

Executive Summary

for

Proposed Expansion of Existing Steel Processing Plant

at

Village Dahivali, Taluka Khalapur, District Raigad,
Maharashtra - 410202



Proposed By

Uttam Galva Steels Ltd.



CONSULTANT

Mahabal Enviro Engineers Pvt. Ltd.

Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604

Phone: +91-22-25823139/1663/0658 thane@mahabal.com

Executive Summary

1.0 Introduction:

Uttam Galva Steels Limited has already installed plant for Galvanized Sheet/Coils and proposed capacity enhancement of new existing products and addition of one more technology i.e Coating of Rolls. Actions are initiated for trying up the inputs required for expansion at Village Dahivali, Taluka: Khalapur in Raigad District of Maharashtra. The estimated cost of the project is **Rs.95 Crore.**

Uttam Galva Steels Limited is one of the largest manufacturers of cold rolled steel ("CR") and galvanized steel (GP) in western India.

The Company's manufacturing facilities are located at Khopoli, Maharashtra, India, which is close to Nhava Sheva and Mumbai ports. This provides the company with easy access to imports and exports of raw materials and finished good. A close proximity to the ports gives the Company an advantage of lowering its transportation costs. The Company's domestic sales are also within the radius of 500 km from its manufacturing facilities to domestic companies.

The Company is an ISO 9001: 2008 and TS 16949/2002 accredited Company both for CR and GP/GC, It has also been awarded with the highest exporter award by the Engineering Export Promotion Council ("EEPC") of India for the past 15 years in succession.

The proposed project fall under 3(a) B1 category of the Environmental Impact Assessment Notification.

UGSL is an established company registered under Indian Companies Act 1956, carrying the business of production and sale of Galvanized Steel. With the introduction of Electricity Act 2003, and considering the present scenario in the country, specifically in Maharashtra, UGSL already installed steel plant and proposed capacity expansion at same location.

1.1 Purpose of Study

The proposed industry is listed under EIA Notification dated 14-09-2006 and as amended in December 2009 of Ministry of Environment and Forests (MoEF), Government of India. As per this notification, the industry is categorized under Schedule 3(a), for Primary Metallurgical Industries (Ferrous & Non Ferrous), and Category-B. As per the notification, prior Environmental Clearance (EC) from State Environmental Impact Assessment Authority (SEIAA), Government of Maharashtra is mandatory before establishment of this industry. Hence, the industry has to follow due course of procedure to secure Environmental Clearance including application to State Expert Appraisal Committee (SEAC) for EC clearance, Terms of

Executive summary

references from SEAC for conduct of EIA studies, and public hearing/consultations. Accordingly, the project proponents have submitted prescribed application along with pre-feasibility report to the State Expert Appraisal Committee (SEAC), Government of Maharashtra seeking terms of references for conduct of EIA studies. SEAC has deliberated the project in the 104th SEAC meeting dated 19.06.2015, and specified the ToR for preparation of EIA report. Accordingly, EIA studies were conducted and the report is prepared for submission to Authorities. EIA report has been prepared as per Terms of References granted by MoEF&CC. ToR letter has been given as **below**

104th Meeting of State Level Expert Appraisal Committee - 1 held on 19th & 20th June, 2015

Item no. 14	M/s.Uttam Galva Steels ltd Proposed expansion of Steel Plant at S.no 39, 40 Vill Dahivali,Tal Khalapur Dist Raigad
--------------------	--

The PP gave a detailed presentation for expanding their steel manufacturing plant at above referred location.

The Committee made the following observations:

1. Zero liquid discharge status should be maintained by PP.
2. Details on disposal of by-products.
3. The water demand and agreement with Irrigation Dept for assured water supply may be submitted.
4. Ambient Air Quality studies should be carried out at 8 locations and shall include HCl and other project specific air pollutant in addition to the regular parameters.
5. Details of hexavalent Chromium to trivalent Chromium conversion.
6. Separate chapter on Risk Assessment and Risk Management to be included.
7. The chapter on cumulative EIA studies should be included.

The ToR shall include the above points and shall be in consence with those prescribed by MoEF & CC in its Notification dated April 2015 for preparing the EIA report by a NABET accredited consultant. With these conditions **ToR was approved** for preparation of EIA report.

