# EXECUTIVE SUMMARY

## 1.0 INTRODUCTION

JSW Steel Limited (JSWSL) proposes to expand the integrated steel plant to 10.0 MTPA from existing 5.0 MTPA at Geetapuram, Dolvi in Raigad Dt. of Maharashtra. The existing steel plant is based on the Direct Reduced Iron (DRI) - Blast Furnace-CONARC–Ladle Furnace & VD/VOD - Continuous Casting – Rolling Mill (CSP) route. The expansion shall be based on proven BF - BOF route. Material flow sheet is attached as Drawing no. JSW/DW/PR/004.

## 2.0 PROJECT DESCRIPTION

The production facilities after the expansion shall be as shown in **Table-ES.1.**

**Table ES.1: Expansion of JSWSL (existing 5.0 MTPA to 10.0 MTPA)**

| Sl. No. | Technological facility | Units / Facilities (EC accorded) under 5 MTPA | Proposed facilities under 5 to 10 MTPA | Total Plant Capacity AT 10 MTPA |
|---|---|---|---|---|
| 1. | DRI (Gas based Mega Module) | 2.0 MTPA (by augmentation) | 2.0 MTPA | 4.0 MTPA |
| 2. | Pellet Plant | 4.0 MTPA | 4.0 MTPA | 8.0 MTPA |
| 3. | Coke Ovens including By-product plant | 2.0 MTPA | 2.5 MTPA | 4.5 MTPA |
| 4. | Sinter Plant | 2.8+ 3.2 MTPA | 8.0 MTPA | 14.0 MTPA |
| 5. | Blast Furnace including Pig casting | 3.6 MTPA by modification of existing Blast Furnace | 4.5 MTPA | 8.1 MTPA |
| 6. | SMS (CONARC) | 5.2 MTPA (By Augmenting the existing facilities) | - | 5.2 MTPA |
| 7. | SMS -BOF | - | 6.0 MTPA | 6.0 MTPA |
| 8 | Ladle Furnace(LF) | 2x200 t +205 t | 2X300 t | 2x200 t + 205 t |

| Sl. No. | Technological facility | Units / Facilities (EC accorded) under 5 MTPA | Proposed facilities under 5 to 10 MTPA | Total Plant Capacity AT 10 MTPA |
|---|---|---|---|---|
| | | | | 2X300 t |
| 9. | VD/VOD & RH-TP | 1x200 t + 1x205 t | 2x300 t | 1x200 t + 1x205 t 2x300 t |
| 10. | CSP(HRC Coil) Thin Caster-cum-Hot Strip Finishing Train | 3.5 MTPA (By Augmenting) | - | 3.5 MTPA |
| 11. | Conventional Slab Caster | 2x1 strands (3.68 MTPA) | 2x2 strands (5.72 MTPA) | Total 6 strands (9.4 MTPA) |
| 12. | Billet Caster | - | 1x6 Strands | 6 strands (1.5 MTPA) |
| 13. | Plate Mill | 1.5 MTPA | - | 1.5 MTPA |
| 14. | CRM (Hot Rolled Skin Pass + Cold Rolled Full Hard Coil + Hot Rolled Pickled & Oiled Coil) | 1.0 MTPA | 1.5 MTPA | 2.5 MTPA |
| 15. | Galvanizing Line (Cold Rolled Steel Strips, Hot Dip Zinc Coated Full Hard) | 0.6 MTPA | - | 0.6 MTPA |
| 16. | Electrical Steel CRGO line | 0.4 MTPA | - | 0.4 MTPA |
| 17. | Tin Plate Mill | 0.4 MTPA | - | 0.4 MTPA |
| 18. | Colour Coating Plant | 0.5 MTPA | - | 0.5 MTPA |
| 19. | Lime /Dolo Plant | 1800 TPD | 1800 TPD | 3600 TPD |
| 20. | Oxygen Plant | 4100 TPD | 3500 TPD | 7600 TPD |
| 21. | Hot Rolling Mill with shearing & slitting line | - | 5.0 MTPA | 5.0 MTPA |
| 22. | Bar Mill | - | 1.4 MTPA | 1.4 MTPA |

