 - 1.00	0.00
	K. Hot Oil Heat Exchange System		0.15 - 1.15	0.00
	L. Rotating Equipment		0.50	0.00
	Special Process Hazards Factor (F₂)			1.4
	Process Unit Hazards Factor (F₁ x F₂) = F₃		1.5 x 1.4	2.1
	Fire and Explosion Index (F₃ x MF = F&EI)		14 x 2.1	29.4
Toxic Intex	= Th (F₁ + F₂) / 100		----	----

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

ANNEXURE-V

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

DETAILS OF EXISTING STEEL ROLLING MILL

Details of Existing Steel Rolling Mills

Indus TMT Industries Limited was incorporated in year 2005 under the name "Chitrakoot Metal Limited". On 20th August 2009 the company was taken over by Apple Group of Industries and the name was changed to Apple Rolling Mills Limited (ARML). In the month of May 2012, the company was taken over by Mr S.S Srikanth who is also a major shareholder in Indus steel and Alloys Ltd (ISAL, sells TMT bars under Indus TMT brand for the past 15 years in Karnataka) and Attur Steels Private Limited (ASPL). On 12th February 2015 the name was changed to Indus TMT Industries Limited.

The existing unit is a rolling mill that produces TMT steel or steel bars and rods. The existing production capacity of the unit is 72000 TPA of Steel Rods and Bars, with project cost of Rs.2000 Lakhs. Start of operation is March 2013.

Year wise Production details:

Year (FY)	Production Quantity details (TPA)
2006-2007	28479
2007-2008	37324
2008-2009	33514
2009-2010	31560
2010-2011	5403
2011-2012	24399
2012-2013	43993

List of machines installed with power consumption: (Existing)

S.No.	Description	Capacity	Voltage
1	DC Drive-1	550KW	415V
2	Roughing mill	1500HP	415V
3	Pinch rool & TB	40KW	415V
4	FIYING Sher	218KW	415V
5	DC drive-2	300KW	415V
6	DC drive-3	250KW	415V
7	DC drive-4	250KW	415V
8	DC drive-5	250KW	415V
9	DC drive-6	250KW	415V
10	DC drive-7	250KW	415V
11	DC drive-8	250KW	415V
12	DC drive-9	250KW	415V

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

S.No.	Description	Capacity	Voltage
13	Cold shearing	10HP	415V
14	Cold shering	15HP	415V
15	Hydraulic pump-1	10HP	415V
16	Hydraulic pump-2	10HP	415V
17	F/R Cooling bed	7.5HP	415V
18	Plate from conveyer-1	7.5HP	415V
19	Plate from conveyer-2	7.5HP	415V
20	Plate from conveyer-3	7.5HP	415V
21	Plate from conveyer-4	7.5HP	415V
22	Plate from conveyer-5	7.5HP	415V
23	Plate from conveyer-6	7.5HP	415V
24	Plate from conveyer-7	7.5HP	415V
25	Plate from conveyer-8	7.5HP	415V
26	Plate from conveyer-9	7.5HP	415V
27	Plate from conveyer-10	7.5HP	415V
28	Plate from conveyer-11	7.5HP	415V
29	Plate from conveyer-12	7.5HP	415V
30	Plate from conveyer-13	7.5HP	415V
31	Air Fan-1	3HP	415V
32	Air Fan-2	3HP	415V
33	Oil Tank pump-1	7.5HP	415V
34	Oil Tank pump-2	7.5HP	415V
35	Plate from conveyer-14	7.5HP	415V
36	Plate from conveyer-15	7.5HP	415V
37	Oil Tank Pump-1A	7.5HP	415V
38	Oil Tank pump-1B	7.5HP	415V
39	Oil Tank pump-2A	7.5HP	415V
40	Oil Tank pump-2B	7.5HP	415V
41	Pinch roll-1	20HP	415V
42	Pinch roll-2	20HP	415V
43	Pinch roll-3	20HP	415V
44	Shearing M/C-1	20HP	415V
45	Shearing M/C-2	20HP	415V
46	Man cooler-1	3HP	415V
47	Man cooler-2	3HP	415V
48	Man cooler-3	3HP	415V
49	Pump motor	3HP	415V
50	Blower	3HP	415V
51	Pusher motor	3HP	415V
52	Air Fan-3	3HP	415V
53	Air Fan-4	3HP	415V

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

S.No.	Description	Capacity	Voltage
54	Air Fan-5	3Hp	415V
55	Roller table-1	10HP	415V
56	Roller table-2	10HP	415V
57	Roller table-3	10HP	415V
58	Guide roll-1	5HP	415V
59	Guide roll-2	5HP	415V
60	Injector motor	15HP	415V
61	Fan-1	1.5HP	415V
62	Fan-2	1.5HP	415V
63	Fan-3	1.5HP	415V
64	Tank heater	1.5KW	415V
65	Furnace oil pump	7.5HP	415V
66	Oil pump motor-1	1.5HP	415V
67	Oil pump motor-2	1.5HP	415V
68	Heater Unit-1	20KW	415V
69	Heater Unit-2	20KW	415V
70	Pusher C ONVEYER	15HP	415V
71	Water pump-1	180HP	415V
72	Water pump-2	180HP	415V
73	Water Pump-3	180HP	415V
74	C.Water pump-1	15HP	415V
75	C.Water pump-2	15HP	415V
76	C.Water pump-3	15HP	415V
77	Mill Water pump-1	40HP	415V
78	Mill Water pump-2	40HP	415V
79	Cooling tower-1	7.5HP	415V
80	Cooling tower-2	7.5HP	415V
81	Cooling tower-3	7.5HP	415V
82	EOT Crant-1	4.0+7.5+7.5+7.5	415V
83	Welding M/C (40 KW)		415V
84	Punch roll & T.B (60.0+60.0+60.0 KW)		415V
85	EOT Crane-3	30.0+7.5+7.5+7.5	415V
86	Compressor	250	415V
87	EOT Cran-2	40.0+7.5+7.5+7.5	415V
88	Welding M/C (20 KVA)		415V
89	DC Drive-1 Blower	20	415V
90	Flying steering Drive	15	415V
91	DC Drive-2 Blower	15	415V
92	DC Drive-3 Blower	15	415V
93	DC Drive-4 Blower	15	415V

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

S.No.	Description	Capacity	Voltage
94	DC Drive-5 Blower	15	415V
95	DC Drive-6 Blower	15	415V
96	DC Drive-7 Blower	15	415V
97	DC Drive-8 Blower	15	415V
98	DC Drive-9 Blower	15	415V

Proposed Machineries

S.No.	Description
1	Induction Furnace – 25 TPH – 2 Nos. & 30TPH – 1No.
2	DM water motor (3 x 15)
3	Hydraulic motor (3 x 50)
4	Coil water motor (6 X 30)
5	Raw water motor (6 X 30)
6	Cooling Tower motor (3 X 25)
7	Softener motor (6 x 5)
8	Continuous casting machine
9	EOT cranes Pdn yard
10	EOT cranes scr yard
11	EOT cranes Laddle prep yard
12	EOT billet yard (10 tons)
13	Bundle machine
14	Shearing machine
15	Pollution Block
16	Water pumps
17	Exhausters(10 no)
18	Mancooler (10 no)
19	Air compressor (3 X 20)
20	Slag crusher
21	Slide gate system
22	Laddle preheater
23	Laddle refining furnace & its accessories
24	sponge testing furnace
25	Electro magnet (4 x 18) charging
26	Electro magnet (4 x 25) Pdn
27	Lighting load

PRODUCTION CAPACITY

The existing production capacity is 72000 TPA of Steel bars and rods.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

AIR & WATER CONSENT



TAMIL NADU POLLUTION CONTROL BOARD

CONSENT ORDER NO. 16082289026 DATED: 24/03/2016.

PROCEEDINGS NO.T9/TNPCB/F.0063HSR/RL/HSR/A/2016 DATED: 24/03/2016

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT –M/s. INDUS TMT INDUSTRIES LIMITED , S.F.No. 278/1A, 286/7, 278/1D, 286/2, 278/1C, 277/1D, 251/1, 286/6, 286/5, 286/4, 277/1C, 277/1B, 277/1A, 285/1A, 286/1, 278/1B, 251/2, KALUGONDAPALLI village, Denkanikottai Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. Proc No.: T11/TNPCB/F-32766/RL/HSR/W&A/2014 dated 24/9/2014
2. Unit's application for CTO – renew on 18/3/2015 and resubmitted on 23/2/2016
3. RIR. No : F.0063HSR/RL/AE/HSR/2016 dated 03/03/2016

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Director
M/s.INDUS TMT INDUSTRIES LIMITED,
S.F.No. 278/1A, 286/7, 278/1D, 286/2, 278/1C, 277/1D, 251/1, 286/6, 286/5, 286/4, 277/1C, 277/1B, 277/1A,
285/1A, 286/1, 278/1B, 251/2,
KALUGONDAPALLI village,
Denkanikottai Taluk,
Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2017

Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steel Bars and Rods	8000	MT/M

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measure/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m.	Gaseous Discharge in Nm ³ /hr
1	Reheating Furnace	Wet scrubber with stack	30	
2	D/O Set 200 KVA	Acoustic enclosures with stack	5.5	
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measure	

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

Additional Conditions:

1. The unit shall provide online monitors to furnace and connect to the Care Air Centre of the Board before 31/03/2016 as reported.
2. The unit shall operate and maintain the coal handling effectively and continuously so as to prevent dust emission.
3. The unit shall ensure that the noise emission shall satisfy the Ambient Noise Level standards prescribed by the Board.
4. The unit shall continue to develop green belt in and around the unit's premises.

**Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
KAPPALAI ROAD, ULIVERRANAPALLI, THALLY ROAD, HOSUR,
Pin: 635114

Copies to:

1. The Commissioner, THALI-Panchayat Union, Derankankottai Taluk, Krishnagiri District.
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, HOSUR.
3. The JCEB-Monitoring, Tamil Nadu Pollution Control Board, Vellore.
4. File

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Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V



TAMIL NADU POLLUTION CONTROL BOARD

CONSENT ORDER NO. 16081289026 DATED: 24/03/2016.

PROCEEDINGS NO.T9/TNPCB/F.0063HSR/RL/HSR/W/2016 DATED: 24/03/2016

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. INDUS TMT INDUSTRIES LIMITED, S.F.No. 278/1A, 286/7, 278/1D, 286/2, 278/1C, 277/1D, 251/1, 286/6, 286/5, 286/4, 277/1C, 277/1B, 277/1A, 285/1A, 286/1, 278/1B, 251/2, KALUGONDAPALLI village, Denkanikottai Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. Proc No. T11/TNPCB/F-32766/RL/HSR/W&A/2014 dated 24/9/2014
2. Unit's application for CTO – renew on 18/3/2015 and resubmitted on 23/2/2016
3. RIR. No : F.0063HSR/RL/AE/HSR/2016 dated 03/03/2016

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Director
M/s INDUS TMT INDUSTRIES LIMITED,
S.F.No. 278/1A, 286/7, 278/1D, 286/2, 278/1C, 277/1D, 251/1, 286/6, 286/5, 286/4, 277/1C, 277/1B, 277/1A, 285/1A, 286/1, 278/1B, 251/2,
KALUGONDAPALLI village,
Denkanikottai Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2017

**Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steel Bars and Rods	6000	MT/M

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	4.5	On Industrys own land
Effluent Type : Trade Effluent			
1.	Scrubber Bleed Off	0.2	Solar Evaporation Pans

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

Additional Conditions:

1. The unit shall dispose the solid waste generated then and there without accumulation of the same inside the premises for further beneficial use.
2. The unit shall maintain log book for the generation, disposal of solid waste per day etc.,
3. The unit shall provide SEP of adequate size for the disposal wet scrubber bleed off

**Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
KAPPAKAL ROAD, ULIVIERANAPALLI, THALY ROAD, HOSEUR,
Pin: 635114

Copy to:

1. The Commissioner, THALI-Panchayat Union, Deekankotal Taluk, Krishnagiri District.
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, HOSEUR.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore.
4. File

** This consent order is computer generated by OCMMS of TNPCB and no signature is needed**

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – V

COMPLIANCE REPORT

CONSENT ORDER NO. 16082289026 DATED: 24/03/2016. PROCEEDINGS NO.T9/TNPCCB/F.0063HSR/RL/HSR/A/2016 DATED: 24/03/2016

#	Condition	Compliance
1.	The unit shall operate & maintain the Air Pollution Control measures provided so as to achieve the standards prescribed by the Board.	We are maintaining the Air Pollution Control measures as prescribed by the Board.
2.	The Unit shall provide on line monitors to furnace and connect to the Care Air Centre of the Board within three months	We have procured the Online Monitoring System and the installation is under progress. And it will be connected to the Care Air Centre at the earliest.
3.	The unit shall ensure that the noise emission shall satisfy the Ambient Noise Level standards prescribed by the Board.	We are maintaining the Ambient noise level standards as prescribed by Board.
4	The unit shall provide acoustic enclosures to the DG Set as per Central Pollution Control Board norms within three months	An acoustic enclosure is provided to DG Set.
5	The unit shall operate and maintain the coal handling effectively and continuously so as to prevent dust emission.	We are maintaining dust emission as prescribed by the Board.
6.	The unit shall operate and maintain the water sprinkling arrangement provided to control fugitive emission and also to suppress roadside dust.	We are doing sprinkling system.

CONSENT ORDER NO. 16081289026 DATED: 24/03/2016. PROCEEDINGS NO.T9/TNPCCB/F.0063HSR/RL/HSR/W/2016 DATED: 24/03/2016

#	Condition	Compliance
1.	The unit shall ensure that the scrubber bleed off is disposed into the impervious solar evaporation pan.	The scrubber bleed off is disposed off to solar evaporation pan of adequate area.
2.	The unit shall dispose the said solid wastes for further beneficial use then & there without accumulation of the same inside the premises	We are disposing the solid wastes generated for further beneficial use to authorized buyers.
3.	The unit shall maintain log books for the generation, disposal of solid wastes etc.,	We are maintaining log books for generation & disposal.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VI

ANNEXURE-VI

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VI

FURNACE DETAILS

FURNACE

EXISTING:

The existing furnace is a re-heating furnace of capacity 18 TPH. It is a coal-fired furnace; the air pollution control measure adopted for this furnace is wet scrubber with solar evaporation pan.

PROPOSED:

The expansion furnace capacity will be 2 X 25 TPH & 1 x 30 TPH Induction Furnace will be used. Dry scrubber is proposed to be installed to control the emissions from the furnace.

Technical Specification of Reheating Furnace

Specification

After billets are roughly rolled at a blooming mill or made by continuous casting, a reheating furnace reheats them at a given temperature according to its purpose before they are sent to the hot rolling process to make finished products.

Reheating furnaces can be divided into batch-type furnaces and continuous furnaces. Batch-type furnaces are mainly used as auxiliary equipment to reheat something of a special form. For mass production, continuous furnaces are used in general.

The types of continuous furnaces include pusher-type furnace, walking hearth-type furnace, and walking beam-type furnace. In the past, pusher-type furnaces were used most widely, and walking hearth-type furnaces were used for special treatments. With increased heating capacity, walking beam-type furnaces are getting adopted widely.

Figures 8 and 9 show examples of a pusher-type furnace and a walking beam-type furnace. Table 4 compares these furnace types, and Table 5 shows layouts of reheating furnaces.

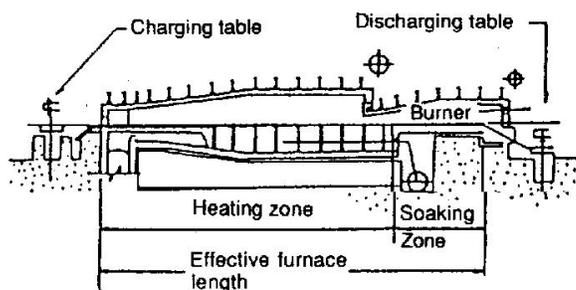
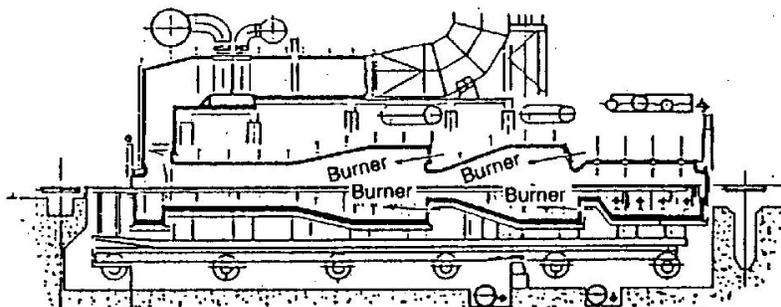


Figure 8 Pusher-type 3-zone reheating furnace



Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VI

Table 1 Comparison of furnace types

Furnace type	Advantages	Disadvantages	Applications
Pusher-type furnace	1. Installation cost is slightly lower than other types.	1. Skid marks and scratches are easily made.	1. Mass production
	2. Double-side heating is possible.	2. There is a limit to the length of furnace.	2. Widely used in many mills. Being replaced by walking beam-type.
	3. High efficiency.	3. The thickness of steel materials cannot be changed quickly.	
Walking hearth-type furnace	1. No skid mark is made.	1. The length of furnace is long because of one-side heating.	1. Applied to heating and heat treatment of thin material, round billet, steel Pipe.
	2. No scratch is made.	2. The scale disposal on the hearth is complicated	
	3. Furnace can be emptied by itself.		
Walking beam-type furnace	1. There is no limit to the length of furnace.	1. Installation cost is slightly higher.	1. Mass production
	2. Skid marks are small, and no scratch is made.	2. The number of skids is large, and the loss by cooling water is rather high	2. Applied to roughly shaped billet which cannot be pushed by pusher-type furnace, especially thick slab, and when products of very high quality are required.
	3. High efficiency.		
	4. Furnace can be emptied by itself.		

