M/S. SHALIMAR PAINTS LIMITED

Executive Summary for Expansion of Integrated Paint Manufacturing Facility at Gonde Dumala village, Taluka Igatpuri, Dist. Nasik

1 SUMMARY AND CONCLUSION

1.1 Project Proponent

Shalimar Paints Ltd. was established in 1902 in Howrah, West Bengal by two Britishers - A N Turner and A N Wright. In the same year, the company set-up a large-scale manufacturing plant in Howrah, the first such plant in South-East Asia. Shalimar Paint limited has stated in operations in 1992 and obtained valid CtE and CtO existing production. Last CTO renewed in October for five years and is valid upto 31/12/2023.

1.2 Identification of Project

M/s. Shalimar Paint limited has proposed the project for expansion of integrated paint manufacturing facilities at Gonde Dumala, Igatpuri, District Nashik, Maharashtra. Shalimar Paints Ltd, intends to optimize & utilize its existing manufacturing facility to manufactured different type of paint, thinner and Resin as captive consumption and also for other units of Shalimar Paints Limited. The estimated cost of project is INR 27.0 Crore. The total Production capacity is given in ***Table 1-1.***

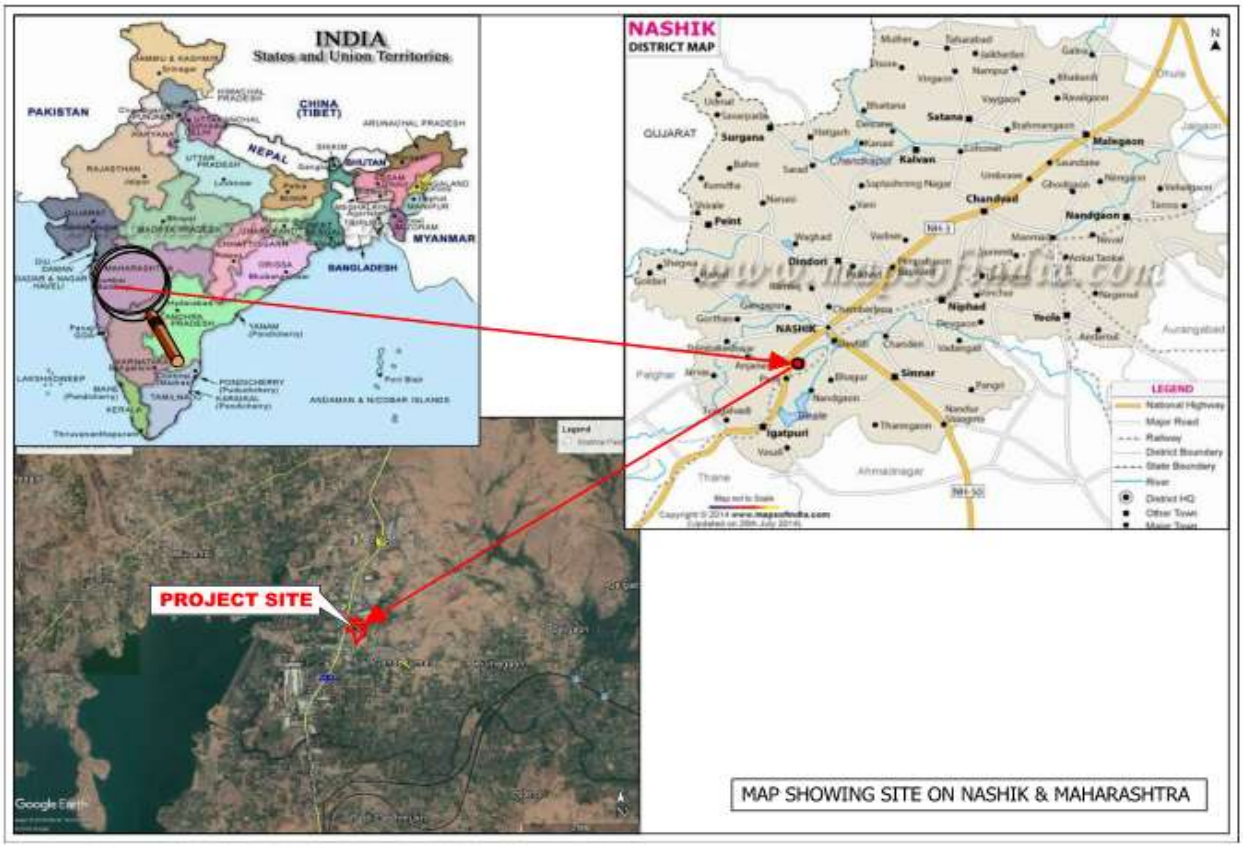
Table 1-1: Production Details

S.No.	Name of Products	Unit	Production capacity	Proposed Expansion	Total Capacity
1	Water based paints	KLPM	417 (500 MTPM)	1383	1800
2	Solvent based Paints	KLPM	500	1700	2200
3	Resins	KLPM	300	300	600

1.3 Importance of project to country and region

- Indian Paint is growing at the rate of 12-14 % CAGR driven by strength growth in Industrial and Real estate sector.
- Growing disposable income along with growing life style aspirations of people have resulted in to increased demand for decorative coatings for homes.
- SPL shall be able to cater the growing market demand in West India more effectively by improving our existing production capacities.
- Project will generate state revenue.
- CSR activities will be carried out for upliftment of socio economic condition of nearby villages.

1.3.1 Site Location Map



1.4 Justification for Implementation of Project

The proposed technology is selected as there is no alternative technology available for the paint manufacturing and proposed site was selected as site is located in Industrial area and all infrastructure facilities are available in the nearby area. SPL currently hold 6th position by sales turnover in Indian paints Industry, fuelled by strong technological base, dynamic management team and aspirations to become player with strong presence felt in market. The market for paints in India is expected to grow at the 1.5 to 2 times GDP growth rate in the next five years. To cater its growth rates, SPL is looking to expand the current manufacturing capabilities by process improvement, cycle time reduction and inducting new machines in its Nashik factory.