The Committee decided **to visit** the Uttam Galva Plants in the month of August 2015 in light of the potential hazardous nature of the pollutants involved in the production process.

1.2 Extent of Study and Study Covered

Keeping in view the nature of activities involved in the production of Steel and various environmental guidelines, the area covering a radial distance of about 10 km from the site of the plant was selected as a study area for the purpose of formulating EIA.

To establish the baseline status of air, water, noise, land, and biological and socio-economic environment in the study area; extensive field studies have been undertaken during the summer season covering a period of 3 months from January 2015 to March 2015.

Method of Study

The present environmental impact assessment report is prepared considering model ToRs for Primary and Secondary Ferrous Metallurgical Industries'. This Report is prepared based on 'General Structure of EIA' given in Appendix III of EIA Notification dated 14th September 2006. The present environmental impact assessment report is prepared by Mahabal Enviro Engineers Pvt. Ltd. NABET accredited EIA consultant organization for this category (Primary and Secondary Ferrous Metallurgical Industries') considering mainly the risk assessment and the impacts due to project proposals on surrounding environment.

2.0 Type of Project

The proposed project falls under Category 'B1' (S. No. 3 (a) of Schedule: 'Primary and Secondary Ferrous Metallurgical Industries') of the 'List of project or activities requiring prior environmental clearance' of MoEF notification dated 14th September, 2006 in connection with Environment (Protection) Rules 1986.

Uttam Galva Steels Ltd. has plans to enhance the installed production capacity of existing products i.e. Galvanized Coils & Sheets from 2,40,000 Mt/year to 3,42,000 Mt/year and start in house facility of Coating of Rolls – Electro Discharge Texturing (EDT) and Electro Chrome Deposition (ECD) of work rolls around 288 numbers/year for re-utilization by enhancing quality and life of rolls in order to improve its product quality and controlling cost of production.

Coating of rolls:

The rollers may be obtained using a variety of texturing methods but Uttam Steel proposes to introduce EDT and ECD as these both techniques give randomly distributed surface features.

a) Electro-discharge Texturing

It is a specialized texturing process that replaces short blast and provides a superior surface texture on rolls prior to chroming. It produces consistent,

Executive summary

repeatable surfaces with tight tolerances, extremely uniform surface with little variance over the surface of the roll and superior textured surfaces on hard work rolls.

b) Electro-chrome Deposition

It is a process that uses an electrical current to coat a conductive material, typically made of metal, with a thin layer of Chrome. Other metals used for electroplating include stainless steel, copper, zinc, nickel and platinum.

2.1 Specific location and connectivity

Table 2.1- Location details

Particulars	Information
Name of the project	Uttam Galva Steels Ltd. Expansion of existing steel processing plant for Galvanized Coils / Sheets and Coating of Rolls – Electro Discharge Texturing (EDT) and Electro Chrome Deposition (ECD) of work rolls at Village Dahivali, Taluka Khalapur, District Raigad
Screening category	3 (a) B1 Category
Location details	at Village Dahivali, Taluka Khalapur, District Raigad
Project cost	Rs.95 Crore
Name, contact and email ID of the project proponent	Uttam Galva Steels Ltd. Mr. Shankar Ramakrishna 022- 66563500/66563687 srk@uttamgalva.com dharani@uttamgalva.com

2.2 Size or Magnitude of Operation

The proposed products and their capacities are shown in below table 2.2.

Table 2.2: Details of Proposed Production Capacity of product

Products	Existing (Mt/year)	Proposed expansion (Mt/year)	Total (Mt/year)
Galvanized Coils & Sheets	2,40,000	1,02,000	3,42,000
Coating of Rolls - Electro Discharge Texturing (EDT), Electro Chrome Deposition (ECD) of work rolls	Nil	288 no./year	288 no./year

Table 2.3: By products details

By Product	Present	Expansion	Total Qty
Zinc Dross	1,200 Mt/month	1,020 Mt/month	2,220 Mt/month

Executive summary

2.3 Requirement of Resources

Raw materials

The existing and proposed raw material details of the project are given in **Table 2.4.**

Table 2.4: Raw materials

Sr. No.	Raw material	Existing (Mt/year)	Proposed Expansion (Mt/year)	Total (Mt/year)	Source	Transportation
1	CR Coils	2,50,000	1,20,000	3,70,000	JSPL	Road
2	Zinc	8,000	4,000	12,000	HZL	Road
3	Chromic Acid Flex	0	2	2	Henkel	Road

Land

Total plant area of project site is 100 acres and green belt area is 35 acres. Proposed project site is in existing notified industrial estate, thus land use pattern is non-agricultural and hence, can be used only for industrial activities.