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VI

Table 2 Layout of heating furnace

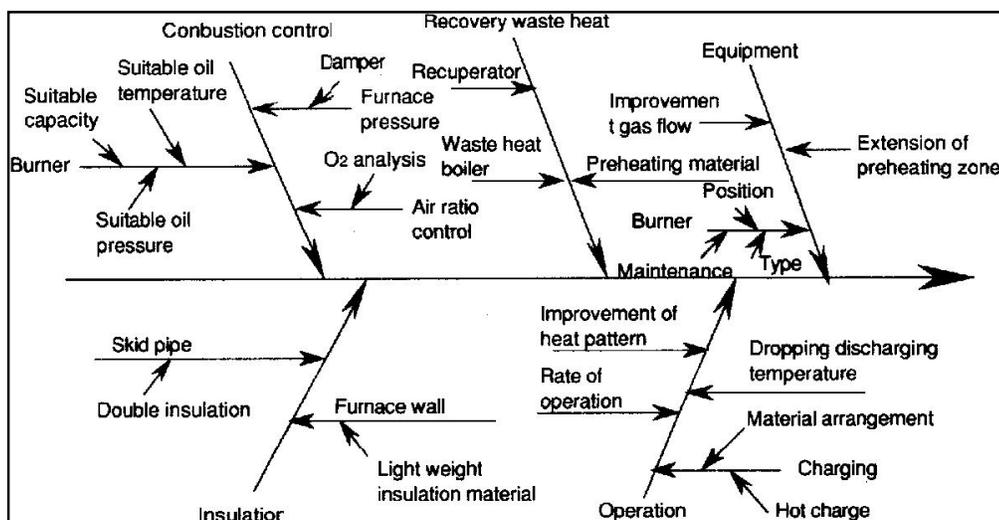
Charging/ extraction method	Furnace layout	Characteristics
Back charging, front extraction		<ol style="list-style-type: none"> 1. It is easy to charge and extract large billets. 2. The layout is easy when two or more furnaces are installed. Thus, this method is suitable for large-capacity facilities such as hot strip mills and slab mills. 3. The area of openings for charging and extracting is large. As a result, heat loss by thermal radiation or air intrusion is large. 4. Extraction is done by pushing or extractors.
Back charging, side extraction		<ol style="list-style-type: none"> 1. Billets can be kept hot during the rolling, thanks to the closeness of the rolling mill and the reheating furnace. 2. Heat loss by thermal radiation from the extraction outlet is small. 3. Extraction is done by ejectors or rollers. However, when rollers are used, heat loss is large through cooling water for the rollers.
Side charging, side extraction		<ol style="list-style-type: none"> 1. Heat loss is small at both the charging inlet and the extraction outlet. This method is most suitable to a reheating furnace for long billets.

The arrangement of burners to a furnace is very important for heating characteristics of the furnace. According to the positions of burners to furnace, arrangements are classified into three methods; axial-flow burning, side burning, and roof burning. Each method has its own characteristics. A particular method is adopted for a furnace to take advantage of its characteristics. In some furnaces, combinations of these burning methods are applied.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VI

Energy Conservation Technologies

The basic ideas for energy conservation on reheating furnaces are the rationalization of combustion, the rationalization of heating and cooling, the prevention of heat loss by radiation and transmission, and the recovery of waste heat. Figure 10 shows a characteristic diagram of energy conservation for reheating furnace, and Figure 11 illustrates the main items.



Characteristics diagram of energy conservation for reheating furnace

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VII

ANNEXURE-VII

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VII

CAPITAL COST AND RECURRING COST

S.No.	Sources of Emission	Environmental Pollution Control Measures	Capital Cost (Lakhs)	Recurring Cost/Annum (Lakhs)
1	Re-heating furnace 18 TPH – 1 No.	Wet scrubber with stack height of 30 m	50	4
2	DG set 200 KVA – 1 No.	Stack height of 5.5 m from ground level has been provided. After Expansion existing stack height will be increased to 10.5 m with acoustic enclosures.	2	0.5
3	Induction Furnace 25 TPH - 2 Nos. 30 TPH – 1No.	Dry scrubber is proposed to be installed to control the emissions from the furnace. Common stack of 40 m height with 1.25 m dia, bag filters and solenoid valve for the induction furnace.	70	5
4	DG set 500 KVA – 2 Nos.	Stack height of 10.0 m will be provided for each with acoustic enclosures.	2	0.5
5	Domestic Sewage	Sewage Treatment Plant of capacity 15 KLD	15	6
Total			139	16

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VIII

ANNEXURE-VIII

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – VIII

SOCIAL ECONOMIC DEVELOPMENT

Social economic development activities around the proposed site:

1. Providing drinking water supply, sanitation facility to the nearby middle school & Supply of drinking water to the nearby public during scarcity.
2. Maintaining nearby kanmai/pond.
3. Distribution of notebooks, uniforms to the nearby primary school students.
4. Award to 10th and 12th standard school toppers in Denkanikottai Taluk & Thali Block.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – IX

ANNEXURE-IX

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – IX

CORPORATE SOCIAL RESPONSIBILITY

Details of existing CSR activity:

2. Regular contribution to nearby villagers for their temple festivals.
3. Contribution to note books, uniforms to nearby school students
4. Contribution to regular upkeep and renovation work to the nearby schools and temples.
5. Contributions for the upkeep of village roads
6. Extending support along with Forest Department to protect the nearby villagers from wild animals.
7. Contribution of teachers salary for special coaching to nearby village poor students studying in 10th and 12th Standard as well as primary school children's.
8. Guidance and necessary assistance to the needy poor who needs special medical attention,
9. Monetary assistance for poor renal failure patients
10. Linens to the Primary Health Centre are supplied on need basis.
11. Free computer training to the nearby students
12. Organizing industrial visits, internship programmes for the nearby students as well as students coming from the nearby educational institutions.
13. Coordinating with Rotary Club and other social service groups in conducting medical camps.
14. Coordinating in the conduct of awareness programme on AIDS, genetic diseases etc organized by the NGOs.
15. Contribution to Green Tree development programme

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – X

ANNEXURE-X

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – X

Cell : 98433 38376

N. Krishna, President
Kalukondapalli Ist Grade Panchayat
Thally Union, Denkanikotta (Tk.)-635 114.

Ref:

Date:



பெறுதல் :

திருவாளர்: இண்டஸ் டி.எம்.டி. இண்டஸ்ரீஸ்
உளிவீரணப்பள்ளி கிராமம்
கலுகொண்டப்பள்ளி ஊராட்சி
கிருஷ்ணகிரி மாவட்டம்

பொருள் :

கிருஷ்ணகிரி மாவட்டம், தேன்கனிக்கோட்டை வட்டம் கலுகொண்டப்பள்ளி
ஊராட்சி உளிவீரணப்பள்ளி கிராம சர்வே எண்கள்; 278/1A, 286/7, 278/1d, 286/2, 278/1c,
277/1d, 251/1, 286/6, 286/5, 286/4, 277/1c, 277/1b, 277/1a, 285/1a, 286/1, 278/1b, 251/2
ஸ்டீல் தயாரிக்கும் தொழிற்சாலைக்கு தண்ணீர் அளிப்பது தொடர்பாக .

பார்வை: தங்களின் 04.07.2016 தேதியிட்ட விண்ணப்பம்

கலுகொண்டப்பள்ளி ஊராட்சிக்கு உட்பட்ட இண்டஸ் டி.எம்.டி. இண்டஸ்ரீஸ்
உளிவீரணப்பள்ளி என்ற நிறுவனத்திற்கு ஊராட்சியின் மூலம் தண்ணீர் அளிப்பதாக
ஊராட்சியின் மூலம் உறுதிசூறுகிறேன்.

N. KRISHNA
PRESIDENT
Kalugondapalli Panchayat,
Belagondapalli (Post)
Thally Union

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XI

ANNEXURE-XI

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XI

CHEMICAL COMPOSITION OF RSPM			
S.No	PARAMETERS	UNITS	RESULTS
1.	Iron oxide (Fe ₂ O ₃)	µg/ m ³	33.6
2.	Silica (as SiO ₂)	µg/ m ³	12.9
3.	Magnesium Oxide (MgO)	µg/ m ³	2.6
4.	Potassium Oxide (K ₂ O)	µg/ m ³	2.6

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

ANNEXURE-XII

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

PUBLIC HEARING MINUTES AND ACTION TAKEN

1

PROCEEDINGS OF PUBLIC HEARING CONDUCTED FOR THE UNIT OF M/s. INDUS TMT INDUSTRIES LIMITED, KALUKONDAPALLI VILLAGE, DENKANIKOTTAI TALUK, KRISHNAGIRI DISTRICT FOR EXPANSION OF EXISTING STEEL ROLLING MILL TO ENHANCE THE PRODUCTION OF STEEL BARS AND RODS FROM 72,000 TPA TO 1,45,000 TPA AND SETTING UP OF METAL SCRAP MELTING PLANT TO PRODUCE M.S BILLETS OF 1,58,000 TPA FOR CAPTIVE USE ON 20.11.2016 AT 11.00 A.M. IN THE PREMISES OF M/s. INDUS TMT INDUSTRIES LIMITED, KALUKONDAPALLI VILLAGE, DENKANIKOTTAI TALUK, KRISHNAGIRI DISTRICT.

PRESIDING OFFICERS:

- | | | |
|----------------------------------|---|--|
| 1. Thiru. C. Kathiravan, I.A.S., | : | District Collector,
Krishnagiri. |
| 2. Thiru. P.Senthur Pandey., | : | District Environmental Engineer,
Tamil Nadu Pollution control Board
Hosur. |

PROJECT REPRESENTATIVES

- | | | |
|-----------------------------|---|--|
| 1. Thiru.S.S.Shrikanth , | : | Chief Executive Officer,
M/s. INDUS TMT INDUSTRIES LIMITED,
Kalukondapalli village,
Denkanikottai Taluk,
Krishnagiri District. |
| 2. Thiru.S.Thirunavukkarasu | : | General Manager,
M/s. INDUS TMT INDUSTRIES
LIMITED,
Kalukondapalli village,
Denkanikottai Taluk,
Krishnagiri District. |
| 3. Thiru. S.Rajamohan | : | Managing Director,
M/s. Enviro care India Pvt Ltd,
No. 43, Second Street,
Harvey Nagar, Madurai. |

Public attended - 75 Nos. (List enclosed)

At the outset, the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur welcomed the District Collector, general Public, environmentalists, NGOs, press and media for the Public Hearing of M/s. Indus TMT Industries Limited, Kalukondapalli village, Denkanikottai Taluk, Krishnagiri District for the proposed expansion of existing Steel Rolling mill to enhance the production of Steel bars and rods from 72,000 TPA to 1,45,000 TPA and setting up of metal scrap melting plant to produce M.S. Billets of 1,58,000 TPA for captive use. In his address, he explained the provisions and procedures of the Environmental Impact Assessment Notification, 2006 as amended and explained the purpose of Public hearing to

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

1

be conducted for the said expansion project. He also informed that a public notice has been published in dailies both in English and Tamil on 27/10/2016. He said that the proposed expansion activity of M/s. Indus TMT Industries Limited will be explained in detail through PowerPoint presentation by the project proponent. After the presentation, the public can express their views, suggestions and comments for that the project proponent will give necessary explanations / clarification for the queries raised by the Public. All the events in this public hearing will be recorded through videography and sent to State Level Environment Impact Assessment Authority (SEIAA). Finally, he requested the District Collector, Krishnagiri to preside over the public hearing.

The District Collector

The District Collector, Krishnagiri has welcomed the gathering of public hearing. He said that in this public hearing the project proponent will brief out the salient features of the said expansion project and its environmental impact. Afterwards, the Public, Environmentalist NGO's can raise their views, for that the project proponent will clarify the same and the entire event will be recorded as per the procedures stipulated in the EIA Notification, 2006.

District Environmental Engineer

The District Environmental Engineer, Tamilnadu Pollution Control Board, Hosur has requested the project proponent to proceed with the Power Point presentation of the Project.

In continuation to that Mr. S.Rajamohan, Managing Director, M/s. Enviro care India Pvt Ltd, on behalf of M/s. Indus TMT Industries Limited has explained the details of the project and its environmental impact and the proposed environmental management plans through a power point presentation.

Followed by the presentation, the public consultation started as detailed below:

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

3

Thiru.P.N. Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):

Today M/s. Indus TMT Industries Limited has explained their proposed expansion project. It is known that the development of a village depends on the development of the industries in that village. Generally for about 20-25 years, many industries have come up and are in existence in the village panchayat of Belagondapalli and Kalukondapalli. It is true that there is no hindrance or nuisance to the public due to operation of these industries. Due to these industries, direct and indirect employment has increased in these villages. Economic development has increased. The industries located in these village panchayats are the backbone for the economical development. It is true that there is no hindrance or nuisance to the general public of these villages due to stringent government regulation and enforcement of pollution control Board Rules. Moreover, M/s. Indus TMT Industries Limited has said that the employment opportunities will get increased due to the expansion activity. This industry has planted 1500 plantations and myself and Kalukondapalli Village Panchayat President have often visited this industry and noticed the tree plantation in the unit premises and as far as we are concerned it is not sufficient and they have to allot one or two Acres exclusively for the tree plantation. The industry said that it is doing social work, in that especially R.O water schemes in the bus stops of Kalukondapalli and Uliveeranapalli can be done either by M/s. Indus TMT Industries Limited or by the group of industries located in these villages. This type of scheme has been implemented in the villages of Anekkal Taluk of Karnataka. Even if it is not possible to implement in Taluk or block level, I hereby request this industry to implement this R.O scheme atleast in the said bus stops of Kalukondapalli and Uliveeranapalli and also requested the District Collector, Krishnagiri to take necessary steps on implementing the same by the industrial units.

The District Collector

The problem in implementing the R.O system in our District is the presence of Fluoride content in the drinking water. It can't be removed through R.O system. Wait for 10 to 20 days,

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

4

a new technology is going to come up. It is the technology used by the space Astronauts for making the drinking water. Since, that technology is going to come up in near future we will find out the possibility of implementing at low cost.

Moreover, in R.O system all the minerals will be removed. We all are thinking that R.O treated water is good for health but in this system all the minerals are removed. However, you are asking good drinkable drinking water, so we will try to provide Fluoride free water and other facilities through CSR fund allotted by this industry, on their expansion activity.

Thiru P.N.Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):

Next is rain water harvesting. There is no information regarding rain water harvesting in this expansion proposal project. Rain water harvesting tank shall be constructed and water shall be recycled back and can be utilized to the maximum extent possible.

The District Collector

In your project, you have informed that after recycling only 4 KL of water will only be required. If the Industry adopt the irrigation tanks within 10 Km radius in the vicinity and if it is strengthened and desilted, then there won't be any effect for the drawl of ground water by the Industry and also for the farmers nearby. In the surrounding villages all are agricultural lands. In Hosur Taluk, this kind of fertile agricultural lands are much suitable for the Horticulture crops. From this District only many horticultural related food / crops are majorly supplied (i.e) 20% to Chennai, 20% to Madurai and Kerala. If any industry wants to draw one part of water from the ground, they have to harvest 5 parts of water through rain water harvesting system.

Likewise, you have informed that the treated sewage will be utilized for irrigation to an extent of 2.59 Hectare. In this case the sewage can be further treated through a tertiary treatment system and can be utilized in the process and the remaining can be utilized for green belt development through drip irrigation and by doing this you can conserve water and this can be implemented by incorporating in the project proposal.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

3

Thiru. S.Rajamohan, Project Representative

As insisted by the District Collector, Krishnagiri, we will implement tertiary treatment system for the sewage treatment and will be partly recycled in the process and the remaining will be utilized for drip irrigation.

Thiru.P.N.Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):

Don't think that I am asking this on the expansion of the industry. There are Government rules and regulations and licence for this project will be decided by the District Collector and relevant officials. Social activities to the public should come from all the industries. I think two or three industries have come here. In their industries also, they have to implement tree plantation, recycling of water, rain water harvesting and social work. We are not asking these for an individual dwelling. More tax revenue are there in both of these Panchayats and the Panchayat presidents will do it. Generally in your project funds are allocated for education under CSR fund.

Apart from M/s. Indus TMT Industries Limited, all the industries located in this area have to do social works like, issuing of school uniforms, books, R.O drinking water system, Mini R.O system with the capacity of 50 litres to 100 litres and maintenance of public toilets. Government is ready for constructing the toilets. To my knowledge, we have constructed public toilets in all the villages and Panchayats. Toilet Maintenance have to be done and hence the industry can exclusively appoint a person for maintaining the public toilets in villages.