| Sl. No. | Technological facility | Units / Facilities (EC accorded) under 5 MTPA | Proposed facilities under 5 to 10 MTPA | Total Plant Capacity AT 10 MTPA |
|---|---|---|---|---|
| 23 | Slag & Clinker Grinding Unit | - | 10 MTPA | 10 MTPA |
| 24. | Captive Power Plant | 300 MW | 300 MW | 600 MW (based on surplus gases of BF & Coke Oven) +RLNG |
| 25. | Township | - | 150 acres | 150 acres |

Layout of proposed units is attached for existing as well as expansion as drawing

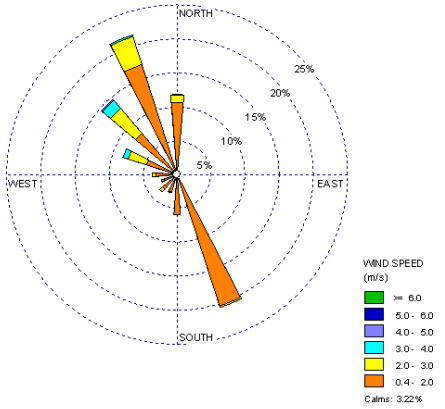
## 3.0 DESCRIPTION OF THE ENVIRONMENT

### 3.01 Introduction

The study area has been taken as 10.0 km radius around the existing plant at Dolvi. The baseline environmental data was generated during winter season (December to February), of 2012-13 for meteorology, air quality, water quality, noise levels and soil characteristics, by setting up a number of monitoring stations. Further, existing ecological and socio-economic features were also studied. The collected data were analyzed for identifying, predicting and evaluating environmental impacts. The maximum anticipated impacts were assessed and based on these an environmental management plan has been drawn.

### 3.02 Meteorology

A meteorological station was set up at JSWSL Office building. During winter season (December 2012 to February 2013), the predominant wind directions were NNW (prevailing for 21.54% of the time), NW (14.53%), SSE (20.52%), and N (11.81%), while Calm conditions prevailed for 3.32% of the time. The wind velocity was mostly between 0.4 to 4.0 m/s. The wind rose for winter season is indicated below:




## 3.03 Air Environment

Ambient Air Quality (AAQ) was monitored at nine monitoring stations. The results are compared with National Ambient Air Quality Standards (NAAQS) Stipulated by the Ministry of Environment & Forests (MOEF) vide notification GSR 826 (E) dated Nov 16, 2009. The results of PM 10, PM 2.5, $SO_2$, NOx and CO at all the monitoring stations (Table-ES.2) were found to be well within the respective permissible limit for Industrial, Residential, Rural and Other Areas. This indicates the assimilative capacity of surrounding environment.