Water Requirement and Source

Water will be used at the expansion project for various industrial as well as domestic activities. A total estimate of water consumption for proposed expansion is **1,019 m³/day** and source of water is bore-well. **352 m³/day** of the total consumption will be used for industrial purpose in various processes like galvanizing, coating and equipment cooling and **305 m³/day** will be used for cooling tower and thermo pack. **60 m³/day** of the total consumption will be used for domestic purpose and remaining water will be used for gardening and agricultural purpose.

Power Requirement

Source: Maharashtra State Electricity Distribution Company Ltd. (**MSEDCL**)

Existing power requirement: **2.5 MW**

Proposed power requirement: **2.5 MW**

DG sets: **1,650 kVA, 200 kVA, 500 kVA**

Energy conservation

Installation of VFDs at Various points like Boiler, Thermo-pack, Compressor, Processing & water pump house. LED lights for common areas, Flash steam,

Executive summary

Condensate & Hot water recovery.

Details of stack

There are **8 no.** of stacks in the existing plant. Total **5 no.** of new additional stacks will be constructed as per MPCB norms for proposed expansion. Details of Stack with emission analysis report for proposed expansion will be provided after commissioning. Existing & proposed stack details are given in **Table 2.5 and 2.6.**

Table 2.5: Existing Stack Details

Stack number Attached to	Boiler	Gal Furnace	Hot Air Generator (2 Nos)	Pre Heating Furnace (2 Nos)	DG Set (2 Nos)
Fuel type	Natural Gas	NG	NG	NG	HSD High speed Diesel
Material of construction	Mild Steel	MS	MS	MS	MS
Shape	Round	Round	Round	Round	Round
Height, m	33	36	23	33	3.5 (Above the building)
Diameter	0.55	0.8	0.5	1.95	0.9
Gas Quantity, Nm³/hr	2000	3500	2000	7500	-
Gas Temperature	100	100	100	300	150
HSD is used in DG Set in case of power failure					

Executive summary

Table 2.6: Proposed Stack Details

Stack number	2 (Galvanising) + 1 (D.G. set) + 1 (Coating of rolls) + 1 (Acid Regeneration) stacks will be constructed as per MPCB norms for proposed expansion.			
Attached to	Galvanising Process	DG set	Coating of Rolls	ARP
Capacity	3,500	200/1,650	--	--
Fuel type	NG	HSD	NG	NG
Fuel quantity (kg/hr)	120 scm	280 lit/hr	--	--
Material of construction	MS	MS	MS	MS
Shape (round/rectangular)	Round	Round	Round	Round
Height, m (above ground level)	36	8.5 (Above the building)	32	35
Diameter/size, in meters	0.8	0.9	0.9	0.9
Gas quantity, Nm³/hr.	3,500	1,850/15,537	--	--
Gas temperature °C	100	150	120	120
Exit gas velocity, m/sec	12	12	3.5	3.5
Control equipment preceding the stack	Fume extraction system followed by Scrubbers			

Man power requirement

Approximately **250 no.** people will get employment during construction phase and about **150 no.** people will get direct employment during operational phase.

Waste Generation:

Effluent Generation

The sewage generation after expansion will be **50 m³/day**. We have existing STP of capacity **85 m³/day**. The effluent generation after expansion will be **210 m³/day**. We have existing ETP of capacity **300 m³/day**.

UGSL has modified their Scheme by installing **300 m³/day** capacity of Effluent Treatment Plant (ETP) to achieve zero discharge. All trade effluent will be treated through ETP followed by RO system and Reject from RO will be routed with Mechanical vaporizer reprocessor Evaporation (MVRE) and Multiple Effect Evaporator (MEE).

Total processed water after proposed expansion will be **1,019 m³/day**. After treatment of processed water through ETP, it will be 100% reused in process in

Executive summary

order to achieve Zero Liquid Discharge.