The District Collector

In all the village habitations public toilets are constructed to avoid open defecation, but there is no maintenance. The industries can take up the responsibility of maintaining these toilets by exclusively appointing two persons and the expenses for this will be Rs. 2,000 or Rs.5,000. It's only a social aspect and this can be done from your CSR fund. Like that you

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

6

have informed that books are distributed to the school children by the unit. But Government itself is providing books, uniforms, Chappals, Cycles, Geometry box etc. Hence, supplying of drinking water and public toilet maintenance shall be done by the industries from their CSR fund. This is what the need of the present situation. This should be done by the industry to the schools located within 10 Kms radius in the vicinity. Likewise, the District administration will discuss with the industries located within 10 Kms and the above said needs will be done through their CSR fund.

Thiru.P.N.Srinivasan, Balagondapalli Village (Ex-Village Panchayat President);

There are lot more things can be done by the Industries. For that, generally helping tendency should come from the Industries. Rather than, earning money by the establishment of industry in this area naturally helping tendency should come from the industry on Social needs. M/s. Indus TMT Industries Limited, is doing little on social needs but no comment on that. All industries in this area have to come forward and do the same, for that the District Collector has to take necessary steps. It is functioning as per Pollution Control Board, rules and regulations and there is no worry about it. There is no hindrance to anyone else.

Next, there are lot more social needs for these villages. For doing that motivation is needed. Secondly, this industry has allocated funds in CSR for education needs. Likewise, I humbly request all the industries to do the same. I thank the District Collector and others for giving me the opportunity to speak.

Thiru. S. Thirunavukkarasu, General Manager, M/s. Indus TMT Industries Limited

Mr.Srinivasan, Ex-president, Balagondapalli has expressed his views / suggestions and some social needs and also plantation of additional trees. That we are doing it and we will do it more. Next on providing R.O system in the bus stops, as suggested by the District Collector and based on new technology we will do the needful. Regarding rain water harvesting, we are already storing the rain water in a pond nearby. Further as per the

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

7

instructions and suggestions of the District Collector we assure that we will maintain the public toilet.

Thina L. Krishna (Kalukondapalli Panchayat President)

He welcomed the District Collector, District Environmental Engineer, management of industry and the general public who came for this meeting. The District Collector has come here to ask the public suggestions regarding the effects that will happen due to this industry's expansion activity and the measures to be taken for that. Is there any effects due to the expansion of this industry? If it so then how it will be rectified? Other matters my friend has briefed and don't want to repeat the same. M/s. Indus TMT Industries Limited is doing social work and there is no need to appreciate it. They will do it. We came here to clear our doubts regarding whether there is any effects due to the industry's expansion activity. The project proponent has to explain the effects of their expansion activity to the agriculture, habitations, drinking water and environment and the remedial measures taken by the Industry to avoid the same. Thank you.

Thiru. S. Thirunavukkarasu, General Manager, M/s. Indus TMT Industries Limited

The doubt of Mr. Krishna is how to control the pollution from the expansion of the industry. Sir, our aim is not to create any pollution from our industry. We won't create pollution. So don't worry about the side effects. Thanks.

The District Collector

In any type of industry, there will be some pollution. You have mentioned that it will be within the permissible limits framed by the government. In case, the air pollution control equipment fails to work properly or if there is any technical problem in the control equipment what will happen? Explain it technically. If we use cycle or go by walk only, pollution won't occur, otherwise if we use any substance and converted to energy, it will lead to some form of pollution.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

8

Thina. S.Rajamohan, Project Representative

30m height of stack with the air pollution control equipment of wet scrubber is provided to control the suspended particles present in the smoke due to expansion. This height is provided as per the guidelines of Pollution Control Board. The concentration of suspended particles let out from the stack will be $53 \mu\text{g}/\text{m}^3$ at a distance of 4 Km. But the permissible limits prescribed by the Pollution Control Board is $100 \mu\text{g}/\text{m}^3$. We have displayed a picture related to dispersion of smoke from the stack in the presentation. Moreover, as per the District Collector's instruction we will monitor the emission from the stack through continuous online monitors which will be connected to the CARE AIR CENTER, Tamil Nadu Pollution Control Board, Chennai. In case of any malfunction or the parameters exceed the permissible limits, the same will be communicated through CARE AIR CENTER, Tamil Nadu Pollution Control Board, Chennai to the industry to take immediate action to rectify the same. Hence, steps will be taken to maintain the emission level from this industry within the permissible limits.

The District Collector

You have mentioned about the details of ambient air quality such as PM_{10} , SO_2 , NO_2 , $\text{PM}_{2.5}$ which are analyzed before the expansion. What will be the quality of air after expansion?

Thina. S.Rajamohan, Project Representative

Before expansion, the concentration of SPM is $53 \mu\text{g}/\text{m}^3$ and after expansion the incremental increase is $0.7 \mu\text{g}/\text{m}^3$. Hence, the total concentration of SPM after expansion will be $53.7 \mu\text{g}/\text{m}^3$ at a distance of 4 Km in the eastern direction.

The District Collector

The District Collector asked about the effect of Suspended particles during rain.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

9

Thiru. S.Rajamohan, Project Representative

He replied that, there will not be any effect due to Suspended particles during rain, if SO₂ is present then acid rain will occur.

The District Collector

The District Collector asked about the effect on habitations located within 10 Km radius due to Southwest winds direction.

Thiru. S.Rajamohan, Project Representative

He replied that, the predominant wind directions are North-Northeast and Southwest. Hence, the effect will be on the Southwest direction at a distance of 4 Km with the above said concentration of suspended particles.

The District Collector

He asked about the number of habitations and population in the predominant wind direction. Is there any predominant agricultural land or water bodies?

Thiru. S.Rajamohan, Project Representative

He replied that there is no significant Residential habitation except the agricultural lands and small houses. He said that the suspended particles will fall on the agricultural land only.

The District Collector

He asked about the effect of suspended particles falling on the agricultural land.

Thiru. S.Rajamohan, Project Representative

He replied that after the expansion of this unit, the concentration of suspended particles will be only 53.7 µg/m³ which is within the permissible limits and hence there won't be any effect due to this.

The District Collector

He asked about the effect of SO₂, NO₂ emission from the stack height of 30m.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

10

Thiru. S. Rajamohan, Project Representative

He replied that there is no incremental increase in the SO₂ level. Only if the industry uses coal or oil, there will be SO₂ emission. Hence, there is no incremental increase in the SO₂ level due to unit's expansion activity.

Thiru. Nagaraj. Uliveeranapalli

He expressed his suggestions in Telugu and subsequently Mr. S. Thiruvakkarasu, General Manager, M/s. Indus TMT Industries Limited has translated in Tamil and the details are as follows:

He wished the District Collector and the others who came here. He said that he is not here to talk about pollution control or other matters. Here he expressed the need of road facilities for the public. The Managing Director of M/s. Indus TMT Industries Limited is working well. Unlike others, he is doing it as a social work and not as motive of earning money.

The District Collector

There are specifications for the laying of rural roads. This kind of roads are not made for plying of heavy tonnage goods carrier. Generally, it will be designed for the movement of Lorries with 8 and 10 tons of weight. Generally in NHAI, for constructing a road of 1 Km, it will cost Rs. 1 crore. But, we spend less than Rs. 20 lakhs for constructing 1 Km rural road. So, the industries located here are only operating their heavy vehicles in this village road. Hence, the industries located in this area have to come forward and have to join together with the local village panchayat to establish a good quality road. While travelling in a lorry, the undulations in the roads can't be felt. But the persons who use Bi-cycle and two wheelers on these roads will suffer a lot. The industries located in this area have to improve and establish a quality road from their CSR fund as a Corporate Social Responsibility

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

11

Thiru. S.S.Srikanth, Chief Executive Officer, M/s. Indus TMT Industries Limited;

He conveyed his wishes to the District collector, public and Village presidents participated in the public hearing. Thiru. Nagaraj has spoke in Telugu and that was translated by Thiru. S. Thirunavukarasu. In that he mentioned that the village road was not proper. In this regard already we have (4 or 5 industries) discussed this issues and we are ready to do it by tomorrow itself. If the District administration gives permission, Since we don't have the rights to do it. Our village presidents are also ready for initiating this work.

The District Collector

If that is the case, tomorrow itself our engineers will meet you regarding the said matter.

Thiru. L. Krishna (Kalukondapalli Panchayat President)

On behalf of his village people, he expressed his thanks to Mr. S.S. Srikanth and the District Collector. He said that he had a complaint on the said matter. But, before submitting the complaint itself a positive reply and assurance was received from the project proponent and hence he expressed thanks for the same.

The District Collector

He said that people here may be knowing how much income will come for a village panchayat. In that, half the amount will go for the electricity bill. Whether Hogenakkal water is supplied or not we are debiting the amount for that. In this situation, the needs for the public from the industries are increased. Moreover, it will be an example of how the changes will come on establishing the industries. Definitely, as a government servant, I know the details of how much amount the government is allotting for a village panchayat and how much income a panchayat acquires and what will be their expenditure. Sometimes they don't have money even for changing a light. The village panchayat president may be knowing this. They will get afraid of the public and will spend their own money for providing the light. This is what the situation now in village panchayat. In some panchayats the financial status will be good and

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

12

they can do it. But in some panchayats, they may have their will to do it, but money won't be there. At this juncture, if the nearby industries voluntarily come forward and fulfill their social needs, then the public will appreciate the industries.

Thiru.Ravi kumar, Hyderabad (Environmental Volunteer Senior Journalist):

Good morning everybody, First of all I request the District Collector to permit me to talk in English we are participating in industries public hearing in Andhra, Tami Nadu & Karnataka also. First of all I am congratulating the consultancy Enviro Care India Pvt Ltd for the detailed report and once again I am congratulating and welcoming the expansion of the Indus TMT Industries Ltd. Here I watched so many problems are hearing the people majorly water pollution means fluoride pollution. Hence in Telungana and Andhra, Ananthapur some of the villages many people are suffering fluoride effect. Local Tami Nadu Government doing social work social societies also giving support for drinking water for people. So here my suggestion is I think we must use Tulasi. Hindus important leaf which has high medical value it is for drinking water every day. Also, the same was insisted by the unicef scheme watching it in Telugana, Hydrabad and Andhra also. So I will give some suggestions with CSR funds that special skill training program must be done for unemployed youth. Many Industries are doing many developmental activities with CSR funds. If possible please try to increase the plantation and also 3 to 4 years observation with special labour otherwise every day the plantation may be destroyed. Thank you for giving me opportunity.

Thiru. S. Thirunavukkarasu, General Manager, M/s. Indus TMT Industries Limited

Our friend here has suggested an idea of using Tulasi for the removal of fluoride in the drinking water. Hence, drinking water along with Thulasi can be consumed. We are already doing this and we will continue the same. In this area I had seen the usage of Thulasi leaves with drinking water. Next, he requested to provide Skilled training Programme for unemployed youth and tree plantation. In this regard we are maintaining the tree plantation like our child. Whether the water is there for our drinking needs or not, at first we will be watering the trees only. Till the tree gets matured we will definitely maintain it. Generally, we are giving skill training for our industry related works. People come for job and will be working

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

11

for 6 months or one year and thereafter they will go for some other better position in other places and this is also considered as one type of skill development.

The District Collector

The District Collector said that skilled training for unemployed means not only for doing job for your industry. You have some social responsibilities. In this area if there are some 100 graduates without employment and if there are 100 industries in Hosur area, then the industry here should give skill training to the unemployed youth considering the skill training required for the job in some other industries.

Thiru. Manjunath, Kappakal

He said that first preference shall be given to the local people in this industry.

The District Collector

That is what a Journalist said here. Local people in this area should be given first preference on employment. The local youth shall be given skill training according to their qualification and preference shall be given to them on employment.

Thiru. S. Thirunavukkarasu, General Manager, M/s. Indus TMT Industries Limited

He said that the local people are given employment by giving skill training. We assure that we will continue the same. As instructed by the District Collector, jobs are given to the local people according to their capability. For more technical jobs, people are coming from outside only. If they have the required technical skill then first preference will be given to them.

Thiru. S.S.Srikanth, Chief Executive Officer, M/s. Indus TMT Industries Limited:

As he said, more people belonging to this area are working here. Moreover, they have come for this public hearing along with their family. We are giving job to this area people. The problem in offering employment to the local people in the hot temperature related process area is that the local people are not ready to do the heat related jobs. Since they are not used to it. At present, the persons working with higher level jobs are also from this area only.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

14

The jobs which could not be done by the local people is only outsourced. Also, in employment first preference is given to the local people. Finally he requested the local public to make use of the Job opportunities in this Industry.

The District Environmental Engineer, Tamil Nadu Pollution Control Board has invited the public to offer their further more views if any. Thereafter there was no further response from the public. Further the District Environmental Engineer, Tamilnadu Pollution Control Board has named the proceedings of the Public hearing conducted to the public and finally concluded the public hearing with Thanks.

List of public attended the public hearing along with recorded video graph (CD) of the entire proceeding of the public hearing is enclosed.


 20-11-2016
 District Environmental Engineer
 Tamil Nadu Pollution Control Board
 Hosur


 District Collector
 Krishnagiri

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

S.No	Description	Action Taken
1.	<p>Thiru.P.N. Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):</p> <p>Today M/s. Indus TMT Industries Limited has explained their proposed expansion project. It is known that the development of a village depends on the development of the industries in that village. Generally for about 20-25 years, many Industries have come up and are in existence in the village panchayat of Belagondapalli and Kalukondapalli. It is true that there is no hindrance or nuisance to the public due to operation of these industries. Due to these industries, direct and indirect employment has increased in these villages. Economic development has increased. The industries located in these village panchayats are the backbone for the economical development. It is true that there is no hindrance or nuisance to the general public of these villages due to stringent government regulation and enforcement of pollution control Board Rules. Moreover, M/s. Indus TMT Industries Limited has said that the employment opportunities will get increased due to the expansion activity. This industry has planted 1500 plantations and myself and Kalukondapalli Village Panchayat President have often visited this Industry and noticed the tree plantation in the unit premises and as far as we are concerned it is not sufficient and they have to allot one or two Acres exclusively for the tree plantation. The industry said that it is doing social work, in that especially R.O water schemes in the bus stops of Kalukondapalli and Uliveeranapalli can be done either by M/s. Indus TMT Industries Limited or by the group of industries located in these villages. This type of scheme has been implemented in the villages of Anekkal Taluk of Karnataka. Even if it is not possible to implement in Taluk or block level, I hereby request this Industry to implement this R.O scheme at least in the</p>	<p>Since he welcomed this expansion project, no action warranted inside the unit.</p> <p>The RO system for drinking (Fluoride free water) facility will be provided through the CSR funds.</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

	said bus stops of Kalukondapalli and Uliveeranapalli and also requested the District Collector, Krishnagiri to take necessary steps on implementing the same by the Industrial units.	
2.	Thiru.P.N. Srinivasan, Belagondapalli Village (Ex-Village Panchayat President): Next is rain water harvesting. There is no information regarding rain water harvesting in this expansion proposal project. Rain water harvesting tank shall be constructed and water shall be recycled back and can be utilized to the maximum extent possible.	Entire Rainwater of the Plant through Pathways, Storm water Drains and pipes will be connected to the Rain water Harvesting pit of a Size of 30 Feet (Length) X 15 Feet (Width) X 10 Feet (Depth) Which are Back filled with Boulders, Gravels and Coarse Sand. Any excess water from the Rain water recharge pit will be again transferred to the pond through the Drain lines with the Size of 100 Feet (Length) X 50 Feet (Width) X 10 Feet (Depth) which can store 1400KL and also recharge the water in to the ground. This Stored Water will be recycled again and used.
3.	The District Collector: In your project, you have informed that after recycling only 4 KL of water will only be required. If the Industry adopt the irrigation tanks within 10 Km radius in the vicinity and if it is strengthened and desilted, then there won't be any effect for the drawl of ground water by the Industry and also for the farmers nearby. In the surrounding villages all are agricultural lands. In Hosur Taluk, these kinds of fertile agricultural land are much suitable for the Horticulture crops. From this District only many horticultural related food / crops are majorly supplied (i.e) 20% to Chennai, 20% to Madurai and Kerala. If any industry wants to draw one part of	We will implement tertiary treatment system for the sewage treatment and will be partly recycled in the process and the remaining will be utilized for drip irrigation.