**Table ES.2: Summarised Results of AAQ during winter season (Dec-Feb, 2012-13)**

| Parameters | | Results (µg/m³) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Gadab Village (A1) | Dolvi Village (A2) | Navegaon Village (A3) | Vadkhal Village (A4) | Shirki Village (A5) | Vashinaka Village (A6) | Dharamtar Village (A7) | Ghaswad Village (A8) | Kusumble Village (A9) |
| PM 10 | Max | 92 | 95 | 90 | 96 | 80 | 91 | 98 | 85 | 62 |
| | Min. | 64 | 59 | 52 | 61 | 53 | 53 | 72 | 56 | 51 |
| | Avg. | 76 | 74 | 70 | 73 | 66 | 74 | 87 | 69 | 56 |
| PM 2.5 | Max | 30 | 25 | 30 | 25 | 20 | 25 | 34 | 21 | 25 |
| | Min. | 17 | 13 | 17 | 13 | 13 | 17 | 24 | 15 | 15 |
| | Avg. | 23 | 20 | 22 | 19 | 16 | 21 | 28 | 18 | 20 |
| $SO_2$ | Max | 11 | 15 | 10 | 8 | 7 | 10 | 11 | 7 | 7 |
| | Min. | BDL | BDL | BDL | BDL | BDL | BDL | 4 | BDL | BDL |
| | Avg. | - | - | - | - | - | - | 6 | - | - |
| $NO_X$ | Max | 19 | 25 | 18 | 18 | 21 | 24 | 24 | 20 | 15 |
| | Min. | BDL | BDL | BDL | BDL | BDL | BDL | 10 | BDL | 10 |
| | Avg. | - | - | - | - | - | - | 14 | - | 13 |
| CO | Max | 2235 | 2471 | 2514 | 2151 | 1825 | 2587 | 2351 | 1846 | 1536 |
| | Min. | 1388 | 1425 | 1425 | 1248 | 1258 | 1354 | 1248 | 1235 | 1358 |
| | Avg. | 1700 | 1722 | 1704 | 1666 | 1510 | 1961 | 1604 | 1460 | 1447 |
| Benzo (a) | Max | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |
| | Min. | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |

| Parameters | | Results (µg/m³) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Gadab Village (A1) | Dolvi Village (A2) | Navegaon Village (A3) | Vadkhal Village (A4) | Shirki Village (A5) | Vashinaka Village (A6) | Dharamtar Village (A7) | Ghaswad Village (A8) | Kusumble Village (A9) |
| Pyrene (BaP) ng/m³ | Avg. | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL | BDL |

Below Detection Limit (BDL) for $SO_2$, $NO_X$ and BaP are <4.0 mg/m$^3$, <10.0 mg/m$^3$ and <0.03 ng/m$^3$, respectively.

### 3.04 Water Environment

Ten surface water and ground water samples were collected and analysed**.** All the parameters in different surface waters are within the CPCB norms for Classes C and D of surface water.

Results of ground water analysis were compared with IS: 10500 (IS: 10500; 1991, amendment no.1, 1993 - norms for drinking water) and all the parameters are well within the prescribed limits.

Quality of all the surface water locations is within the norms for Class A, except SW1 (Amba River upstream of Plant) and SW2 (Amba River downstream of Plant) samples where in the BOD levels were found to exceed the norm for Class C (3mg/l max.). Tidal impacts are indicated in the water analysis reports of both the SW1 & SW2 samples.

### 3.05 Soil

Five samples of topsoil were collected and analysed. In the study area the soil pH is near to neutral and varied from 6.5 to 7.4. The test results of pH from different locations indicate that there is no acidic impact on soil due to the industrial activity.

In the tested soil samples most of the nutrients are available in the low to high concentration ranges. Organic carbon was found to be of medium to high concentration. Available Phosphorus and Nitrogen are found to be in low to medium concentration, whereas availability of Potassium is found to be low to high. As the major nutrients are not showing any major deviation among the tested soil samples it can be concluded that there is no impact on nutrient contents of soil due to industrial activity.

### 3.06 Ambient Noise

The noise monitoring was done at ten locations. The results show that near Goa Gate (N2) & Dharmatar-Alibaug road near Port Junction (N9) both day and

night time noise levels are well within the norm for Industrial area. At commercial area the values are within the norm for day & night time. In residential areas all values are well within the prescribed norm.

## 3.07 Ecological Features

The study area is poor in wildlife as there are few good forests in the region and that too away from the study area. In the study area, Hare, Jackals and foxes are seen adjacent to the rocky hills. Langurs and Bonnet monkeys are present in the forest areas as well as in the villages. Wild Boar is found in scrub jungle. Of the reptiles' Rat snake, Cobra, Vipers and Phorsa are seen. There is no good forest in the study area due to which wild fauna are poorly represented.

The tree species commonly found around human settlement are mostly of economic importance. Among the fruit trees, which are common are Mango, Drumstick, Jackfruit, Bel, Jamun, Coconut, Areca-nut, Banana, Papaya, etc.