Water requirement and effluent generation for the existing and proposed project is given in **Table 2.7**

Table 2.7: Water requirement details

Details of total water consumed									
Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Industrial process	178	174	352	16	14	30	60	150.25	210.25
Cooling tower & Boiler	115	190	305	10	16	26			
Domestic	30	30	60	-	-	-	25	25	50
Gardening	106	142	248	-	-	-			

Solid waste generation

Details of Solid & hazardous waste generation and its disposal methods are given in Table 2.8 & 2.9.

Table 2.8: solid waste generation

Sr.	Solid waste	Total (Mt/month)	Disposal Method
1.	Metal Scrap	100	Sale
2.	Drum	39	Sale
3.	Empty drum	133	Sale

Table 2.9: hazardous waste generation

Sr.	Waste	Existing	Proposed Expansion	Total (Mt/month)	Disposal method
1	Used oil / spent oil	4	2	6	Sale to SPCB/CPCB re-processor / recycler
2	ETP sludge	2	4	6	CHWTSDF at MIDC, Taloja.

Cost and time completion of the project

Cost of the project

The total cost of the project is **Rs.95 Crore.**

Time completion of the project

The proposed expansion project comprises an expansion in the production capacity of CR Coils, Galvanized Coils, Colour coated sheets.

Expansion of the existing product, as well as, new product is expected to be completed in 20 months from the date ordering of major plant and equipments and after getting necessary clearances.

3.0 Baseline Environment

Baseline data generation is an important part of Environmental Impact Assessment study, which helps to evaluate the predicted impacts on the various environmental attributes in the study area by using the various scientifically developed and widely accepted environmental impact assessment methodologies.

To establish the baseline status of air, water, noise, land, and biological and socio-economic environment in the study area; extensive field studies have been undertaken during the summer season covering a period of 3 months from January 2015 to March 2015.

Meteorology

The predominant wind directions were NE. The wind velocity was mostly between **6.08 m/sec.** Ground based inversions and mixing height was also collected from IMD (Indian Meteorological Department).

Ambient Air Quality

Seventeen AAQ monitoring stations were monitored. During monitoring period, 24 hourly samples were collected twice a week and one hourly samples were taken on each monitoring day. It was observed that the average value for PM₁₀ and all the values of PM_{2.5}, SO₂, NO_x and CO during the monitoring period were well within the norms for Industrial, Residential, Rural and other areas.

Analysis of Ambient Air Quality

PM10: The minimum average value of PM₁₀ found in village Gorthan Bk. was 79.09 mg/m³, and maximum average value was 90.82 mg/m³ found in village Devnhave.

Executive summary

PM_{2.5}: The minimum average value was 42.09 mg/m³ found in Pali road, and maximum average value was 55 mg/m³ found at project site Uttam Gala Steels, Donvat.

SO₂: The minimum average value was 5 mg/m³ found in Village Narnagi, Tambati, Gorathan Bk, and maximum average value was 7.61 mg/m³ found in village Sangadewadi.

NO_x: The minimum average value was 3.99 mg/m³ found in village Dahivali, Near Dahivali project site near Pali road, and maximum average value was 7.43 mg/m³ found in village Devnhane.

NH₃: The minimum average value was 14.94 mg/m³ found in village Sangadewadi, and maximum average value was 25.92 mg/m³ found at project site Uttam Gala Steels, Donvat & Dahivali.

Ozone (O₃): The minimum average value was 20 mg/m³ found in Pali road village Chinchwali Gohe, Sangadewadi, Honad, Niphan, Tambati & Narangi Project site, and maximum average value was 38 mg/m³ found project site Uttam Gala Steels, Donvat & Dahivali.

Lead (Pb): The ranges from 0.01 to 0.02 in the study area.

Carbon monoxide (CO): The minimum average value was 1 mg/m³ found in Pali road, and maximum average value was 2.01mg/m³ found Uttam Gala Steels, Dahivali..

Benzene (C₆H₆): The minimum average value was 0.9 mg/m³ found in Narangi plant, and maximum average value was 1.51mg/m³ found in village Donvat.

Benzo Pyrene (BaP): The minimum average value was 0 mg/m³ found in village Niphan and maximum average value was 0.20 mg/m³ found in Narangi Power plant.