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

	<p>water from the ground, they have to harvest 5 parts of water through rain water harvesting system.</p> <p>Likewise, you have informed that the treated sewage will be utilized for irrigation to an extent of 2.59 Hectare. In this case the sewage can be further treated through a tertiary treatment system and can be utilized in the process and the remaining can be utilized for green belt development through drip irrigation and by doing this you can conserve water and this can be implemented by incorporating in the project proposal.</p>	
4.	<p>Thiru.P.N. Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):</p> <p>Don't think that I am asking this on the expansion of the industry. There are Government rules and regulations and license for this project will be decided by the District Collector and relevant officials. Social activities to the public should come from all the industries. I think two or three industries have come here. In their industries also, they have to implement tree plantation, recycling of water, rain water harvesting and social work. We are not asking these for an individual dwelling. More tax revenue are there in both of these Panchayats and the Panchayat presidents will do it. Generally in your project funds are allocated for education under CSR fund.</p> <p>Apart from M/s. Indus TMT Industries Limited, all the industries located in this area have to do social works like, issuing of school uniforms, books, R.O drinking water system, Mini R.O system with the capacity of 50 litres to 100 litres and maintenance of public toilets. Government is ready for constructing the toilets. To my knowledge, we have constructed public toilets in all the villages and Panchayats. Toilet Maintenance has to be done and hence the industry can exclusively appoint a person for maintaining the public toilets in villages.</p>	<p>He welcomed this expansion project.</p> <p>CSR activities will be done to nearby schools.</p> <p>We will allot persons to maintain the public toilet in villages.</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

5.	<p>Thiru.P.N. Srinivasan, Belagondapalli Village (Ex-Village Panchayat President):</p> <p>There are lots more things can be done by the Industries. For that, generally helping tendency should come from the Industries. Rather than, earning money by the establishment of Industry in this area naturally helping tendency should come from the Industry on Social needs. M/s. Indus TMT Industries Limited is doing little on social needs but no comment on that. All industries in this area have to come forward and do the same, for that the District Collector has to take necessary steps. It is functioning as per Pollution Control Board, rules and regulations and there is no worry about it. There is no hindrance to anyone else.</p> <p>Next, there are lot more social needs for these villages. For doing that motivation is needed. Secondly, this industry has allocated funds in CSR for education needs. Likewise, I humbly request all the industries to do the same. I thank the District Collector and others for giving me the opportunity to speak.</p>	<p>We are doing the social needs and we will do it more for the nearby villages.</p> <p>Next on providing R.O system in the bus stops, as suggested by the District Collector and based on new technology we will do the needful. Regarding rain water harvesting, we are already storing the rain water in a pond nearby. Further as per the instructions and suggestions of the District Collector we assure that we will maintain the public toilet.</p>
6.	<p>Thiru. L .Krishna (Kalukondapalli Panchayat President):</p> <p>He welcomed the District Collector, District Environmental Engineer, management of Industry and the general public who came for this meeting. The District Collector has come here to ask the public suggestions regarding the effects that will happen due to this industry's expansion activity and the measures to be taken for that. Is there any effect due to the expansion of this industry? If it so then how it will be rectified? Other matters my friend has briefed and don't want to repeat the same. M/s. Indus TMT Industries Limited is doing social work and there is no need to appreciate it. They will do it. We came here to clear our doubts regarding whether there is any effects due to the industry's expansion activity. The project proponent has to explain</p>	<p>30 m height of stack with the air pollution control equipment of wet scrubber is provided to control the suspended particles present in the smoke due to expansion. This height is provided as per the guidelines of Pollution Control Board. The concentration of suspended particles let out from the stack will be $53 \mu\text{g}/\text{m}^3$ at a distance of 4 Km. But the permissible limits prescribed by the Pollution Control Board are $100 \mu\text{g}/\text{m}^3$. Moreover, as per the District Collector's instruction we will monitor the emission from the stack through continuous online monitors</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

	<p>the effects of their expansion activity to the agriculture, habitations, drinking water and environment and the remedial measures taken by the Industry to avoid the same. Thank you.</p>	<p>which will be connected to the CARE AIR CENTER, Tamil Nadu Pollution Control Board, Chennai. In case of any malfunction or the parameters exceed the permissible limits, the same will be communicated through CARE AIR CENTER, Tamil Nadu Pollution Control Board, Chennai to the industry to take immediate action to rectify the same. Hence, steps will be taken to maintain the emission level from this industry within the permissible limits.</p>
7.	<p>The District Collector: You have mentioned about the details of ambient air quality such as PM₁₀, SO₂, NO₂, PM_{2.5}, which are analyzed before the expansion. What will be the quality of air after expansion?</p>	<p>Before expansion, the concentration of SPM is 53 µg/m³ and after expansion the incremental increase is 0.7 µg/m³. Hence, the total concentration of SPM after expansion will be 53.7 µg/m³ at a distance of 4 Km in the eastern direction.</p>
8.	<p>The District Collector: The District Collector asked about the effect of Suspended particles during rain. The District Collector asked about the effect on habitations located within 10 Km radius due to Southwest winds direction. He asked about the number of habitations and population in the predominant wind direction. Is there any predominant agricultural land or water bodies? He asked about the effect of suspended particles falling on the agricultural land. He asked about the effect of SO₂, NO₂ emission from the stack height of 30m.</p>	<p>He replied that, there will not be any effect due to Suspended particles during rain, if SO₂ is present then acid rain will occur. He replied that, the predominant wind directions are North - Northeast and Southwest. Hence, the effect will be on the Southwest direction at a distance of 4 Km with the above said concentration of suspended particles. He replied that there is no significant Residential habitation except the agricultural lands and small</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

		<p>houses. He said that the suspended particles will fall on the agricultural land only.</p> <p>He replied that after the expansion of this unit, the concentration of suspended particles will be only 53.7 $\mu\text{g}/\text{m}^3$ which is within the permissible limits and hence there won't be any effect due to this.</p> <p>He replied that there is no incremental increase in the SO_2 level. Only if the industry uses coal or oil, there will be SO_2 emission. Hence, there is no incremental increase in the SO_2 level due to unit's expansion activity.</p>
9.	<p>Thiru. Nagaraj, Uliveeranapalli:</p> <p>He wished the District Collector and the others who came here. He said that he is not here to talk about pollution control or other matters. Here he expressed the need of road facilities for the public. The Managing Director of M/s. Indus TMT Industries Limited is working well. Unlike others, he is doing it as a social work and not as motive of earning money.</p>	<p>In this regard already we have (4 or 5 Industries) discussed this issues and we are ready to do it. If the District administration gives permission. Since we don't have the rights to do it. Our village presidents are also ready for initiating this work.</p>
10.	<p>Thiru. L .Krishna (Kalukondapalli Panchayat President):</p> <p>On behalf of his village people, he expressed his thanks to Mr. S.S. Srikanth and the District Collector. He said that he had a complaint on the said matter. But, before submitting the complaint itself a positive reply and assurance was received from the project proponent and hence he expressed thanks for the same.</p>	<p>He welcomed this expansion project and thanks for positive reply before the complaint has been raised.</p>
11.	<p>Thiru.Ravi kumar, Hyderabad (Environmental Volunteer Senior Journalist):</p> <p>Good morning everybody, First of all I request the District Collector to permit me to talk in English we are participating in industries public hearing in Andhra,</p>	<p>We are drinking water with thulasi to remove the fluoride from water and we will continue the same.</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

	<p>Tamilnadu & Karnataka also. First of all I am congratulating the consultancy Enviro Care India Pvt Ltd for the detailed report and once again I am congratulating and welcoming the expansion of the Indus TMT Industries Ltd. Here I watched so many problems are hearing the people majorly water pollution means fluoride pollution. Hence in Telangana and Andhra, Ananthapur some of the villages many people are suffering fluoride effect. Local Tamilnadu Government doing social work social societies also giving support for drinking water for people. So here my suggestion is I think we must use Thulasi, Hindus important leaf which has high medical value it is for drinking water every day. Also, the same was insisted by the unicef scheme watching it in Telangana, Hyderabad and Andhra also. So I will give some suggestions with CSR funds that special skill training program must be done for unemployed youth. Many Industries are doing many developmental activities with CSR funds. If possible please try to increase the plantation and also 3 to 4 year's observation with special labour otherwise every day the plantation may be destroyed, Thank you for giving me opportunity.</p>	<p>We are maintaining the tree plantation like our child. Whether the water is there for our drinking needs or not, at first we will be watering the trees only. Till the tree gets matured we will definitely maintain it.</p> <p>And we are giving skill training for our industry related works. People come for job and will be working for 6 months or one year and thereafter they will go for some other better position in other places and this is also considered as one type of skill development.</p>
12.	<p>The District Collector: The District Collector said that skilled training for unemployed means not only for doing job for your industry. You have some social responsibilities. In this area if there are some 100 graduates without employment and if there are 100 industries in Hosur area, then the Industry here should give skill training to the unemployed youth considering the skill training required for the job in some other Industries.</p>	<p>The local people are given employment by giving skill training. We assure that we will continue the same. As instructed by the District Collector, jobs are given to the local people according to their capability. For more technical jobs, people are coming from outside only. If they have the required technical skill then first preference will be given to them.</p>

Final EIA Report for the Proposed Expansion of Steel Rolling Mill at Kalukondapalli Village	M/s. Indus TMT Industries Limited
	ANNEXURE – XII

13.	<p>Thiru. Manjunath, Kappakal: He said that first preference shall be given to the local people in this industry.</p>	<p>The local people are given employment by giving skill training. We assure that we will continue the same. As instructed by the District Collector, jobs are given to the local people according to their capability. For more technical jobs, people are coming from outside only. If they have the required technical skill then first preference will be given to them.</p>
14.	<p>The District Collector: That is what a Journalist said here. Local people in this area should be given first preference on employment. The local youth shall be given skill training according to their qualification and preference shall be given to them on employment.</p>	<p>More people belonging to this area are working here. We are giving job to this area people. The problem in offering employment to the local people in the hot temperature related process area is that the local people are not ready to do the heat related jobs. Since they are not used to it. At present, the persons working with higher level jobs are also from this area only. The jobs which could not be done by the local people are only outsourced. Also, in employment first preference is given to the local people. Finally he requested the local public to make use of the Job opportunities in this Industry.</p>



DR. H.MALLESHAPPA.I.F.S
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT
IMPACT ASSESSMENT
AUTHORITY-TAMILNADU
3rd Floor, Panagal Maaligai,
No.1 Jenis Road, Saidapet,
Chennai-15.
Phone No : 044-24359973

ENVIRONMENTAL CLEARANCE (EC)

Letter No. SEIAA / TN/F.3297/EC/3(a)/48/ 2015 dated:14.06.2017

To

The Director
M/s. Indus TMT Industries Limited
(Formerly M/s. Apple Rolling Mills Ltd)
Kappakal Road, Hosur – Thaly road,
Uliveernapalli, Kalukondapalli Village,
Denkanikotti Taluk,
Krishnagiri District – 635114.

Sir,

Sub: SEIAA, TN - Environmental Clearance - M/s Indus TMT Industries Limited - Proposed Expansion of Existing Steel Rolling Mill located at S.F.No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E, 277/2, 278/1A,1B,1C,1D, 285/1A, 286/1,2,3,4,5,6,7& 287/1, Kalukondapalli Village, Denkanikottai Taluk, Krishnagiri District by M/s Indus TMT Industries Limited to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA - under Category 'B1'and Schedule S.No. 3(a) - Issued - Regarding.

REF: 1.Your application for TOR dated 12.01.2015
2.ToR letter No. SEIAA-TN/F-3297/KRNGI/M-LXIV/TOR-216/2015/dated 26.03.2015.
3.Your application for Environmental Clearance dated: 27.10.2016.
4.Proposal No.SIA/TN/IND2/18808/2015 dated 10.03.2017.
5.Minutes for the 85th Meeting of the SEAC (Item No. 85-10) held on 30.03.2017.
6.Minutes of the 219th SEIAA meeting held on 14 .06.2017

1. This has reference to your application dated: 27.10.2016 submitted to the State Level Environment Impact Assessment Authority, Tamil Nadu seeking

Environmental Clearance under the Environment Impact Assessment Notification, 2006.

It is noted, inter alia that the project proposal is for the Proposed Expansion of Existing Steel Rolling Mill located at S.F.No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E, 277/2, 278/1A,1B,1C,1D, 285/1A, 286/1,2,3,4,5,6,7, 287/1, Kalukondapalli village, Denkanikottai Taluk, Krishnagiri district by M/s Indus TMT Industries Limited to enhance the production of steel bars & rods from 72,000 TPA to 1,45,000 TPA and M.S. Billet -1,56,000 TPA

Total area acquired is 10.38 ha and expansion will be carried out in the same premises. No additional land will be required. Green belt will be developed in 2.34 ha of plant area. The co-ordinates of the plant site will be located in between Latitude -120 38' 57.65" N and Longitude- 770 45' 04.72" E .No National Parks; Wildlife Sanctuaries are located within 10 km radius of the project site. No interstate boundary is located within the 5 Km from the project site. The project does not involve any Rehabilitation & Resettlement .Total cost of the project is Rs. 5000.00 Lakhs.

During expansion, Induction Furnaces (2 × 25 TPH) & (1 × 30TPH) will be installed. The following items will be produced after expansion:

Products	Existing (TPA)	After expansion (TPA)
Steel Bars and Rods	72,000	1,45,000
M.S. Billet	---	1,56,000

It is proposed to utilize MS Scraps – 1,29,000 TPA & Sponge iron – 34,000 TPA as raw materials for production of M.S.Billets of 1,56,000 TPA and remaining 12,000 TPA slag from the furnaces is utilized in the cement industries for beneficial uses. The M.S.Billets of 1,56,000 TPA is utilized as raw material for the production of Steel Bars and Rods- 1,45,000 TPA as captive purpose and remaining

11,000 TPA scrap is disposed to the authorized recyclers. Power requirement will be 22000KVA with a backup of 2 numbers of 500 KVA D.G. Set.

Total fresh water requirement of 56 KLD will be sourced from Local Panchayat. Trade effluent of 0.2KLD will be generated from wet scrubbers attached to the induction furnaces, the effluent from the wet scrubber will be evaporated in the existing Solar Evaporation Pan of size 58.5m². Residue from Solar evaporation pan will be disposed off to appropriate authorities as per TNPCB norms. 282KLD trade effluent will be generated from Quenching process and 132KLD trade effluent from the Billet Cooling process, out of which 414KLD of the total requirement of 470KLD will be recycled to the process. 13KLD of Sewage will be generated during operation phase.

Sewage of 13 KLD will be generated during operation phase it is proposed to treated in the Sewage Treatment plant of 15 KLD capacity and the treated sewage will be used for gardening purposes.

Flue gas from the Reheating Furnace will pass through the air pollution control measure wet scrubber system. Stack of height 30m with wet scrubber to control gaseous emission from reheating furnace will be provided. Common stack of height 40m will be provided for the discharge of emission from the induction furnaces. End cutting, Misroll sand Mill scale will be reused in Steel melting plant.

The project activity is of Category "B1" and comes under S.No.3 (a) in the Schedule of EIA Notification, 2006. The Proposal was appraised by the State Level Expert Appraisal Committee in the 64th meeting held on 20th March 2015, as per the prescribed procedure in the light of provisions under the EIA Notification, 2006 and on the basis of the mandatory documents enclosed with the application. TOR was prescribed by the SEAC for EIA studies including Public consultation. Public consultation was held on 30.11.2016. Subsequently the proposal was appraised by the SEAC in its 85th meeting held on 30.03.2017 based on the submission of the revised EIA prepared in accordance with the TOR and SEAC recommended to the SEIAA, Tamil Nadu to grant Environmental Clearance to this project. The proposal was considered by the SEIAA, Tamil Nadu in its 219th meeting held on 14.06.2017

and the proposal was discussed in detail and decided to issue EC. Accordingly, the SEIAA hereby accords Environmental Clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 as amended, with validity for a period of 5 years to start operations by the plant, subject to the strict compliance of the following Specific and General conditions:

2. Part A- Specific Conditions:

- i. The project authorities should advertise with basic details at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN at <http://seiaa.tn.gov.in>
- ii. Electric induction furnace shall be provided with hood with ducting and connected to an Induced Draft (ID) fan outside the building to extract fumes from melting process. Wet scrubber shall be provided to the Electric induction furnace and to the Producer gas fired furnace (re-rolling mill) to control gaseous emissions to control the particulate emissions below $100\text{mg}/\text{Nm}^3$. Data on ambient air quality, stack emissions and fugitive emissions shall be regularly submitted to the Regional Office of the Ministry of Environment Forests & Climatic Change (MoEF&CC) at Chennai / Tamil Nadu Pollution Control Board(TNPCB) and Central Pollution Control Board (CPCB) once in six months.
- iii. Gaseous emissions including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the MoEF& CC and regularly monitored and reports submitted to MoEF & CC Regional Office at Bengaluru, CPCB and TNPCB. Guidelines / Code of Practice issued by the CPCB shall be followed.

- iv. The wet scrubber installed for the stack shall ensure that the temperature at the inlet of the scrubber should be less than 300°C by installing adequate cooling arrangements.
- v. The residue from the wet scrubber would be hazardous in nature and it shall be disposed through TSD facility.
- vi. 2 crores earmarked for greeneries shall be utilized for green belt development in consultation with DFO and SPCB. *
- vii. The Project Proponent has to put up rain water harvesting storage facility of 3069.5 KL for to harvest and reuse in entire rain water during normal rains. Only when rains are resulting to flood the excess rain water recovered shall be disposed to recharge pits/wells and further access shall alone be discharged into road side stump water rain. }
- viii. The scrubber effluent from wet scrubbers shall be evaporated in Solar Evaporation Pan of adequate size. No wastewater shall be discharged outside the plant premises and 'Zero' discharge shall be strictly adopted as proposed. Domestic wastewater shall be treated in STP.
- ix. Slag shall be subject to Toxic Chemical Leachability Potential (TCLP) test before using for further beneficial use and shall be used only when found non-hazardous. All the solid wastes like slag and SEP residue shall be stored separately at designated place only. SEP residue shall be disposed of in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- x. The Proponent has to furnish the Commitment letter obtained from cement industries for utilisation of furnace slag generated in the process activity for further beneficial use while applying for consent to Operator for Expansion to TNPCB. †
- xi. All the roads shall be tarred and water sprinkling shall be ensured to control dust emissions from all the vulnerable sources like raw material handling and storage areas. All the material transfer points, discharge points and raw material storage area shall be completely covered. Dust extraction system shall be provided to storage, transfer points and material handling areas Monitoring of fugitive emissions in the work zone environment shall be

carried out regularly as per the CPCB guidelines and reports submitted to TNPCB / CPCB and MoEF & CC Regional Office at Chennai.