## 3.08 Socio-Economic Environment

Basic Socio-economic Conditions and Land-use in the study area are as follows:

- The social structure of the study area is dominated by rural area culture, on one hand and urbanized on the other.
- Literacy level among the respondents is average.
- Educational facilities are not job-oriented which is required to improve skill-diversification among people, specifically, local youth so that they get jobs in the small-scale industries in the vicinity of JSWSL.
- The employment rate is moderate. Agriculture still plays an important role in rural economy. However, many people are engaged in service and other activities.
- People are having very small land holding. The land is not enough to meet their needs and therefore rural people of the area prefer to work in construction related activities.

## 3.09 Baseline Status of Existing JSWSL Plant

### Stack Emissions

The stack monitoring of major units was carried out during the study and results indicate that values of PM are within the norm as stipulated by MPCB for various units of the Plant. This indicates that plant emissions are within control.

**Work –Zone Emissions**

Work zone SPM values were found within the norms of Factories Act, 1948.

## 4.0 ANTICIPATED ENVIRONMENTAL IMPACTS

### 4.01 Impact During Construction

All of the major construction activity will be restricted to the existing JSWSL plant premises and contiguous land of 600 acres acquired specifically for the Expansion Project having all infrastructure facilities. As such no large-scale construction activity covering a large area and contributing considerable pollution is expected. Further, the impact of such activities will be temporary on surrounding ecosystem and will be restricted to the construction phase only.

### 4.02 Operational Phase Impact

During operation of the units of steel plant, various pollutants from processes are released in the form of air emissions, wastewater discharges, solid waste generations, increase in noise level, etc, that may affect air, water, land and ecological environment directly. In addition to the above primary impact, some indirect impact on the surrounding socio-economic environment may also take place. These are mentioned below in brief.

**Air Environment**

The principal impacts on Ambient Air Quality (AAQ) due to operation of the proposed units of steel plant will be due to emissions from the process stacks of units and emissions of fugitive dust from the iron ore and coal handling areas. The predicted maximum contribution of all the proposed major stacks of various units to GLC is 24.7 ug/m3 for PM10, 6.54 ug/m3 for SO2 and 10.3 ug/m3 for NOx. The nearest AAQ monitoring station, where maximum GLC values have occurred is in southeast direction close to Plant. The monitored background mean value for AAQ in predominant downwind direction is 76 ug/$m^3$ for $PM_{10}$, 11.0 ug/$m^3$ for $SO_2$ and 19.0 ug/$m^3$ NOx for winter season. The predicted contributions of different pollutants from the proposed units of steel plant when added with the monitored existing background levels in predominant downwind direction indicate that the maximum concentrations will be 91.3 ug/$m^3$, 15.2 ug/$m^3$ and 26.3 ug/$m^3$ for $PM_{10}$, $SO_2$ and NOx respectively. The concentrations are within the norms for Industrial, Residential, Rural & Other Area norms. Since the values are much less then the applicable norms for the said areas, it is safe

to assume that there will be no significant impact on surrounding AAQ from the proposed expansion of steel plant, provided steel plant management implements the pollution control measures indicated in the report holistically. From the results it is observed that impact from operation of its rated capacity of 10.0 MTPA will be within the assimilative capacity of surrounding environment and shall not violate norms of ambient air quality.

Habitation centers such as Pen and Alibaugh are about 8 and 22 km away respectively from the steel plant in reference direction respectively and the levels of air emission expected are much less. Hence no significant impact is envisaged on quality of air.

**Impact on Water Environment**

Water Usage and Effect of Water Withdrawal

The requirement of make-up water for the proposed expansion from 5 MTPA to 10 MTPA will be about 1410 $m^3$/h. This will be met from the dam on Amba River at Nagothane KT Bhandara. The small additional quantity from surface water sources shall affect availability of fresh surface water to other usage. Since, there is no ground water extraction for plant use, no impact on ground water is envisaged during proposed expansion programme.