Arsenic (As): The minimum average value was 0.07 mg/m³ found in village Devnhave and maximum average value was 0.30 mg/m³ found in project site Uttam Gala Steels, Donvat & Dahivali.

Nickel (Ni): The minimum average value was 1.01 mg/m³ found in village Niphan and maximum average value was 3 mg/m³ found in Uttam Gala Steels, Donvat & Dahivali.

This shows that all the parameters are within the limit of the National Ambient Air Quality Standards (NAAQS). Hence, there is no harm to the nearby environment.

Water quality

Surface Water

In order to assess the present water quality of the region, 8 surface water samples

Executive summary

were collected and analyzed for selected environmental parameters viz. physical, inorganic, organic and nutrient parameters and heavy metals. Surface water samples were taken from Dam at Narangi, Donvat Reservoir & Patalganga river.

Ground Water

Groundwater samples were collected from 8 different locations namely Project site, Power plant (Narangi), Donvat complex, Pali road, Village Narangi, Village Dahivali, Village Donvat, Village Tambati, Village Vadval. These locations were selected as per the expertise of FAE and guidelines in standard ToR.

The results of analysis reveal that the values for all the parameters were within the acceptable limits prescribed in `IS Standards for Drinking Water (IS1050:2012).

This is concluding that the surface and ground water in the study area is not polluted by any source during the study period.

Noise

Seventeen noise monitoring locations were monitored. The above results are within the CPCB Standards. The minimum noise level 50 dB (A) and the maximum noise level 74 dB (A) were observed at day time, while minimum Noise level 40 dB (A) and maximum 64 dB (A) were observed at night time. The relative noise levels are within noise limit.

Soil Quality

Seventeen soil sampling locations were selected. The samples were collected from different locations to obtain the representative soil strata in and around the project site within the study area using standard procedure of sampling, and then the samples were analysed for relevant parameters. Soil qualities were assessed at 17 locations. The soil from the study area shows low to moderate fertility.

Biological Environment

No wild life of any sort is found within the study area. The fauna found in the area are of common variety and no endangered or threatened species are reported in the study area.

The common tree species observed are Ashoka, Mango, Acasia, Gulmohor, Cashew, Khair, Jambhul etc.

There are reportedly 46 species of birds existing in the study area. The most common birds observed at various places were house crow, sparrow, myna, dove, bulbul, pigeon etc.

Socio-Economic Environment

The study of socio-economic aspects forms an integral part of the EIA studies. The demographic structure, population dynamics, infrastructure resources, health status of the community and economic attributes such as employment, industrial development, sustainability of the project etc. are taken into consideration for assessing the socio-economics status.

4. Anticipated Environmental Impacts and Mitigation Measures

Impacts during Construction Phase

Construction activities are likely to last for 2 years. There will be minor and temporary impacts due to construction activities. Most of the impacts are reversible in nature.

Impacts are due to

- Air Pollution
- Water Pollution
- Noise
- Disposal of excavated activity
- Domestic Waste
- Change in socio-economic scenario
- Blasting

Suitable measures are proposed to mitigate these impacts. The Equipments and vehicles used during construction phase will be properly maintained to reduce the impacts.

Impacts during operation phase

Since, this is an expansion project, impacts during operation phase are minimal.

Likely Impacts during operation phase are -

Deterioration of surface water

Increase in PM, SO₂ and NO₂ levels

Increase in Noise generation levels

Solid waste (steel scraps and ash)

Change in socio-economic status (Positive Impact)

Air Environment

Executive summary

Main sources for impact on air quality during construction period are movement of vehicles, construction equipments at site, dust emitted during leveling, foundation works and transportation of construction material

The emissions from vehicles and construction equipments may also contribute to NO_x and SO₂ locally.

Mitigation Measures

- There will be no significant impact due to excavation activities in the area, except for civil work and foundation of equipment is envisaged.
- Ambient SO₂ and NO_x levels may increase due to operation of construction machinery such as bulldozers, trucks etc. However, increase in levels of these pollutants is expected to be insignificant since these machines will be operated intermittently.
- The dust generated will be fugitive in nature, which can be controlled by sprinkling of water. The impacts will be localized in nature and the areas outside the project boundary are not likely to have any major adverse impact with respect to ambient air quality.