- xii. It shall be ensured that the area drainage is not disturbed.
- xiii. Scheme for implementation for harnessing solar power within the premises of the plant particularly at available roof tops shall be formulated and status of implementation shall be submitted to the MoEF & CC Regional Office at Chennai from time to time
- xiv. Regular monitoring of ground level concentration of SO₂, NO_x, RSPM (PM₁₀ & PM_{2.5}) etc. shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with Tamil Nadu Pollution Control Board. Periodic reports shall be submitted to the MoEF & CC Regional Office at Chennai. The data shall also be put on the website of the company. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- xv. Ambient air quality monitoring (AAQM) stations shall be set up as per statutory requirement. The locations of ambient air quality monitoring stations shall be decided in consultation with the Tamil Nadu Pollution Control Board and it shall be ensure that at least one station is installed in the up wind and another in the downwind direction as well as where maximum ground level concentrations are anticipated.
- xvi. The Project proponent shall provide adequate safety and ventilation arrangements in the furnace area.
- xvii. Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the SEIAA, TN as well as to the MoEF & CC Regional Office at Chennai.
- xviii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc., on all sources of noise generation. The ambient

noise levels shall conform to the standards prescribed under Environment (Protection) Rules, 1989.

- xix. The Proponent shall furnish an undertaking that they will abide by the conditions by the recommendations mentioned in the EMP report furnished by them.
- xx. It is mandatory for the project proponent to furnish to the SEIAA, Half yearly compliance report in hard and soft copies on 1st June and 1st December of each calendar year in respect of the conditions stipulated in the prior Environmental clearance.

3. Part B - General Conditions:

- ✓i. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearance from the concerned statutory and administrative authorities.
- ✓ii. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, TN.
- ✓iii. "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be furnished to the SEIAA, Tamil Nadu before taking up of any construction activity at the site.
- ✓iv. Green Belt consisting of 3 tiers of plantations of native species around the plant boundary comprising of at least 33% of total land shall be raised. The density of trees shall not be less than 2500 per Ha and rate of survival at least 80%.
- ✓v. Proper housekeeping shall be ensured and all the raw material including scrap, coal etc., shall be stored at designated places.
- ✓vi. The project proponent shall undertake rain water harvesting measures and shall develop water storage for use in operation of the plant. Rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises. Action plan for implementation shall be submitted to the MoEF & CC, Regional Office at Chennai within six months.

- vii. The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- viii. An amount of **Rs. 10.00 lakhs** shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure **Rs. 2.00 Lakhs** per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted **within four months** along with road map for implementation to the SEIAA, TN.
- ix. CSR schemes should address Public Hearing issues and shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration.
- x. It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.
- xi. An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Organization.
- xii. All the measures regarding occupational health surveillance of the workers shall be undertaken and regular medical examination of all the employees shall be ensured as per the Factories Act and records maintained.
- xiii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report.
- xiv. The company must undertake socio-economic development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc.
- xv. As proposed, Rs. 121.00 Lakhs and Rs. 23.25 Lakhs shall be earmarked towards capital cost and recurring cost/annum for environmental pollution

control measures and judiciously used to implement the conditions stipulated by the SEIAA, TN as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Chennai. The funds so provided shall not be diverted for any other purpose.

- xvi. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Regional office of the MOEF & CC at Chennai, TNPCB and CPCB within 3 months of issue of Environment Clearances.
- xvii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the SEIAA, TN and copies of the clearance letter are available with the TNPCB and may also be seen at Website of the SEIAA, TN at <http://seiaa.tn.gov.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office of the MoEF & CC at Chennai.
- xviii. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF & CC, Chennai, the Zonal Office of CPCB, Bengaluru and the TNPCB. This shall also be put on the website of the Company by the proponent.
- xix. The Environmental Statement for each financial year ending 31st March in Form-V as is mandated has to be submitted by the project proponent to the Tamil Nadu Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the Regional Office of MoEF& CC, Chennai by e-mail.
- xx. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF& CC, Chennai, the respective Zonal Office of CPCB,

S.A. MEMBER SECRETARY SEIAA-TN

Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

- xxi. A copy of the clearance letter shall be sent by the proponent to the Commissioner, Thali Panchayat Union, Denkanikottai Taluk, Krishnagiri District and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- xxii. Project authorities shall inform the MoEF & CC Regional Office at Chennai as well as the SEIAA, TN, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
- xxiii. Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.

4.0. The SEIAA, TN reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the SEIAA, TN. The SEIAA, TN may also impose additional environmental conditions or modify the existing ones, if necessary.

5.0. The environmental clearance accorded shall be valid for a period of 5 years to start the operations by the plant.

6.0. Environmental Clearance is issued based on the details furnished as above. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

7.0 The SEIAA, TN reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

8.0. The above stipulations would be enforced, inter-alia under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous and Other Wastes (Management and Transboundary Movement) Rules,

2016 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

9.0 Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

 MEMBER SECRETARY
SEIAA-TN

Copy to:-

1. The Secretary to Government, Environment & Forests Dept, Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The CCF, Regional Office, Ministry of Environment & Forest (SZ), KendriyaSadan, IV floor, E&F wings, 17th Main Road, Koramangala II Block, Bengaluru - 560034.
5. Monitoring Cell, I A Division, Ministry of Environment & Forests, Paryavaran Bhavan, CGO Complex, New Delhi 110003.
6. The Commissioner, Thali Panchayat Union, Denkanikottai Taluk, Krishnagiri District.
7. Stock File.

CONSENT ORDER NO. 170629918690 DATED: 08/11/2017.

PROCEEDINGS NO.T1/TNPCB/F.0063HSR/OL/HSR/A/2017 DATED: 08/11/2017

SUB: TNPC Board-Consent for Establishment FOR EXPANSION- I INDUS TMT INDUSTRIES LIMITED , S.F. No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI Village, Denkanikottai Taluk, Krishnagiri District- for the establishment or take steps to establish the industry for Expansion under Section 21 of the Air(Prevention and control of Pollution)Act,1981, as amended in 1987 (Central Act, 14 of 1981)-Issued- Reg.

REF: 1. Unit's application for CTE -Expansion dated 26.07.2017
2. DEE's IR.No : F.0063HSR/OL/AE/HSR/2017 dated 27/09/2017
3. Minutes of TSC meeting vide Item No.158 – 06 dated 17.10.2017

Consent to establish or take steps to establish for Expansion is hereby granted under Section 21 of the Air (Prevention and control of Pollution) Act,1981, as amended in 1987 and the Rules and Orders made there under to

The Director,
M/s . INDUS TMT INDUSTRIES LIMITED

Authorizing occupier to establish or take steps to establish the industry in the site mentioned below:

S.F No.251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
KALUGONDAPALLI Village,
Denkanikottai Taluk,
Krishnagiri District.

This Consent to establish for Expansion is valid upto **March 31, 2024** , or till the industry obtains consent to operate under Section 21 of the Air (Prevention and control of Pollution) Act, 1981, as amended in 1987 whichever is earlier subject to special and general conditions enclosed.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
Kappakal Road, Uliveeranapalli Village, Denkanikottai Taluk, Krishnagiri District,
Pin: 635114

Copy to:

- 1.The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, HOSUR.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore.
4. File

SPECIAL CONDITIONS

1. This consent to establish for Expansion is valid for establishing the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steel Bars and Rods	145000	T/Annum
Intermediate Product Details			
1.	M.S. Billet	156000	T/Annuaam

2. This consent to establish for Expansion is valid for establishing the facility with the below mentioned emission/noise sources along with the control measures and/or stack .Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent has to be obtained if necessary.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm3/hr
1	Reheating Furnace(Existing)	Wet scrubber with stack	30	
2	D.G Set 200 KVA(Existing)	Acoustic enclosures with stack	10.5	
3	Induction Furnaces(25T/Hr-2 Nos & 30T/Hr-1No) (Proposed)	Common Bag house Filter with Stack	40	
4	D.G.SET 500 KVA(Proposed)	Acoustic enclosures with stack	10	
5	D.G.SET 500 KVA(Proposed)	Acoustic enclosures with stack	10	
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	DG Sets	Noise	Acoustic Enclosure	

3 Additional Conditions:

- The unit shall provide Air Pollution Control measures as proposed on account of expansion activity and shall ensure that the emission satisfy the AAQ/emission standards prescribed by the Board.
- The unit shall continue to develop the green belt in and around the unit's premises.
- The unit shall comply with the conditions mentioned in EC issued vide letter No. SEIAA-TN/F.3297/EC/3 (a)/48/2015 dated: 14/06/2017.
- The unit shall liable to pay the consent fee and shall remit the difference in amount in case of any revision of consent fee by the Government.

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

GENERAL CONDITIONS

1. This consent to establish cannot be construed as consent to operate and the unit shall not commence the operation without obtaining the Consent to operate.
2. The applicant shall make a request for grant of consent to operate at least thirty days, before the commissioning of trial production.
3. Any Change in the details furnished in the conditions has to be brought to the notice of the Board and got approved by the Board, before obtaining consent to operate under the said Act.
4. The unit has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances (wherever applicable).
5. Consent to operate will not be issued unless the unit complies with the conditions of consent to establish.
6. The unit shall provide adequate water sprinklers for the control of dust emission during the loading and unloading of construction material so as to minimize the dust emission.
7. The unit shall provide water sprinklers along the temporary roads inside the premises to avoid fugitive dust emission during the vehicle movements.
8. The unit shall develop green belt of adequate width around the premises.
9. In case there is any change in the management, the unit shall inform the change with relevant documents immediately.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

CONSENT ORDER NO. 170619918690 DATED: 08/11/2017.

PROCEEDINGS NO.T1/TNPCB/F.0063HSR/OL/HSR/W/2017 DATED: 08/11/2017

SUB: TNPC Board-Consent for Establishment FOR EXPANSION- I INDUS TMT INDUSTRIES LIMITED , S.F. No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI Village, Denkanikottai Taluk, Krishnagiri District- for the establishment or take steps to establish the industry for Expansion under Section 25 of the Water(Prevention and control of Pollution)Act,1974 , as amended in 1988 (Central Act 6 of 1974) –Issued- Reg.

REF: 1. Unit's application for CTE -Expansion dated 26.07.2017
2. DEE's IR.No : F.0063HSR/OL/AE/HSR/2017 dated 27/09/2017
3. Minutes of TSC meeting vide Item No.158 – 06 dated 17.10.2017

Consent to establish or take steps to establish for Expansion is hereby granted under Section 25 of the Water (Prevention and control of Pollution) Act,1974, as amended in 1988(Central Act 53 of 1988) (hereinafter referred to as 'The Act') and the Rules and Orders made there under to

The Director,
M/s. INDUS TMT INDUSTRIES LIMITED

Authorizing occupier to establish or take steps to establish the industry in the site mentioned below:

S.F. No.251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
KALUGONDAPALLI Village,
Denkanikottai Taluk,
Krishnagiri District.

This Consent to establish for Expansion is valid upto **March 31, 2024**, or till the industry obtains consent to operate under Section 25 of the Water (Prevention and control of Pollution) Act, 1974, as amended in 1988 whichever is earlier subject to special and general conditions enclosed.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
Kappakal Road, Uliveeranapalli Village, Denkanikottai Taluk, Krishnagiri District,
Pin: 635114

Copy to:

- 1.The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, HOSUR.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore.
4. File

SPECIAL CONDITIONS

1. This consent to establish for Expansion is valid for establishing the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steel Bars and Rods	145000	T/Annum
Intermediate Product Details			
1.	M.S. Billet	156000	T/Annuam

2. The unit shall provide Sewage Treatment Plant and /or Effluent Treatment Plant as indicated below.

a Sewage Treatment Plant:			
Treatment status: Individual STP			
SL. No.	Name of the Treatment Unit	No. of Units	Dimensions in metres
1.	Bar Screen Chamber	1	1.5 x 0.6 x 1.2
2.	Collection Tank	1	1.8 x 1.8 x 2.5
3.	Aeration Tank	1	2.0 x 2.0 x 3.5
4.	Secondary Clarifier	1	1.5 x 1.5 x 2.5
5.	Filter Feed tank	1	1.2 x 1.2 x 2.5
6.	Pressure Sand Filter	1	0.4 dia x 1.5
7.	Activated Carbon Filter	1	0.4 Dia X 2.0
8.	Sludge drying beds	3	2.0 x 2.0 x 1.0
b Effluent Treatment Plant:			
Treatment status: Individual ETP			
SL. No.	Name of the Treatment Unit	No. of Units	Dimensions in metres
1.	Solar Evaporation Pan	1	18.8 x 3.35 x 0.35

3. This consent to establish for Expansion is valid for establishing the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	13.0	On land for gardening
Effluent Type : Trade Effluent			
1.	Trade Effluent	0.2	Solar Evaporation Pans

4. **Additional Conditions:**

1. The unit shall provide Sewage Treatment Plant as proposed for the treatment of sewage and the treated of sewage shall satisfy the standards prescribed by the Board.
2. The unit shall ensure that the entire quantity (0.2 KLD) of scrubber bleed is disposed into SEP and shall ensure that there shall not be any seepage or overflow from the SEP.
3. The unit shall apply for fresh authorization under the Hazardous and other Wastes (M & TM) Rules, 2016 on account of expansion.
4. The unit shall collect and dispose the solid waste then and there for further beneficial use without accumulation of the same inside the premises.
5. The unit shall liable to pay the consent fee and shall remit the difference in amount in case of any revision of consent fee by the Government.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

GENERAL CONDITIONS

1. This consent to establish cannot be construed as consent to operate and the unit shall not commence the operation without obtaining the Consent to operate.
2. The applicant shall make a request for grant of consent to operate at least thirty days, before the commissioning of trial production.
3. Any Change in the details furnished in the conditions has to be brought to the notice of the Board and got approved by the Board, before obtaining consent to operate under the said Act.
4. The unit has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances (wherever applicable).
5. Consent to operate will not be issued unless the unit complies with the conditions of consent to establish.
6. The unit shall provide adequate water sprinklers for the control of dust emission during the loading and unloading of construction material so as to minimize the dust emission.
7. The unit shall provide water sprinklers along the temporary roads inside the premises to avoid fugitive dust emission during the vehicle movements.
8. The unit shall develop green belt of adequate width around the premises.
9. In case there is any change in the management, the unit shall inform the change with relevant documents immediately.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

Category of the Industry :

ORANGE

CONSENT ORDER NO. 1907227981304 DATED: 16/12/2019.**PROCEEDINGS NO.T1/TNPCB/F.0063HSR/OL//HSR/A/2019 DATED: 16/12/2019**

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE FOR EXPANSION-I -M/s. INDUS TMT INDUSTRIES LIMITED , S.F.No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI villageDenkanikottai Taluk and Krishnagiri District - Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. Bd. Proc. NO.T1/TNPCB/F.0063HSR/OL/HSR/W&A/2017 DATED: 08/11/2017
 2. Bd. Proc. NO.F.0063HSR/OL/DEE/TNPCB/HSR/W&A/2019 DATED: 06/06/2019
 3. Unit's Application No. 27981304 dated:01.10.2019
 4. IR. No : F.0063HSR/OL/AE/HSR/2019 dated 15/11/2019
 5. Minutes of CCC item No. 264-9 dated 03.12.2019

CONSENT TO OPERATE FOR EXPANSION is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Director,
 M/s . INDUS TMT INDUSTRIES LIMITED
 S.F No.251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2,
 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
 KALUGONDAPALLI Village,
 Denkanikottai Taluk,
 Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending March 31, 2021

**For Member Secretary,
 Tamil Nadu Pollution Control Board,
 Chennai**

To
 The Director,
 M/s.INDUS TMT INDUSTRIES LIMITED,
 No.251/1, Kappakal Road,
 Uliveeranapalli, Kalukondapalli Village,
 Denkanikottai Taluk,

Krishnagiri District.,

Pin: 635114

Copy to:

1. The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, HOSUR.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore.
4. File

SPECIAL CONDITIONS

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steel Bars and Rods	145000	T/Annum
Intermediate Product Details			
1.	M.S.Billets	156000	T/Annum

2. This consent to operate for Expansion is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
1	Re-heating furnace	Wet scrubber with stack	30	
2	D.G Set 200 KVA - 1 no.	Acoustic enclosures with stack	10.5	
3	Induction Furnace (25 T/Hr - 2 No.s & 30 T/Hr - 1 No.)	Common Bag house Filter with Stack	30	
4	D.G.SET 500 KVA - 1 No.	Acoustic enclosures with stack	10	
5	D.G.SET 500 KVA	Acoustic enclosures with stack	10	
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	1. DG Set 500 KVA	Noise	Acoustic Enclosures	
2.	2. DG Set 500 KVA	Noise	Acoustic Enclosures	

- 3(a). The emission shall not contain constituents in excess of the tolerance limits as laid down hereunder :

Sl. No.	Parameter	Unit	Tolerance limits	(1)	(2)	(3)	(4)	(5)	(6)

- 3.(b) The Ambient Air in the industrial plant area shall not contain constituents in excess of the tolerance limits prescribed below.

Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	
				Industrial, Residential, Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)
1.	Sulphur Dioxide (SO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	50 80	20 80
2.	Nitrogen Dioxide (NO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	40 80	30 80
3.	Particulate Matter (Size Less than 10 micro M) or PM ₁₀	Annual 24 hours	microgram/m ³ microgram/m ³	60 100	60 100
4.	Particulate Matter (Size Less than 2.5 micro M) or PM _{2.5}	Annual 24 hours	microgram/m ³ microgram/m ³	40 60	40 60
5.	Ozone (O ₃)	Annual 24 hours	8 Hours 1 Hour	100 180	100 180
Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	Industrial, Residential, Rural and other area Ecologically Sensitive Area (notified by Central Govt.)
6.	Lead (Pb)	Annual 24 hours	microgram/m ³ microgram/m ³	0.5 1.0	0.5 1.0
7.	Carbon Monoxide (CO)	8 Hours 1 Hour	miligram/m ³ miligram/m ³	02 04	02 04
8.	Ammonia (NH ₃)	Annual 24 hours	microgram/m ³ microgram/m ³	100 400	100 400
9.	Benzene (C ₆ H ₆)	Annual	microgram/m ³	5	5
10.	Benzo(O) Pyrene (BaP) –particulate phase only	Annual	nanogram/m ³	01	01
11.	Arsenic (As)	Annual	nanogram/m ³	06	06
12.	Nickel (Ni)	Annual	nanogram/m ³	20	20

3(c) The Ambient Noise Level in the industrial plant area shall not exceed the limits prescribed below:

Limits in L.eq.-dB(A)	Day Time	Night Time
Residential Area	55	45

4. All units of the Air pollution control measures shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl. No.3 above.
5. The occupier shall not change or alter quality or quantity or the rate of emission or replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the previous written permission of the Board.
6. The occupier shall maintain log book regarding the stack monitoring system or operation of the plant or any other particulars for each of the unit operations of air pollution control systems to reflect the working condition which shall be furnished for verification of the Board officials during inspection.

7. The occupier shall at his own cost get the samples of emission/air/noise levels collected and analyzed by the TNPC Board Laboratory once in every 6 months/once in a year/periodically for the parameters as prescribed.
8. Any upset condition in any of the plants of the factory which is likely to result in increased emissions and result in violation of the standards mentioned in Sl.No.3 shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
9. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.

Additional Conditions:

1. The unit shall comply with all the conditions mentioned in EC issued vide letter No. SEIAA-TN / F.3297 / EC / 3(a) / 48 / 2015, Dated: 14.06.2017.
2. The unit shall operate and maintain the Air Pollution Control Measures effectively and continuously so as to bring the quality of the emissions to satisfy the NAAQ / Emission standards prescribed by TNPC Board.
3. The unit shall install the standby induction furnace of 30T/H within three months as reported.
4. The unit shall adhere to the ANL standards as prescribed by the Board.
5. The unit shall continue to develop more green belt by planting tree saplings of native species of location specific around the unit's premises.
6. The unit shall maintain the online PM monitoring system attached to the Reheating Furnace and connected to CAC, TNPCB, Chennai.
7. The unit shall furnish the audited Balance Sheet every year for verification of the Gross Fixed Assets so as to collect the balance or consent fee, if any.
8. The unit shall not use 'Use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc, plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastics flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.,
9. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in production quantity and emission.
2. This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished, in the application will also be ground for review/variation/revocation of the Consent Order under Section 21 of the Act.
3. The conditions imposed shall continue in force until revoked under Section 21 of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Air (Prevention and Control of Pollution) Act, 1981 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Air Pollution Control measures sufficient to ensure continuous operation of all pollution control equipments to ensure compliance.
7. The occupier shall provide all facilities to the Board officials for collection of samples in and around the factory at any time.
8. The applicant shall display the flow diagram of the sources of emission and pollution control systems provided at the site.
9. The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended.
10. The air pollution control equipments, location of inspection chambers and sampling port holes shall be made easily accessible at all time.
11. In case of any episodal discharge of emission, the industry shall take immediate action to bring down the emission within the limits prescribed by the Board.
12. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
13. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.
14. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.
15. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
16. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
17. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Air (Prevention and Control of Pollution) Act, 1981, as amended in Form-I alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
18. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.

19. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

RENEWAL OF CONSENT ORDER NO:2309151904789

DATE:03/04/2023



PROCEEDINGS NO.F.0063HSR/OL/DEE/TNPCB/HSR/W/2023 DATED:

03/04/2023

Sub :	Tamil Nadu Pollution Control Board – AUTO RENEWAL OF CONSENT – M/s. INDUS TMT INDUSTRIES LIMITED S.F No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI Village, Denkanikottai Taluk, Krishnagiri District- Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.
Ref :	1) CTO Expansion Proc. No. T1/TNPCB/F.0063HSR/OL/HSR/W/2019 Dated 16/12/2019. 2) Latest RCO Proc. No. F.0063HSR/OL/DEE/TNPCB/HSR/W/2021 Dated 25/06/2021. 3) Unit's application for auto renewal Id No: 51904789 Dated 31/03/2023.

Renewal Of Consent is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Director,
M/s . INDUS TMT INDUSTRIES LIMITED
S.F No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D,
285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
KALUGONDAPALLI Village,
Denkanikottai Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending - March 31, 2025

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District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl.No.	Description	Quantity	Unit
a.	Product Details :-		
1.	Steel Bars and Rods	145000	T/Annum
b.	By-Product Details :-		
c.	Intermediate Product Details :-		
1.	M.S. Billet	156000	T/Annum

2. This renewal of consent is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
EFFLUENT TYPE :-			
Effluent Type : Sewage			
1.	Sewage	13.0	On land for gardening
EFFLUENT TYPE :-			
Effluent Type : Trade Effluent			
OUTLET NUMBER	DESCRIPTION OF OUTLET	MAXIMUM DAILY DISCHARGE (IN KLD)	POINT OF DISPOSAL
1.	Trade Effluent	0.2	Solar Evaporation Pans

Special Additional Conditions-

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions-

- The unit shall operate and maintain the Sewage Treatment Plant efficiently and continuously so as to satisfy the standards prescribed by the Board.
- The unit shall ensure that the entire quantity of 0.2 KLD of scrubber bleed is disposed into SEP and shall ensure that there shall not be any seepage or overflow from the SEP.
- The unit shall comply with all the conditions mentioned in EC issued vide letterNo. SEIAA-TN / F.3297 / EC / 3(a) / 48 / 2015, Dated: 14.06.2017.
- The unit shall dispose the non hazardous solid waste scientifically for further beneficial use without much accumulation.
- The unit shall ensure that the activity shall not attract any public complaint.
- The unit shall dispose the Hazardous solid wastes then & there without accumulation of the same inside the premises with valid authorization under Hazardous and other Wastes (Management &Transboundary Movement) Rules 2016.
- The unit shall not use 'use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead it shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, Jute bag etc.,
- The unit shall furnish the audited Balance Sheet every year for verification of the Gross Fixed Assets so as to collect the balance or consent fee, if any.
- In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

R
VENKATESAN
Digitally signed by R
VENKATESAN
Date: 2023.04.03
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**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

To

The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
No.251/1, Kappakal Road,
Uliveeranapalli, Kalukondapalli Village,
Denkanikottai Taluk,
Krishnagiri District.,
Pin: 635114

Copy to:

- 1.The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

This is computer generated, Signature is not required.

RENEWAL OF CONSENT ORDER NO:2509266978375

DATE:22/04/2025



PROCEEDINGS NO.F.0063HSR/OL/DEE/TNPCB/HSR/A/2025 DATED: 22/04/2025

Sub :	Tamil Nadu Pollution Control Board – AUTO RENEWAL OF CONSENT –M/s. INDUS TMT INDUSTRIES LIMITED , S.F. No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI village, Denkanikottai Taluk and Krishnagiri District- Renewal of Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) – Issued – Reg. (Industry User ID- R15HSR283934)
Ref :	1. TNPCB’s Proc .No. T1 /TNPCB /F.0063HSR /OL /HSR /A/2019, Dated: 16.12.2019. 2. Unit’s Application No. 66978375, Dated: 21.04.2025. 3. Bd’s Memo No.TNPCB/OCMMS/06517/2019 Date08.06.2022.

Renewal of Consent is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as “The Act”) and the rules and orders made there under to

The Director,
M/s . INDUS TMT INDUSTRIES LIMITED
S.F No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D,
285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
KALUGONDAPALLI Village,
Denkanikottai Taluk,
Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending - March 31, 2031

**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl.No.	Description	Quantity	Unit
Product Details :-			
1.	Steel Bars and Rods	145000	T/Annum
By-Product Details :-			
Intermediate Product Details :-			
1.	M.S. Billet	156000	T/Annuaam

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained

I				
Point source emission with stack :				
Stack No	Point Emission sources	Air pollution Control measures provided	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
1	Reheating Furnace(Existing)	Wet scrubber with stack	30	
2	D.G Set 200 KVA(1 No.)	Acoustic enclosures with stack	10.5	
3	Induction Furnaces(25T/Hr-2 Nos & 30T/Hr-1No)	Common Bag House Filter with Stack	30	
4	D.G.SET 500 KVA- 1 No.	Acoustic enclosures with stack	10	
5	D.G.SET 500 KVA	Acoustic enclosures with stack	10	
II				
Fugitive/Noise emission :				
Sl.No.	Fugitive or Noise Emission sources	Type of Emission	Control measures provided	Quantity
1.	1. DG Set 500 KVA	Noise	Acoustic Enclosure	
2.	2. DG Set 500 KVA	Noise	Acoustic Enclosure	

Special Additional Conditions-

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize “Mission LiFE” logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt “Mission LiFE” action points and document the same and furnish half yearly report to Board.

Additional Conditions-

- The unit shall operate and maintain the Air Pollution Control Measures effectively and continuously so as to bring the quality of the emissions to satisfy the NAAQ / Emission standards prescribed by TNPC Board.
- The unit shall install the standby induction furnace of 30T/H within three months as reported.
- The unit shall adhere to the ANL standards as prescribed by the Board.
- The unit shall continue to develop more green belt around the unit's premises.
- The unit shall maintain the online PM monitoring system attached to the Reheating Furnace and connected to CAC, TNPCB, Chennai.
- The unit shall comply with all the conditions mentioned in EC issued vide letter No. SEIAA-TN / F.3297 / EC

/ 3(a) / 48 / 2015, Dated: 14.06.2017.

7. The unit shall furnish the audited Balance Sheet every year for verification of the Gross Fixed Assets so as to collect the balance or consent fee, if any.
8. The unit shall not use 'Use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc, plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastics flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.,
9. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

To

The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
No.251/1, Kappakal Road,
Uliveeranapalli, Kalukondapalli Village,
Denkanikottai Taluk,
Krishnagiri District.
Pin: 635114

Copy to:

1. The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

This is computer generated, Signature is not required.

RENEWAL OF CONSENT ORDER NO:2509166978375
DATE:22/04/2025



PROCEEDINGS NO.F.0063HSR/OL/DEE/TNPCB/HSR/W/2025 DATED:
22/04/2025

Sub :	Tamil Nadu Pollution Control Board – AUTO RENEWAL OF CONSENT – M/s. INDUS TMT INDUSTRIES LIMITED S.F No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D, 285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B, KALUGONDAPALLI Village, Denkanikottai Taluk, Krishnagiri District- Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg. (Industry User ID- R15HSR283934)
Ref :	1. TNPCB's Proc .No. T1 /TNPCB /F.0063HSR /OL /HSR /W/2019, Dated: 16.12.2019. 2. Unit's Application No. 66978375, Dated: 21.04.2025. 3. Bd's Memo No.TNPCB/OCMMS/06517/2019 Date08.06.2022.

Renewal Of Consent is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Director,
M/s . INDUS TMT INDUSTRIES LIMITED
S.F No. 251/1,2, 277/1A1, 1A2,1B1, 1B2,1C1, 1C2,1D1, 1D2,1E1,1E2, 277/2, 278/1A2,1B,1C,1D,
285/1A2, 286/1,2,3,4,5,6,7 and 287/1A1,1A2,1B,
KALUGONDAPALLI Village,
Denkanikottai Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending - March 31, 2031

**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl.No.	Description	Quantity	Unit
a.	Product Details :-		
1.	Steel Bars and Rods	145000	T/Annum
b.	By-Product Details :-		
c.	Intermediate Product Details :-		
1.	M.S. Billet	156000	T/Annua

2. This renewal of consent is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
EFFLUENT TYPE :- Effluent Type : Sewage			
1.	Sewage	13.0	On land for gardening
EFFLUENT TYPE :- Effluent Type : Trade Effluent			
OUTLET NUMBER	DESCRIPTION OF OUTLET	MAXIMUM DAILY DISCHARGE (IN KLD)	POINT OF DISPOSAL
1.	Trade Effluent	0.2	Solar Evaporation Pans

Special Additional Conditions-

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.

Additional Conditions-

- The unit shall operate and maintain the Sewage Treatment Plant efficiently and continuously so as to satisfy the standards prescribed by the Board.
- The unit shall ensure that the entire quantity of 0.2 KLD of scrubber bleed is disposed into SEP and shall ensure that there shall not be any seepage or overflow from the SEP.
- The unit shall comply with all the conditions mentioned in EC issued vide letterNo. SEIAA-TN / F.3297 / EC / 3(a) / 48 / 2015, Dated: 14.06.2017.
- The unit shall dispose the non hazardous solid waste scientifically for further beneficial use without much accumulation.
- The unit shall ensure that the activity shall not attract any public complaint.
- The unit shall dispose the Hazardous solid wastes then & there without accumulation of the same inside the premises with valid authorization under Hazardous and other Wastes (Management & Transboundary Movement) Rules 2016.
- The unit shall not use 'use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead it shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, Jute bag etc.,
- The unit shall furnish the audited Balance Sheet every year for verification of the Gross Fixed Assets so as to collect the balance or consent fee, if any.
- In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

To

The Director,
M/s.INDUS TMT INDUSTRIES LIMITED,
No.251/1, Kappakal Road,
Uliveeranapalli, Kalukondapalli Village,
Denkanikottai Taluk,
Krishnagiri District.
Pin: 635114

Copy to:

- 1.The Commissioner, THALI-Panchayat Union, Denkanikottai Taluk, Krishnagiri District .
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

This is computer generated, Signature is not required.

Item No. 08

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Through Video Conferencing)**

Original Application No. 55/2019(WZ)

Gajubha Jesar Jadeja

Applicant(s)

Versus

Union of India & Ors.

Respondent(s)

Date of hearing: 12.02.2020

**CORAM: HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL
MEMBER
HON'BLE MR. SIDDHANTA DAS, EXPERT MEMBER**

For Applicant (s):

Rahul Chaudhary, Advocate

For Respondent (s):

Mr. Pinaki Misra, Senior Advocate
a/w Mr. Kishore Kumar and Mr.
Pratesh Chaudhary, Advocates for
Respondent No. 7.

Mr. D. M. Gupte, Advocate for
Respondent No. 1

Ms. Nidhi Jaswal and Ms. Manyaa
Chandok, Advocates for GPCB

Mr. Parth. H. Bhatt & Priyanshi
Chandarana for Tushar Mehta, for
State of Gujarat for R- 4&5

ORDER

1. The present application has been filed alleging violation of the EIA Notification, 2006 by the Respondent No. 7 on the ground

that it had failed to obtain Environmental Clearance before commencing with the Cold Rolled Stainless Steel manufacturing industry and was extracting ground water without NoC from the Central Ground Water Authority.

2. Vide order dated 27.08.2019, apart from issuing notice, we had directed constitution of a committee comprising of (i) The State Environmental Impact Assessment Authority (SEIAA), Gujarat, (ii) the Gujarat Pollution Control Board (GPCB) (iii) the District Collector/Magistrate, Kutch District and (iv) The Regional Director, 2 CGWA with a direction to verify on the factual aspects set out in the original application and to submit a report.
3. The consequential report filed by the Joint Committee was considered on 15.10.2019 which *inter-alia* concluded as follows: “ ●

“Committee concluded that the opinion on applicability of Environmental Clearance to the aforementioned unit involving process of Rolling, Annealing Furnace, Pickling and Skin Pass Rolling can only be given by the Ministry of Environment, Forest & Climate Change in consideration of the EIA Notification, 2006 as amended on 01/12/2009 ad definition of the Secondary Metallurgical Processing Industries as given in the EIA Guidance Manual Prepared by IL & FS Ecosmart Ltd.”

4. During the course of the proceeding on 15.10.2019, Mr. Rahul Chaudhary, Learned Counsel for the Applicant, placed before us letter dated 14th August, 2019, written by the MoEF to the Chairman, SEIAA, Chhattisgarh, on the same subject whereby it has been stated as follow:

“It is to inform that the Ministry is in receipt of various representation with regard to applicability of EIA Notification 2006 on steel re-rolling mills. The representations received earlier in this regard have been deliberated upon suitably in this Ministry.

2. As on date the Technical EIA Guidance Manual of the MoEF & CC for Metallurgical industry classifies re-rolling as a secondary metallurgical industry.

3. As per EIA Notification 2006 secondary metallurgical industries are to be appraised for EC as category B projects under schedule 3(a) Metallurgical industries. In case of secondary metallurgical processing industries units, those projects involving operation of furnaces only such as induction and electric arc furnace, submerged arc furnace, and cupola with capacity more than 30000 tonnes per annum (TPA) would require Environmental Clearance.