Surface Water Pollution

JSWSL proposes maximum recirculation/reuse of waste water in normal circumstances of plant operation. The total anticipated wastewater generation after capacity expansion to 10.0 MTPA will be about 290 m3/hr (including floor washings, etc), which will meet the statutory norm and will be used for secondary use such as green belt development etc.

**Impact of Solid Waste**

The major solid wastes expected to be generated from the various facilities of integrated steel plant expansion from 5.0 MTPA to 10.0 MTPA are as follows:

**Table ES.3: Solid Waste Generation and its probable Re-use**

| Sl. No | Solid waste | Generation Quantity (tpa) | Proposed disposal |
|---|---|---|---|
| **1** | **Slag** | | |
| a. | Iron Making slag | 1,350,000 | 100% granulated and sold to Cement plants. |

| Sl. No | Solid waste | Generation Quantity (tpa) | Proposed disposal |
|---|---|---|---|
| b. | Steel making slag | 1,100,000 | Partly sold to Cement Plant and balance shall be used in filling low lying area, boulder soling, internal road making, etc. |
| **2** | **Sludge** | | |
| a. | Iron making / Filter plant sludge | 87,600 | Used in Pellet and Sinter Plants after dewatering |
| b. | SIP process water sludge | 73,300 | Used in Sinter plants after dewatering |
| **3** | **Mill scales** | | |
| a. | Steel making shop | 30,000 | Used in CONARC |
| b. | Rolling mills | 45,000 | Used in Sinter plants |
| c. | SIP Fines | 440,000 | Used in Sinter plants |
| **4** | **Dusts** | | |
| a. | Flue dust from Blast furnace | 78,000 | Used in Sinter plants |
| 5 | Lime / Dolo dusts | - | Lime + Dolo fines converted to briquettes and will be used in CONARC, BOF and Sinter plants |

As indicated above, most of the solid waste shall be used either within steel plant or used for filling low lying areas. It can be said that these generated solid wastes shall not pose any threat to surrounding environment.

**Impacts on Noise Levels**

During plant operations noise generated will be close to the compressors and blowers and as a result will be confined within plant boundary and will not have any impact outside the plant boundary. In high noise work-zone, protective measures as given in Environmental Management Plan will be followed to minimize the impact on workers.

**Impact on Ecological Features**

Since the expansion of steel plant is based on gaseous and solid fuel wherever possible, this results in low emissions to the surrounding environment as indicated by AAQ results. The change in ambient air quality due to emissions from the proposed capacity expansion will be insignificant; hence vegetation in

study area will not be damaged. The steel plant shall follow the maximum recirculation policy and minimum use of fresh makeup water. Thus there will be no impact on the ecological components of surface water bodies in the area.

## 5.0 ENVIRONMENTAL MANAGEMENT PLAN

### 5.01 Air Pollution Management

All stack emissions will be designed for PM emission of 50 mg/Nm3 through deployment of appropriate pollution control equipment. To reduce fugitive dust emission due to handling of iron ore & coal, dust extraction and dust suppression systems will be installed at appropriate locations. Plain water type dust suppression systems will be provided all around the coal/ raw material stockpiles. The dust suppression systems will consist of water sprinkling systems and dry fog dust suppression systems.

Following are the pollution control equipment to be provided in the expansion project:

**Table-ES.4: List of Pollution Control Equipment**

| SN. | Production Unit/ Facilities | Proposed Emission Control Devices | | Design Target |
|---|---|---|---|---|
| | | Non-Point Sources | Point Sources | |
| 1. | Coal Handling / Coke Sorting Plant | - Dust suppression: water sprinkler & DFDS<br>- DE system bag filter based: Coal crusher house / Coke sorting plant. | - | Dust outlet: ≤ 50 mg/N $m^3$<br><br>Work zone Dust level:<br>< 5 mg/ $m^3$ |
| 2. | Raw Materials Handling Section | - Covered Yard<br>- Covered conveyor<br>- Dry Fogging<br>- Water sprinkling<br>- Bag filter - DE system | DE Stacks | Dust outlet: ≤ 50 mg/N $m^3$<br><br>Work zone Dust level:<br>< 5 mg/ $m^3$ |

| SN. | Production Unit/ Facilities | Proposed Emission Control Devices | | Design Target |
|---|---|---|---|---|
| | | Non-Point Sources | Point Sources | |
| 3. | Coke Oven Battery | - On-main charging by HPLA<br><br>- Coke side dust extraction | Combustion Stack | Fugitive Emissions:<br>5% PLD<br>1% PLL<br>4% PLO<br>BaP:<br>Work Zone (Battery Top) : ≤ 5 ug/m$^3$<br>Stack emissions:<br>SPM ≤ 50 mg/ m$^3$<br>$SO_2$ ≤ 800 mg/ m$^3$<br>NOx ≤ 500 mg/ m$^3$ |
| 4. | Sinter Plant/ Pellet Plant | - Raw feed proportioning building, Sinter Cooler, Air Cleaning by DE System comprising of ESP | - Waste flue gas cleaning by ESP<br>- Sinter Process De-dusting by ESP<br>- Sinter process: low NOx burners | Dust outlet: ≤ 50 mg/N m$^3$<br><br>Work zone Dust level:<br>< 5 mg/ m$^3$ |
| 5. | SIP Plant | - Raw material preparation & Handling centralized de- dusting facility bag filter | - MIDREX Shaft Feed end scrubber.<br>- Product screening end Bag Filter | Dust outlet: ≤ 50 mg/N m$^3$<br><br>Work zone Dust level:<br>< 5 mg/ m$^3$ |
| 6. | Blast Furnaces | - BF Stock House by DE system<br><br>- BF Cast House by DE system: ESP | - BF Stove Stack<br><br>- BF Stove : low NOx burners | Dust outlet ≤ 50 mg/N m$^3$<br><br>Work zone Dust level:<br>< 5 mg/ m$^3$ |
| 7. | Steel Melting Shop | SMS Material Handling - DE system by Bag filter | - Centralised secondary fume extraction system for BOF / LFs with Bag filter. | Dust outlet ≤ 100 mg/N m$^3$<br><br>Work zone Dust level:<br>< 5 mg/ m$^3$ |
| 8. | Lime & Dolo Plant | - Lime Plant Raw Material Bunker Building - De-dusting | Waste flue gas through Bag filter (fabric) | Dust outlet ≤ 50 mg/N m$^3$ |

| SN. | Production Unit/ Facilities | Proposed Emission Control Devices | | Design Target |
|---|---|---|---|---|
| | | Non-Point Sources | Point Sources | |
| | | by Bag Filter.<br>- Lime sizing plant – De-dusting by Bag Filter. | | Work zone Dust level:<br>< 5 mg/ $m^3$ |
| 9 | HSM/Bar Mill Reheating Furnace | - | Low NOx burners | Dust outlet $\leq$ 50 mg/N $m^3$ |
| 10 | Power Plant | - | - Low NOx burners | Work zone Dust level:<br>< 5 mg/ $m^3$ |
| 11 | Slag & Clinker Grinding Unit | - | Cleaning by ESP | Dust outlet $\leq$ 50 mg/N $m^3$ |

## 5.02 Water Pollution Management

The prevention and control of water pollution aim at conserving make-up water by maximum recycling of the wastewater after treatment. During the operation of the plant, three major categories of wastewater, viz. blow down water from the cooling tower, slurry water and sanitary waste water streams would be generated. Efforts shall be made to reuse most of the treated water in the plant itself.

Thus, proposed plant will recycle water to the maximum extent possible. However, in abnormal cases, periodically small quantities (290 $m^3$/h max) of effluents shall be discharged to prevent build up of excess dissolved solids after stabilization in the pond and will be well within the stipulated norms of water quality.