1.5 Regulatory Framework

The status of the progress of the SPL's EC application is provided in table below:

Table 1-2: Project Status

S. No.	Process	Date
1	Online Submission of Form-1 with proposed ToR and Prefeasibility Report for proposed integrated paints manufacturing facility at Gonde Dumala, Igatpuri, District Nashik, Maharashtra at SEAC Maharashtra	07-Sep-2019
2	Presentation for Terms of Reference (ToR) at SEAC, Maharashtra	05-June-2020
4	Receipt of ToR Letter from SEIAA, Maharashtra	08-July-2020
5	Baseline Monitoring	19-11-2019 to 29-01-2020

1.6 Project Details

The total plot area of the project is 61750 m^2. The Total Production capacity is given in table below:

Table 1-3: Production Details

S.No.	Name of Products	Existing capacity (TPA / KLPA)	Proposed Capacity (TPA / KLPA)	Total after expansion Capacity (TPA / KLPA)
1	Water based paints	417 (500 MTPM)	1383	1800
2	Solvent based Paints	500	1700	2200
3	Resins	300	300	600

1.6.1 Cost of the Project

The estimated cost of project is INR 27 Crore.

1.6.2 Area Statement

Total area of project is 61750 Sqm in which 33 % i.e. 20377.5 sqm area will be covered under green belt area and 17744.57 sqm area will be kept vacant for future expansion.

1.6.3 Water consumption and waste water generation

Existing water requirement is 50 KLD. After recycling, fresh water consumption is 38 KLD. After proposed expansion, total water requirement will be 182 KLD. After recycling, freshwater consumption will be 143 KLD.

1.6.4 Wastewater Generation, Treatment & Disposal Facility

Wastewater mainly generated form following areas such as:

- Domestic
- Process
- Washings
- Utilities etc.

Domestic Sewage

Domestic wastewater will be treated in STP separately and treated water will be reused for greenbelt development. STP sludge will be used as manure for greenbelt development.

Industrial Effluent:

Industrial effluent will be segregated at source based on pollution load and separate treatment were given.

1.6.5 Solid and hazardous waste management plan

Total four different type of hazardous waste will be generated from the proposed project which will be recycled through authorised recycler or disposed through CHWTSDF.

1.6.6 Energy/Power Requirement

Maharashtra State Electricity Distribution Company Limited – MSEDCL will supply power. The peak power demand will be 1100 KVA. The 320 KVA existing DG set is available and 500KVA will be installed and will be used in case of power failure.