4. In view of the above, you are hereby requested to appraise the steel re-rolling proposals as per the provisions of EIA Notification 2006.”

5. Considering the above facts and circumstances where the report involved facts *pari materia* to the present case, the stand of the MoEF taken in the letter dated 14.8.2019, in our opinion, would be applicable in full force in the present case also. However, before taking a final call, we deemed it appropriate to seek the clarification from the MoEF as to whether the position indicated in the letter referred to above would be applicable in the present case also.

6. In the interregnum, I.A No. 4 of 2020 came to be filed by the respondent no. 7, the project proponent and was taken up on 16.1.2020 on being mentioned by the learned counsel for the said respondent. None had appeared for the Applicant on that day despite having been informed of the I.A being listed on that day. In fact the learned counsel had informed by e-mail of the same date that he would be appearing on 12.2.2020 when this O.A was earlier listed.

7. The I.A had been preferred by the Respondent No. 7 to place on record the subsequent events which taken place after the order dated 21.11.2019 prohibiting further operation of the unit. A minutes of the meeting of the reconstituted Environment Appraisal Committee (EAC) (Industry-I) held on 23rd – 24th December 2019 was placed before us, the relevant part of which read as follows;

“14.21.20 In view of the forgoing and after detailed deliberations, the Committee recommended the following:

- i.) Project activity of CSPL falls under Category B of Schedule 3(a) Metallurgical Industries (ferrous and non-ferrous) of EIA Notification, 2006.***
- ii.) The committee also noted that there are a few issues which may have diverse interpretations. The reports submitted by the Committee formed by the Hon’ble NGT and the joint inspection report by the Regional office of Bhopal and RO of GPCB for Kutch, have also left the final interpretation to the MoEF&CC. It is also noted that the present unit has obtained CTE from***

GPCB which is a Statutory authority. There may be other similarly placed cases in the country. This shows that there is a scope and need for further clarification in the matter regarding certain issues so that there is no subjective interpretation in future. These issues are (1) definition of secondary metallurgy units for the purpose of EIA process, (2) clarification about the types of furnaces under applicability of MoEF&CC notification 2006 and (3) clarifying re rolling vs. cold rolling in the context of Environment Clearance. Therefore, for further smoothening the EC process for present unit and proposals in future, the MoEF&CC may consider issuing further clarifications.

iii.) In order to address to instant and similar cases where such re rolling/cold rolling units are established or operating with a CTE/CTO from the concerned State Pollution Control Boards, the Ministry may consider directing the State Pollution Control Boards to get a list of all such cases and take further quick actions so that they apply for EC and get covered by the EIA notification 2006. Since, these units are established or operating under the CTEs/CTOs obtained from a statutory authority i.e. the respective State Pollution Control Boards, a period of one year may be allowed for this recommended conversion to EC. This will also ensure that the units remain in operation for the allowed period and closures, unemployment and related social issues/unrests are avoided. During this period of one year, they will have to follow all the conditions imposed under the CTE.CTO.”

8. As will appear from paragraph (iii.) of clause 14.21.20 of the minutes reproduced above, category of the units to which the Respondent No. 7 belongs, having been established or

operating under CTEs/CTOs obtained from the statutory authority, are permitted to operate for conversion to EC and would ensure that the units remain in operation for the said period with the condition that during the period of one year, the units shall follow all the conditions imposed under the CTE/CTO.

9. In the context of the above, we have noted that the respondent no. 7 had been operating under a CTE issued by the GSPCB containing the terms and conditions prescribed therefor. We were thus of the opinion that the order dated 21.11.2019 granting stay of the operation of the unit, required modification to the extent that the respondent no. 7 shall be permitted to run for a period of one year provided that the unit strictly adhere to the CTE conditions till such time CTO was not granted.

10.A short affidavit has now been filed on behalf of the respondent no. 7 which is dated 10.2.2020 to bring on record certain additional documents. On 7.2.2020, the MoEF also filed an affidavit which we find to be of relevance as by that affidavit, the MoEF has accepted recommendations no. (iii) of the Expert Committee reproduced above. We may reproduce below the relevant paragraph of the affidavit:-

***“5. It is submitted that the Ministry has accepted the recommendations no. (iii). of EAC to allow those units, operating under the CTEs/CTOs obtained from the respective State Pollution Control Boards, for a period of one year. Further, it has been decided that the requirement of EC or not for such units is a policy decision. Hence, the Ministry will constitute an Expert Committee, other than an EAC, having metallurgical experts for their recommendations.*”**

11. Considering the above facts and circumstances when the foundational question involved in the case have been dealt with effectively by the MoEF, in our considered opinion, nothing further would survive for our consideration.

12. It would appear from the sequence of events that the position that subsisted earlier in respect of Cold Rolled Coils (CRC) of stainless steel was quite obscure as it was not clear as to whether such activity would require environmental clearance under the EIA notification, 2006. The MoEF upon consideration of the expert opinion appears to have now clarified that such industry do require prior environmental clearance but, having regard to the fact that there were a large number of such mills operating on the strength of CTE and CTO, opportunity should be provide to such units to fall within

the EC regime by granting a period of at least one year to operate for the purpose.

13. In view of the above the O.A stands disposed off and no order as to cost.

S.P. Wangdi, JM

Siddhanta Das, EM





भारत का राजपत्र The Gazette of India

सी.जी.-डी.एल.-अ.-20072022-237385
CG-DL-E-20072022-237385

असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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नई दिल्ली, बुधवार, जुलाई 20, 2022/आषाढ़ 29, 1944
NEW DELHI, WEDNESDAY, JULY 20, 2022/ASHADHA 29, 1944

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 20 जुलाई, 2022

का.आ. 3250(अ).—माननीय राष्ट्रीय हरित प्राधिकरण ने मूल आवेदन संख्या 55/2019 (डब्ल्यू जैड), (गजूबा जेसर जडेजा बनाम भारत संघ और अन्य) में अपने तारीख 12 फरवरी, 2020 के आदेश द्वारा अन्य बातों के साथ यह प्रेक्षित किया था कि कोल्ड रोलड स्टेनलेस स्टील विनिर्माण उद्योगों के लिए पूर्व पर्यावरण अनुमति अपेक्षित होती है लेकिन इस तथ्य को ध्यान में रखते हुए कि स्थापना की सहमति (सीटीई) और प्रचालन की सहमति (सीटीओ) के आधार पर बृहद संख्या में ऐसी मिलें संचालित की जा रही थीं, माननीय अधिकरण ने यह निर्णय दिया है कि ऐसी इकाइयों को पर्यावरण अनुमति व्यवस्था के भीतर आने के प्रयोजन के लिए कार्य करने हेतु कम से कम एक वर्ष प्रदान करके अवसर प्रदान किया जाना चाहिए;

और केन्द्रीय सरकार ने कोविड-19 महामारी के कारण कारित प्रभाव को ध्यान में रखते हुए, माननीय राष्ट्रीय हरित प्राधिकरण के पूर्वोक्त उक्त आदेश के अनुरूप विचार विमर्श करके विनिश्चय किया है, जिससे ऐसी री-रोलिंग या कोल्ड रोलिंग इकाइयों को पूर्व पर्यावरण अनुमति प्राप्त करने का अवसर प्रदान किया जा सके:

और केन्द्रीय सरकार का यह विचार है कि भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (ii), में अधिसूचना संख्यांक का.आ. 1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना की अनुसूची के धातुकर्म उद्योग (लौह और अलौह) से संबंधित मद 3(क) के अनुसार द्वितीय धातु कर्म प्रसंस्करण उद्योग के परिक्षेत्र में आने वाले स्टील री-रोलिंग प्रचालन और अपेक्षित पर्यावरण अनुमति,

उसकी अनुसूची में (जिसे इसमें इसके पश्चात् उक्त अधिसूचना कहा गया है) जिसमें प्रवर्ग ख के अधीन आने वाली 5,000 टन/एनम (टीपीए) से अधिक क्षमता वाली सभी गैर विषैली द्वीतीय धातुकर्म प्रसंस्करण इकाइयां हैं, समाविष्ट परियोजनाओं के लिए पूर्व पर्यावरण अनुमति की अपेक्षा को आज्ञापक बनाती है;

अतः, अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986(1986 का 29) की धारा 3 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए यह निर्देश देती है कि सभी स्टैंड अलोन री-रोलिंग इकाइयां कोल्ड रोलिंग इकाइयां, जो इस अधिसूचना की तारीख को यथास्थिति, संबद्ध राज्य प्रदूषण नियंत्रण बोर्ड या संघ राज्य क्षेत्र प्रदूषण नियंत्रण समिति से स्थापन की विधिमान्य सहमति (सीटीई) और प्रचालन की विधिमान्य सहमति (सीटीओ) के साथ इस अधिसूचना की तारीख को विद्यमान हैं और प्रचालन में हैं, पर्यावरण अनुमति के अनुसरण में निर्देश निबंधन (टीओआर) अनुदत्त करने के लिए ऑनलाइन आवेदन करेंगी और उक्त इकाइयों को उक्त अधिसूचना की मद 3(क) के अनुसार मानक निर्देश निबंधन अनुदत्त किए जाएंगे और उन्हें लोक परामर्श की अपेक्षा से छूट प्राप्त होगी:

परंतु टीओआर अनुदत्त करने के लिए आवेदन, इस अधिसूचना की तारीख से एक वर्ष की अवधि के भीतर किया जाएगा।

2. यह अधिसूचना इसके राजपत्र में प्रकाशन की तारीख से प्रवृत्त होगी।

[फा. सं. आईए-जे-11013/8/2019-आईए.II(I)]

डॉ. सुजीत कुमार बाजपेयी, संयुक्त सचिव

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 20th July, 2022

S.O. 3250(E).—Whereas, the Hon'ble National Green Tribunal *vide* its order, dated the 12th February, 2020, in Original Application No. 55/2019 (WZ), (*Gajubha Jesar Jadeja vs Union of India & Ors.*), has *inter alia* observed that Cold Rolled Stainless Steel Manufacturing Industries require prior environment clearance but, having regard to the fact that there were a large number of such mills operating on the strength of Consent to Establish (CTE) and Consent to Operate (CTO), the Hon'ble Tribunal has held that opportunity should be provided to such units to fall within the Environment Clearance regime by granting a period of at least one year to operate for the purpose;

And whereas, the Central Government, keeping in view the impact caused due to the Covid19 pandemic has taken a considered decision in line with the above said order of the Hon'ble National Green Tribunal, so as to provide a window period for such re-rolling or cold rolling units to obtain prior Environmental Clearance;

And whereas, the Central Government is of the view that steel re-rolling operations fall under the purview of the secondary metallurgical processing industry and require Environment Clearance as per item 3(a), relating to Metallurgical Industries (Ferrous and Non-ferrous), of the Schedule to the notification of the Government of India in the *erstwhile* Ministry of Environment and Forest, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), *vide* notification number S.O. 1533 (E), dated the 14th September, 2006, mandating the requirement of prior environmental clearance for the projects covered in its Schedule (hereinafter referred to as the said notification), wherein all non-toxic secondary metallurgical processing units with capacities greater than 5000 tonnes/annum (TPA) fall under category B;

Now, therefore, in exercise of the powers conferred by section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby directs that all the standalone re-rolling units or cold rolling units, which are in existence and in operation as on the date of this notification, with valid Consent to Establish (CTE) and Consent to Operate (CTO) from the concerned State Pollution Control Board or the Union territory Pollution Control Committee, as the case may be, shall apply online for grant

of Terms of Reference (ToR) followed by Environment Clearance and the said units shall be granted Standard Terms of Reference as per item 3(a) of the said notification and shall be exempted from the requirement of public consultation:

Provided that the application for the grant of ToR shall be made within a period of one year from the date of this notification.

2. This notification shall come in to force from the date of its publication in the Official Gazette.

[F. No. IA-J-11013/8/2019-IA.II(I)]

Dr. SUJIT KUMAR BAJPAYEE, Jt. Secy.

REPORTABLE**IN THE SUPREME COURT OF INDIA****CIVIL APPELLATE JURISDICTION****CIVIL APPEAL NO. 3116 OF 2020**

GAJUBHA JADEJA JESAR

.....APPELLANT(S)

VERSUS

UNION OF INDIA & ORS.

.....RESPONDENT(S)

W I T H**CIVIL APPEAL NO. 3576 OF 2020****J U D G M E N T****HEMANT GUPTA, J.**

1. This order shall dispose of Civil Appeal No. 3116 of 2020 arising out of an application filed by the appellant¹ before the National Green Tribunal² and Civil Appeal No. 3576 of 2020 filed by the Project Proponent, both arising out of the same order passed by the Tribunal on 12.2.2020.
2. The Project Proponent applied for Consent to Establish (CTE) Cold Rolled Coils of stainless steel on 20.1.2018, the permission of which was granted by Gujarat State Pollution Control Board. After the unit was erected, Project Proponent was granted permission to operate the unit on 6.2.2020. It is noted that the Project Proponent has

1 For short, the 'Applicant'

2 For short, the 'Tribunal'

invested Rs.1100 crores for the development of infrastructure and had a turnover of approximately Rs.743 crores and paid Rs.286.17 crores as Goods and Services Tax till the Financial Year 2020-21. The applicant also earned US Dollars 15.52 million foreign exchange for the country.

3. An application was filed before the Tribunal on 20.7.2019 on the ground that the Project Proponent has set up the unit in violation of Environment Impact Assessment (EIA) notification dated 14.9.2006, as such plant would fall within category 3(a) i.e., secondary metallurgical industry for which a prior environmental clearance is required. The relevant extract from the EIA notification reads thus:

3(a)	Metallurgical industries (ferrous & non ferrous)	<p>a) Primary metallurgical industry All projects</p> <p>b) Sponge iron manufacturing ≥ 200 TPD</p> <p>c) Secondary metallurgical processing industry All toxic and heavy metal producing units $\geq 20,000$ tonnes/annum -</p>	<p>Sponge iron manufacturing < 200 TPD</p> <p>Secondary metallurgical processing industry i) All toxic and heavy metal producing units $< 20,000$ tonnes/annum ii) All other non-toxic secondary metallurgical processing industries > 5000 tonnes/annum</p>	<p>General Condition shall apply for Sponge iron manufacturing</p> <p>Note:</p> <p>(i) The recycling industrial units covered under HSM Rules are exempted.</p> <p>(ii) In case of secondary metallurgical processing industrial units only those projects involving operation of furnaces such as induction and electric are furnace, submerged are furnace, cupola and crucible furnace with capacity more than 30,000 tonnes per annum (TPA) would</p>
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				<p>require environmental clearance</p> <p>(iii) Plant/units other than power plants (given against entry no. 1 (d) of the schedule), based on municipal solid waste (non hazardous) are exempted).</p>
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4. The Tribunal set up a Joint Committee on 28.7.2019. The Committee concluded that the applicability of the notification would be determined by the Ministry of Environment, Forest and Climate Change³. The Ministry filed an affidavit on 21.11.2019, on the basis of which the Tribunal took a prima facie view that the industry requires an environmental clearance and thus stayed all activities of the project as the Ministry sought time to file an additional response. Later, an affidavit was filed by the Ministry that a Group of Experts had been appointed on the issue. After the said report, the Project Proponent filed an application for modification of the order passed by the Tribunal on 21.11.2019 and the stay was thereafter vacated on 16.1.2020.
5. The Expert Appraisal Committee⁴ in its meeting held on 23-24.12.2019 concluded that grace period of one year could be granted where the industry has been established after CTE/CTO. The Ministry filed an affidavit accepting the recommendation No. 3(iii) of the EAC recommending one year grace period for the industry. The

³ For short, the 'Ministry'

⁴ For short, the 'EAC'

relevant part of the recommendation is reproduced as under:

"i. Project activity of CSPL falls under Category B of Schedule 3(a) Metallurgical Industries (ferrous and non-ferrous) of EIA Notification, 2006.

ii. The committee also noted that there are a few issues which may have diverse interpretations. The reports submitted by the Committee formed by the Hon'ble NGT and the joint inspection report by the Regional office of Bhopal and RO of GPCB for Kutch have also left the final interpretation to the MoEF&CC. It is also noted that the present unit has obtained CTE from GPCB which is a Statutory authority. There may be other similarly placed cases in the country. This shows that there is a scope and need for further clarification in the matter regarding certain issues so that there is no subjective interpretation in future. These issues are (1) definition of secondary metallurgy units for the purpose of EIA process, (2) clarification about the types of furnaces under applicability of MoEF&CC notification 2006 and (3) clarifying re rolling vs. cold rolling in the context of Environment Clearance. Therefore, for further smoothening the EC process for present unit and proposals in future, the MoEF&CC may consider issuing further clarifications.

iii. In order to address to instant and similar cases where such re rolling/cold rolling units are established or operating with a CTE/CTO from the concerned State Pollution Control Boards, the Ministry may consider directing the State Pollution Control Boards to get a list of all such cases and take further quick actions so that they apply for EC and get covered by the EIA notification 2006. Since, these units are established or operating under the CTEs/CTOs obtained from a statutory authority i.e. the respective State Pollution Control Boards, a period of one year may be allowed for this recommended conversion to EC. This will also ensure that the units remain in operation for the allowed period and closures, unemployment and related social issues/unrests are avoided. During this period of one year, they will have to follow all the conditions imposed under the CTE/CTO."