Efforts will be made to harvest rainwater in the plant. Run-off water from the office areas, shop roofs will be collected and used for future use.

Oil sewer will collect water from areas where there are possibilities of contamination by oil (transformer yard, fuel & lubricating oil storage areas, and workshop) and the drains from such areas will be routed through an oil-water separator. The collected oil shall be sold to re-refiner approved by MPCB/CPCB.

All storm water drains from the raw materials and solid waste handling areas will be routed through garland drains into catch pits of sufficient volume to settle out suspended solids present in the storm water run-offs. The clear water will be discharged into natural drainage channels. This type of effluent is anticipated only in monsoon season.

The sewage from the Plant and Canteen and township will be treated in STP. The treated sewage will be diverted for irrigation of green cover inside plant premises and township.

### 5.03 Solid Waste Management

The principal solid wastes produced by any steel plant are slag, scrap, scale and dust. The dust from dust catcher unit of BF and SMS section will be recycled to the extent possible in the Sinter Plant/Pellet Plant itself.

SMS slag will be treated for the recovery of metal and after metal recovery shall be sold as ballast. A part of SMS slag will be used to fill low-lying areas. Slag from Blast furnace will be granulated and shall be used in slag & clinker grinding unit for slag cement. Scrap from SMS and other areas will be recycled in the steel plant to the extent possible. Scale and debris from HSM & CRM will be recycled to the maximum extent possible in the plant itself. The solid waste generated and their probable uses are indicated in the **Table-ES 3**. All the scrap & scales will be recycled fully.

### 5.04 Noise Level Management

The following measures will be undertaken to reduce noise and its impact:

- Equipment will be placed on rubber bushes to reduce Noise level at 1m distance to 85 dB (A).
- Sound proof enclosures will be provided to operators in high noise zone. Workers will be provided with ear muffs/ earplugs and the duration of exposure of the personnel will be regulated as per applicable norms.
- Regular check-ups shall be conducted for workers for noise related health problems and if detected alternative duties will be assigned.

## 6.0 PROJECT BENEFITS

The following benefits are anticipated in the study area:

i) The project is not going to cause any significant impact on the existing agricultural situation or ground water quality or ambient air quality.

ii) There will be change in the pattern of demand among people by way of shift from food items to non-food items.
iii) There will be a positive employment and income effects, both direct as well as indirect.
iv) There is a possibility of increase in industrialization in the vicinity of JSWSL. This is likely to bring more skill diversification among local people.
v) Overall peoples' perception on the project is good. However, some people have a few grievances, which can be mitigated judiciously.

## 7.0 EMP IMPLEMENTATION AND MONITORING

All necessary steps will be taken to implement the measures suggested by MPCB & CPCB and the Charter on Corporate Responsibility for Environmental Protection (CREP) for Integrated Iron and Steel Industry. The suggestions given in the EMP shall be implemented by following an implementation schedule. ISO-14001: EMS will be implemented for the total plant.

## 8.0 COST CONSIDERATIONS & PROJECT IMPLEMENTATION

- The total project cost is estimated to be Rs. 17,000 Cr.
- The capital outlay for environmental control measures is estimated to be Rs. 850 Cr during expansion
- It is proposed to spend about Rs 170 Cr towards CSR initiatives, for socio-economic upliftment of the local communities.
- The Project is schedule to be implemented within 36 months from zero date of financial closure

## 9.0 PUBLIC HEARING

The Public hearing was conducted on 28.01.2014 at Pen Education Society's Jaikisan Vidya Mandir and Higher Medium School at Wadhkal, Tal. Pen, Dist. Raigad, Maharashtra.for the proposed expansion of existing Steel plant from 5 MTPA to 10 MTPA at vill. Dolvi, Raigad, Maharashtra. A number of issues were raised by the attendees which were successfully answered by the Project proponent. Overall, majority of the attendees were in favour of the project and wanted the project to come.