1.6.7 Manpower

Existing

Direct during operation phase: 150

Indirect during operation phase: 30

Proposed

Construction phase: 150 to 200 (contractual)

Direct during operation phase: 100

Indirect during operation phase: 80

Total after expansion

Direct during operation phase: 250

Indirect during operation phase: 110

1.7 Description of Environment

The study area is considered 10 km around the project site located in Village: Gonde Dumala, Igatpuri, District: Nashik, Maharashtra.

Primary data collected include:

- Ambient air quality
- Noise
- Ground Water
- Surface water quality
- Soil quality
- Land use pattern
- Flora and Fauna
- Socio economics

Secondary Data Collection

This includes review of secondary/published information on:

- Socio-economic profile
- Sensitive areas such as biosphere reserve, forests, sanctuaries, places of historical, archaeological, tourist importance, etc.

1.7.1 Study Period

The baseline data were collected during Post Monsoon season 2019-20 (Mid November 2019 to Mid February 2020).

1.7.2 Land use

Majority part of the study area i.e. 38.56% is covered by vegetation cover followed by agricultural land i.e. 36.85%. 2.54% of the area is covered by build up area which is either residential or industrial.

1.7.3 Climatology

Site specific meteoroidal data was collected in November 2019 to February 2020.

- The highest temperature during the season was 28.01 °C whereas lowest was 14.68 °C.
- Relative humidity was observed between 40 to 81%.
- NW was the dominant wind direction during the study period and rainfall was not recorded at all during the study period.

1.7.4 Ambient Air Quality

The Ambient Air Quality Monitoring was carried out for Winter Season (Mid November 2019 to Mid January 2020). Ambient Quality Monitoring was taken at 8 different locations.

Station Code No.	AAQM Station	Coordinates	Distance from Project site (Km)	Direction from Project site	Justification
AAQM 01	At Project Site	19°49'37"N 73°40'29"E	---	---	Core
AAQM 02	Gonde	19°49'30"N 73°41'00"E	0.7	SE	1st downwind
AAQM 03	Belgaon	19°47'32"N 73°43'6" E	5.9	SE	2nd upwind
AAQM 04	Janori	19°48'27"N 73°41'58"E	3.3	SE	1st downwind
AAQM 05	Mukane	19°48'48"N 73°40'25"E	2.8	SW/s	3rd downwind
AAQM 06	Sanjegaon	19°52'56"N 73°41'32"E	5.7	NNE	2nd downwind
AAQM 07	Wadi Varhe	19°51'30"N 73°40'28"E	2.9	N	Cross Wind
AAQM 08	Murambi	19°48'23"N 73°40'15"E	4.0	NW	1st upwind

Average Results of AAQ Monitoring

- The average concentration of PM_{10} recorded ranged from 49 µg/m^3 to 77 µg/m^3. All these values are within the specified limit of PM_{10} given by CPCB (100 µg/m^3).
- The average concentration of $PM_{2.5}$ recorded ranged from 23 µg/m^3 to 29 µg/m^3. All these values are within the specified limit of $PM_{2.5}$ given by CPCB (60 µg/m^3).
- The average concentration of SO_2 recorded ranged from 8.7 µg/m^3 to 9.1 µg/m^3. All these values are within the specified limit of CPCB (80 µg/m^3).
- The average concentration of NO_X recorded ranged from 18.1 µg/m^3 to 19.2 µg/m^3. All these values are within the specified limit of CPCB (80 µg/m^3).
- The average concentration of CO recorded at 8 locations were from 0.763 mg/m^3 0.914 mg/m^3.
- The average concentration of VOC recorded below detection limit.