6. It is on the basis of the said recommendation that the Tribunal passed the order dated 12.2.2020 that in view of the large number of such mills operating on the strength of CTE/CTO, opportunity

should be provided to such units to fall within EC regime by granting a period of at least one year to operate for the purpose.

7. The applicant challenged the time granted by the Tribunal on the ground that the Tribunal has no jurisdiction to grant period for obtaining Environmental Clearance as the EIA notification mandates a prior Environmental Clearance. Since such consent was not obtained before the setting up of the industry, the time limit of one year is against the mandate of the statute. It was further argued that under Section 21 of the National Green Tribunal Act, 2010⁵, the Tribunal has the jurisdiction to set aside the Environmental Clearance but has no jurisdiction for the grant of time for Environmental Clearance.
8. The Project Proponent, aggrieved against the order passed by the Tribunal, challenged the findings recorded that Environmental Clearance is required. During the pendency of the appeal before this Court, the Project Proponent was served with a closure notice on 25.6.2021 by the Gujarat State Pollution Control Board and the unit was closed in terms of the said notice. This closure notice has been assailed by way of I.A. No. 81563 of 2021.
9. While the appeals were pending before this Court, the Government of India has published a notification on 20.7.2022 in terms of Section 3 of the Environment (Protection) Act, 1986⁶ to apply Terms of Reference within one year followed by Environmental Clearance.

The notification reads thus:

5 For short, the 'NGT Act'

6 For short, the 'Environment Act'

“MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
NOTIFICATION

New Delhi, the 20th July, 2022

S.O. 3250(E).—Whereas, the Hon’ble National Green Tribunal vide its order, dated the 12th February, 2020, in Original Application No. 55/2019 (WZ), (Gajubha Jesar Jadeja vs Union of India &Ors.), has inter alia observed that Cold Rolled Stainless Steel Manufacturing Industries require prior environment clearance but, having regard to the fact that there were a large number of such mills operating on the strength of Consent to Establish (CTE) and Consent to Operate (CTO), the Hon’ble Tribunal has held that opportunity should be provided to such units to fall within the Environment Clearance regime by granting a period of at least one year to operate for the purpose;

And whereas, the Central Government, keeping in view the impact caused due to the Covid19 pandemic has taken a considered decision in line with the above said order of the Hon’ble National Green Tribunal, so as to provide a window period for such re-rolling or cold rolling units to obtain prior Environmental Clearance;

And whereas, the Central Government is of the view that steel re-rolling operations fall under the purview of the secondary metallurgical processing industry and require Environment Clearance as per item 3(a), relating to Metallurgical Industries (Ferrous and Non-ferrous), of the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forest, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), vide notification number S.O. 1533 (E), dated the 14th September, 2006, mandating the requirement of prior environmental clearance for the projects covered in its Schedule (hereinafter referred to as the said notification), wherein all non-toxic secondary metallurgical processing units with capacities greater than 5000 tonnes/annum (TPA) fall under category B;

Now, therefore, in exercise of the powers conferred by section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby directs that all the standalone re-rolling units or cold rolling units, which are in existence and in operation as on the date of this notification, with valid Consent to Establish (CTE) and Consent to Operate (CTO) from the concerned State Pollution Control Board or the

Union territory Pollution Control Committee, as the case may be, shall apply online for grant of Terms of Reference (ToR) followed by Environment Clearance and the said units shall be granted Standard Terms of Reference as per item 3(a) of the said notification and shall be exempted from the requirement of public consultation:

Provided that the application for the grant of ToR shall be made within a period of one year from the date of this notification.

2. This notification shall come in to force from the date of its publication in the Official Gazette.

[F. No. IA-J-11013/8/2019-IA.II(I)]
Dr. SUJIT KUMAR BAJPAYEE, Jt. Secy”

10. With this background, the parties have addressed arguments on the question of jurisdiction of the Tribunal to pass an order to operate a unit without Environmental Clearance and the decision of closure of the unit.
11. It may be stated that there are 1689 similar Re-Rolling/Cold Re-Rolling Steel Plants in the country out of which 403 plants are in the State of Gujarat itself. All the units have been set up without obtaining prior Environmental Clearance as there was an ambiguity whether such Rolling Steel Mills are required to obtain prior Environmental Clearance.
12. Ms. Anitha Shenoy, learned senior counsel for the applicant relies upon judgments of this Court reported as ***Common Cause v. Union of India & Ors.***⁷, ***Hanuman Laxman Aroskar v. Union of India***⁸ and ***Alembic Pharmaceuticals Limited v. Rohit Prajapati &***

7 (2017) 9 SCC 499

8 (2019) 15 SCC 401

Ors.⁹ to contend that prior Environmental Clearance is mandatory. Since the unit has been set up in violation of the notification, the Tribunal could not permit the unit to operate.

13. On the other hand, Mr. Shyam Divan, learned senior counsel for the Project Proponent submitted that in terms of Section 21 of the NGT Act, the Tribunal is competent to pass an order towards sustainable development. It is contended that the order of the Tribunal granting time of at least one year is based upon report of the recommendation of the EAC. The EAC recommended that Re-Rolling Units are established or operating with CTE/CTO from the concerned State Pollution Control Boards, therefore, a period of one year may be allowed for this recommended conversion to Environment Clearance regime.
14. Mr. Divan also referred to an affidavit filed on behalf of the Ministry referring to the report submitted by a high-level Expert Committee under the Chairmanship of Dr. Indranil Chatteraj, Director, National Metallurgical Laboratory, Jamshedpur. The Committee noted that there is ambiguity in the EIA notification with respect to applicability of Environmental Clearance for non-toxic secondary metallurgical processing industry. Therefore, in order to bring out clarity, the Ministry may amend schedule 3(a) of the EIA notification. The relevant assertion from the affidavit reads thus:

“7. That the committee after conducting a series of meetings submitted its report on 17/01/2022. The committee, inter-alia, has recommended that

9 (2020) 17 SCC 157

i. "That there is an ambiguity in the EIA notification, 2006 with respect to the applicability of EC for non-toxic secondary metallurgical processing industry.

ii. Steel re-rolling mills [Hot rolling (or) Cold rolling] are one of the processes in the secondary metallurgical processes and attracts the provisions of the Environment Impact Assessment (EIA) Notification, 2006.

iii. There are around 1689 standalone steel re-rolling mills operating across the country without requisite Environment Clearance and such unit may be brought under EC regime by providing an adequate time frame.

iv. Revised threshold limits for primary and secondary metallurgical industry prescribed under chapter 6 may be considered by the Ministry for amending the schedule 3(a) of EIA Notification, 2006 in order to bring out clarity on the applicability of EC for difference secondary processes in metallurgical industry.

That a copy of the report of the HLEC has been annexed as ANNEXURE R/2.

8. That it is humbly submitted that Ministry is in the process of bringing out suitable amendment in the EIA Notification 2006 in line with the recommendations made by the Committee, in order to remove the ambiguity with respect to the applicability of EC for non-toxic secondary metallurgical processing industry."

15. It is in pursuance of such report, the amendment was published on 20.7.2022.
16. Mr. Divan further relies upon an order passed by this Court in ***Municipal Corporation of Greater Mumbai v. Ankita Sinha & Ors.***¹⁰ wherein the question as to whether the Tribunal has *suo moto* jurisdiction to entertain proceedings under the NGT Act were examined. The scope of jurisdiction of the Tribunal was also considered.

10 2021 SCC OnLine SC 897

17. Mr. Divan also refers to an order passed by this Court reported as ***Pahwa Plastics Pvt. Ltd. & Anr. v. Dastak NGO & Ors.***¹¹ wherein the order passed by the Tribunal, holding that the manufacturing units which do not have prior Environmental Clearance could not be allowed to operate, was set aside.
18. We have heard learned counsel for the parties and find no error in the order passed by the Tribunal. The order of the Tribunal is based upon recommendation of the EAC which suggested that one year time should be granted to the industry to comply with the EIA notification dated 14.9.2006. The stand of the Ministry as well as the Project Proponent is that there was ambiguity in the EIA notification 2006. 1689 units have come up in the country on the basis of CTE and CTO regime. It is not a case of ambiguous interpretation in respect of one or two units but the entire country was having the same interpretation that Re-Rolling Steel Plants do not require a prior Environmental Clearance. The ambiguity has been removed only on 20.7.2022 when the notification has been amended, as reproduced above. Since there was ambiguity earlier, the Tribunal had granted time to the Project Proponent to comply with the requirement of Environmental Clearance.
19. Such direction of the Tribunal is, in fact, arising out of scope of powers conferred on the Tribunal under Section 21 of the NGT Act. This Court in ***Ankita Sinha*** considering the *suo moto* powers of the Tribunal held as under:

“98. The NGT Act, when read as a whole, gives much leeway

11 2022 SCC OnLine SC 362

to the NGT to go beyond a mere adjudicatory role. The Parliament's intention is clearly discernible to create a multifunctional body, with the capacity to provide redressal for environmental exigencies. Accordingly, the principles of environmental justice and environmental equity must be explicitly acknowledged as pivotal threads of the NGT's fabric. The NGT must be seen as a *sui generis* institution and not *unus multorum*, and its special and exclusive role to foster public interest in the area of environmental domain delineated in the enactment of 2010 must necessarily receive legal recognition of this Court.

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102. In circumstances where adverse environmental impact may be egregious, but the community affected is unable to effectively get the machinery into action, a forum created specifically to address such concerns should surely be expected to move with expediency, and of its own accord. The potentiality of disproportionate harm imposes a higher obligation on authorities to preserve rights which may be waylaid due to such restrictive access. It is also noteworthy that the "*global impacts of climate change will fall disproportionately on minority and low-income communities*".¹² Thus, an affirmative role, beyond mere adjudication at the instance of applicant, is certainly required for *servicing the ends of environmental justice*, as the statute itself requires of the NGT. We cannot validate an argument which furthers uncertainty to justify the role of a spectator, if not inaction, and would most assuredly result in injustice.

103. The NGT, with the distinct role envisaged for it, can hardly afford to remain a mute spectator when no-one knocks on its door. The forum itself has correctly identified the need for collective stratagem for addressing environmental concerns. Such a society centric approach must be allowed to work within the established safety valves of the principles of natural justice and appeal to the Supreme Court. The hands-off mode for the NGT, when faced with exigencies requiring immediate and effective response, would debilitate the forum from discharging its responsibility and this must be ruled out in the interest of justice."

20. In ***Pahwa Plastics Pvt. Ltd.***, an establishment had been set up

12 Scott La Franchi, Surveying the Precautionary Principle's Ongoing Global Development : *The Evolution of an Emergent Environmental Management Tool*, [32 B.C. Env'tl. Aff. L. Rev. 679 (2005)

pursuant to CTE and CTO from the concerned statutory authority. The establishment applied for ex-post facto Environmental Clearance. In these circumstances, this Court held that ex-post Environmental Clearance should not ordinarily be granted but it cannot be declined with pedantic rigidity, regardless of the consequences of stopping the operation. Hence, the order of the Tribunal to close the units was found to be erroneous. The order of closure of establishments for the lack of Environmental Clearance was set aside by this Court, *inter alia*, for the reason that whether the unit contributing to the economy and providing livelihood to hundreds of people set up in pursuance to requisite approvals of the concerned statutory authorities should be closed down for the technical irregularity or want of prior Environmental Clearance. This Court held as under:

“54. The manufacturing units of the Appellants appoint about 8,000 employees and have a huge annual turnover. An establishment contributing to the economy of the country and providing livelihood ought not to be closed down only on the ground of the technical irregularity of not obtaining prior Environmental Clearance irrespective of whether or not the unit actually causes pollution.

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56. As held by this Court in *Electrosteel Steels Limited* (supra) ex post facto Environmental Clearance should not ordinarily be granted, and certainly not for the asking. At the same time ex post facto clearances and/or approvals and/or removal of technical irregularities in terms of a Notification under the EP Act cannot be declined with pedantic rigidity, oblivious of the consequences of stopping the operation of mines, running factories and plants.

57. The 1986 Act does not prohibit ex post

facto Environmental Clearance. Grant of ex post facto EC in accordance with law, in strict compliance with Rules, Regulations, Notifications and/or applicable orders, in appropriate cases, where the projects are in compliance with, or can be made to comply with environment norms, is in our view not impermissible. The Court cannot be oblivious to the economy or the need to protect the livelihood of hundreds of employees and others employed in the project and others dependent on the project, if such projects comply with environmental norms.

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60. Even though this Court deprecated ex post facto clearances, in *Alembic Pharmaceuticals Ltd.* (supra), this Court did not direct closure of the units concerned but explored measures to control the damage caused by the industrial units. This Court held:—

“However, since the expansion has been undertaken and the industry has been functioning, we do not deem it appropriate to order closure of the entire plant as directed by the High Court.”

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63. *Ex post facto* environmental clearance should not be granted routinely, but in exceptional circumstances taking into account all relevant environmental factors. Where the adverse consequences of denial of *ex post facto* approval outweigh the consequences of regularization of operations by grant of ex post facto approval, and the establishment concerned otherwise conforms to the requisite pollution norms, ex post facto approval should be given in accordance with law, in strict conformity with the applicable Rules, Regulations and/or Notifications. The deviant industry may be penalised by an imposition of heavy penalty on the principle of ‘polluter pays’ and the cost of restoration of environment may be recovered from it.

64. The question in this case is, whether a unit contributing to the economy of the country and providing livelihood to hundreds of people, which has been set up pursuant to requisite approvals from the concerned statutory authorities, and has applied for *ex post facto* EC, should be closed down for the technical irregularity of want of prior environmental clearance, pending the issuance of EC, even though it may

not cause pollution and/or may be found to comply with the required norms. The answer to the aforesaid question has to be in the negative, more so when the HSPCB was itself under the misconception that no environment clearance was required for the units in question. HSPCB has in its counter affidavit before the NGT clearly stated that a decision was taken to regularize units such as the Apcolite Yamuna Nagar and Pahwa Yamuna Nagar Units, since requisite approvals had been granted to those units, by the concerned authorities on the misconception that no EC was required.

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66. *Ex post facto* EC should not ordinarily be granted, and certainly not for the asking. At the same time *ex post facto* clearances and/or approvals cannot be declined with pedantic rigidity, regardless of the consequences of stopping the operations. This Court is of the view that the NGT erred in law in directing that the units cannot be allowed to function till compliance of the statutory mandate.”

21. The judgment in ***Common Cause*** referred to by Ms. Shenoy is of no help to support her arguments as the question was whether illegal mining can be said to be within the leased area for mining. It was held that illegal mining takes within its fold excess extraction of a mineral over the permissible limit even within the mining lease area under the Mines and Minerals (Development and Regulation) Act, 1957.
22. In ***Hanuman Laxman Aroskar***, this Court held that the EIA notification of the year 2006 demonstrates an increasing awareness of the complexities of the environment and the heightened scrutiny required to ensure its continued sustenance, for today and for generations to come. It embodies a commitment to sustainable development. It was held as under:

“56. The 2006 Notification embodies the notion that the development agenda of the nation must be carried out in compliance with norms stipulated for the protection of the environment and its complexities. It serves as a balance between development and protection of the environment: there is no trade-off between the two. The protection of the environment is an essential facet of development. It cannot be reduced to a technical formula. The notification demonstrates an increasing awareness of the complexities of the environment and the heightened scrutiny required to ensure its continued sustenance, for today and for generations to come. It embodies a commitment to sustainable development. In laying down a detailed procedure for the grant of an EC, the 2006 Notification attempts to bridge the perceived gap between the environment and development.”

23. In ***Alembic Pharmaceuticals Limited***, the validity of circular dated 14.5.2002 was in question. This Court found that such circular is contrary to the EIA notification of 1994. It was decided by the Ministry that the industrial units which had gone into production without obtaining an EC would have to apply for and obtain an ex-post facto EC. The said judgment has no applicability to the facts of the present case where the Ministry itself is of the opinion that there was an ambiguity in the EIA notification of 2006. Such ambiguity has been removed only when the EIA notification was subsequently amended on 20.7.2022. Therefore, the judgments referred to by Ms. Shenoy are not applicable to the facts of the present case.
24. We are constrained to point out that out of 1689 units in the country, the applicant has chosen the Project Proponent as it appears to be a motivated petition to target the Project Proponent though the Cold Steel Rolling Mills in the country were operating under the same regime. Not only the Project Proponent, but the

country also has suffered immensely on account of closure of the unit which was export oriented unit. It may be noticed that the Gujarat State Pollution Control Board has chosen the Project Proponent to serve with a closure notice on 25.6.2021. The unit is lying closed since then. In view of the amendment in the EIA notification dated 20.7.2022, the unit has time to seek Environmental Clearance in terms of the time line mentioned in the notification. Therefore, the order of closure of the unit cannot be sustained.

25. In view of the said fact, Civil Appeal No. 3116 of 2020 is dismissed. I.A. No. 81563 of 2021 in Civil Appeal No. 3576 of 2020 challenging the closure notice issued by Gujarat State Pollution Control Board dated 25.6.2021 is allowed and the closure notice is quashed. The Civil Appeal No. 3576 of 2020 stands disposed of in the above terms.

.....J.
(HEMANT GUPTA)

.....J.
(VIKRAM NATH)

**NEW DELHI;
AUGUST 10, 2022.**