Noise Environment

Sources of noise during the construction phase are vehicles and construction equipments like dozers, scrapers, concrete mixers, cranes, pumps, compressors, pneumatic tools, saws, vibrators etc. The operation of this equipment can generate noise levels in the range 85-90 dB (A) near the source.

Mitigation Measures

- The levels of these noises will be temporary and during the day time only, hence they will not have any significant impact on surrounding during construction phase.
- The noise control measures during the construction phase include provision of caps on the construction equipment and regular maintenance of the equipment.
- Equipment will be maintained appropriately to keep the noise level within 85 dB (A).

Solid/hazardous waste

The solid waste will be generated from proposed expansion plant particularly, used oil/spent oil, MS scrap, Drums, Empty drums and ETP sludge.

Executive summary

Mitigation Measures

- Temporary storage is made for diesel and other fuels. These fuels are required for running construction equipment, DG sets etc.
- Storage is separated by fire insulating walls from other storage tanks
- The distance between the storage tanks is at least half of their height.

Water Environment

The water requirement for the construction phase will be met from the existing water supply to the plant. During construction, water will be required for construction activities, sprinkling on pavements for dust suppression and domestic and non-domestic usages.

Mitigation Measures

- The earth work (cutting and filling) will be avoided during rainy season.
- The development of green belt, in and around plant, will also be undertaken during the monsoon season.
- The overall impact on water environment during construction phase due to proposed project is likely to be short term and insignificant.

Plant break up along with green belt

The company has proposed to develop greenbelt in the **35%** of total plot area. Out of the total 100 acres of the project area, around 5 acres area existing built up area and 35 acres area has been proposed to be allotted as green belt for the development of green land.

Blasting

Blasting activity has potential to result in noise & air pollutions and cause injuries to workers if not executed properly.

Mitigation Measures

- Use of experienced and licensed blasters during actual works.
- Appropriate safe practices will be deployed.
- It is proposed to detonate the explosives by restoring to the best prevailing blasting techniques and practices to ensure maximum possible safety.
- It is proposed to carry out blasting operations in late night hours in case there are objections from local habitants.

Executive summary

- It is proposed to carry out blasting operations in such a way that detonators will not be simultaneously activated but with some time lag using short and long delays so that the noise level (db) and vibrations (ppv) will be within permissible limits.

5. Environmental Monitoring Program

A detailed Environmental monitoring program has been envisaged with the following objectives to ensure proper and effective implementation of the proposed mitigation measures.

- To evaluate the performance of mitigation measures proposed.
- To evaluate the adequacy of Environmental Impact Assessment.
- To suggest improvements in environmental management plan, if required.
- To enhance environmental quality.
- To implement and manage the mitigate measures defined in EMP.

Environmental aspects like Meteorological data, Stack emission monitoring, solid/hazardous wastes generation/utilization, Green belt development, Noise, Effluent quality, Ground water quality etc. will be monitored as per the details worked out in the Environmental Monitoring Program. The Monitoring plan specifies the parameters to be monitored, Location of the monitoring sites, Frequency and duration of monitoring, Applicable standards and responsibilities for implementation and supervision.

6. Additional studies

The present expansion project is of crucial importance for making it economically viable. At the same time, viable project will help long-term development of the region and the state. Risk Assessment and Socio-economic assessment were carried out. Overall, the project is going to improve the socio-economic condition of the area with negligible risk.

7. Risk assessment & disaster management plan

The risk assessment helps one in taking care of probable hazards on account of faulty/defective operations of various plants, machinery, equipment etc. Such risk assessment proves helpful in foreseeing the risks involved in various operations to prevent the likely accidents.

All necessary mitigation measures are taken to reduce the risk associated with storage of LPG yard.

Disaster Management Plan

Disaster is an undesirable occurrence of events of such magnitude and nature, which adversely affects production and/or causes damage to environment. Risk assessment forms an integral part of disaster management and any realistic 'Disaster Management Plan' could only occur through a scientific risk assessment studies and involves;

- Requirement of fire extinguisher at all the fire prone sides.
- Mock drill carried out periodically for emergency preparedness.
- Effective communication systems at all the parts of the plant is maintained.

On-site Disaster Management Plan has in place. Regular Mock drill has carried out to assess the efficiency of On-site Disaster Management Plan.

8. Environmental Management Plan

EMP is help to mitigate adverse impacts likely to arise out of the proposed expansion project as well as smooth functioning of the steel plant.

Management Policy

Air Environment

The UGSL has installed comprehensive pollution control system, and all pollution control measures have been implemented in the factory. For the proposed expansion, adequate number of pollution control equipments will be provided to mitigate the impact on air arising due to the expansion. The air pollution control equipments are as follows:

- Fume Extraction System followed by scrubber with adequate height of chimney.

Following measures are carried out for preservation of environment.

- Monthly stack and ambient monitoring is carried out regularly as per MPCB guidelines.
- Breakdowns in the pollution control systems is strictly avoided or provided with an arrangement such that process operation is synchronized.
- Effective maintenance is introduced to avoid any discontinuity in operation.
- Process operations are smooth and controlled such that the gaseous load are not exceed the load permitted by MPCB at any point of time.
- Cleaning and sweeping of floors is regular feature.

Executive summary

- A Green Belt around the plant has reduced the air pollution and attenuation of noise.
- Water sprinkling is carried out on haulage roads to prevent dust rising.

Noise Environment

The adverse impacts due to high noise controlled by implementing various control measures as listed below:

- Monitoring of the noise levels and its exposure is essential to assess the effectiveness of the Environmental Management Plan implemented to reduce noise levels.
- Acoustic enclosures for noise generating machines.
- Foundation of heavy machinery will be properly constructed to avoid noise due to vibrations.
- The operators' cabins (control rooms) are provided with acoustically insulated special doors and observation windows.
- Noise attenuating devices like ear plugs and ear muffs are provided to protect the workers from the noise levels.
- The operators working in the High-Noise area are strictly instructed to use ear muffs/ear plugs.
- Noise barriers in the form of additional trees are recommended to be grown around administrative blocks, and other such units. Green belt around the plant area reduce the noise levels further.

Water Environment

For effective water pollution control, the following measures implemented:

- Flow measuring devices are provided at various water intake points to have precise quantitative assessment of water consumption pattern.
- Regular monitoring and quantification of water requirement at various unit operations are carried out with a view to devise remedial measures for reduction in fresh water consumption.
- Daily monitoring of inlet & outlet from effluent Treatment Plant as per the present practice is continuing. Complete evaluation of the performance of each unit of the effluent Treatment Plant is done regularly.
- Preventive maintenance of water distribution system is undertaken as a regular feature. All the pipeline/tap leakages are promptly attended.
- The treated effluent from Sewage Treatment Plant and effluent treatment plant are used for process, gardening and dust suppression purpose.

Land Environment

The EMP for land environment is to scientifically utilize the capabilities of different plant species for attenuation of particulates as well as noise.

The particulates are the major pollutants for which commensurate afforestation and Green Belt development program was undertaken on priority.

Socio-Economic Environment

Recommendations to improve the socio-economic environment are summarized below:

- Social welfare programs with reference to health, education, water use, income generation will be organized in the nearby villages.
- Proposed project create employment opportunities to the local people present around the project site.
- At this stage, it is not possible to accurately determine the number of workers that will be employed on the site during the construction phase, but it is estimated that this number would be between 550-600 persons throughout the construction phase. These levels of short-term employment opportunities would have a positive impact on the local economy and on regional unemployment, During the operation phase, about 550-600 people will be employed.

9.0 Conclusion & Recommendations

Conclusion

- As the project is an extension of existing plant, there is no need for analysis of alternative land.
- The raw material requirement will be fulfilled by authorized companies and vendors.
- Impacts during construction phase are minor and reversible.
- There will be improvement in power availability.
- Source of water is bore, hence, there won't be any surface water contamination as well.
- There will be up-liftment of Socio-economic standard of local people surrounding the project site.
- There is no requirement to cut tress as the land used for expansion comes under industrial zone and is non-agricultural land.

Executive summary

Recommendations

Undertake various safety measures during blasting activity so as to minimize noise & air pollution and injuries to workers.

Utilize vehicles/dumpers which are in good condition so that noise and air pollution can be minimized. Install Fire-fighting system conforming to Traffic Advisory Committee (TAC) guideline.

Reuse excavated material within site for construction.