1.7.5 Noise Environment

Monitoring of noise is done by identifying suitable number of noise quality monitoring locations. Background noise quality is monitored in dB (A) Leq (d) and dB (A) Leq (n) at the selected locations:

Sr. No.	Location	Source	Lat.	Long.	Dist. In Km	Dir.	Day Time	Night Time
NL01	At Project Site (Main Gate)	Industrial	19°49'51.00"N	73°40'35.00"E	---	---	64.6	56.2
NL02	At Project Site (ETP Area)	Industrial	19°49'28.00"N	73°41'03.00"E	---	---	55.4	50.7

Sr. No.	Location	Source	Lat.	Long.	Dist. In Km	Dir.	Day Time	Night Time
NL03	At Project Site (NW boundary)	Industrial	19°49'56.97"N	73°40'34.95"E	---	---	64.6	56.2
NL04	At Project Site (Boiler area)	Industrial	19°49'52.07"N	73°40'39.75"E	---	---	55.4	50.7
NL05	At Project Site (Pump house)	Industrial	19°49'47.00"N	73°40'39.00"E	---	---	66.5	60.4
NL06	Adjacent residential area	Residential	19°50'0.22"N	73°40'31.54"E	1.5	NE	72.8	64.5
NL07	Gonde Dumala village	Residential	19°49'41.78"N	73°40'57.85"E	0.5	SW	67.9	62.3
NL08	Near Restaurant	Residential	19°49'44.50"N	73°40'31.64"E	4.6	N	54.5	44.8

1.7.6 Ground Water

Ground water samples were collected from 8 different locations covering the entire study area and analysed for all the 29 Nos. of parameters stipulated in the IS 10500 (2012) standards. The ground water samples were collected in December 2019

Sample Id	Sampling Locations	Co-ordinates	Aerial Distance from Project Site (in km)	Aerial Direction from Project Site	Source
GW 1	Gonde	19° 49′ 37″ N 73° 40′ 40″ E	0.20	South	Dugwell
GW 2	Murambi	19° 50′ 28″ N 73° 38′ 20″ E	4.00	WNW	Dugwell
GW 3	Wadivarhe	19° 51′ 42″ N 73° 40′ 55″ E	3.25	North	Dugwell
GW 4	Sanjegaon	19° 49′ 33″ N 73° 36′ 36″ E	7.05	West	Dugwell
GW 5	Mukane	19° 48′ 32″ N 73° 39′ 25″ E	3.05	SSW	Dugwell
GW 6	Belgoan	19° 49′ 30″ N 73° 42′ 45″ E	3.70	East	Dugwell
GW 7	Nandur vaidya	19° 49′ 10″ N 73° 43′ 21″ E	4.80	ESE	Dugwell
GW 8	Janori	19° 48′ 43″ N 73° 42′ 18″ E	3.50	South East	Dugwell

Observations

- From the observation of the distribution of Total Dissolved Solids Content (TDS) in ground water which is ranging from (132-415 mg/l), shows that the TDS concentrations are within acceptable limit in all samples
- EC values appears high in all samples and values ranges from 210-741 mg/l.
- Total Hardness is above the acceptable limit in GW 2, GW 5, GW 6, GW 7 & GW 8
- Total Nitrogen is found above the acceptable limit in all samples except GW 3
- In general, total coliform is absent in ground water. The presence and total coliform in ground water may indicates hydraulic connection between top soil cover with underneath aquifer.
- The presence of Total nitrogen varying proportion in underneath ground water also supports hydraulic connection and consequent upon leaky conditions of aquifers.

1.7.7 Surface Water

Similarly, surface water samples are also collected from 8 different locations covering the entire study area and analysed for the parameters specified in IS 10500 (2012). The surface water samples were collected in December 2019.

Sample Id	Sampling Locations	Area / Source	Date of Sampling	Latitude	Longitude	Distance (~km)	Direction
SW1	Nr. Mukane	Reservoir	22.12.2019	19°50′57″N	73°40′50″E	1.85	N
SW2	Nr. Sanjegaon	Reservoir	22.12.2019	19°49′28″N	73°36′57″E	6.3	W
SW3	Gonde	River	22.12.2019	19°48′45″N	73°40′15″E	1.9	SSW
SW4	Kurhegaon	River	22.12.2019	19°50′9″N	73°40′39″E	0.36	N
SW5	Ghoti Khurd	Darna River	22.12.2019	19°43′25″N	73°38′20″E	6.0	SE
SW6	Manik Khamb	Darna River	22.12.2019	19°45′20″N	73°38′59″E	7.6	SSW
SW7	Waldevi	Waldevi Lake	22.12.2019	19°49'59.09"N	73°39'32.92"E	6.9	N
SW8	Nandgaon	Darna River Dam	22.12.2019	19°47′16″N	73°43′21″E	6.55	SE

Key Findings

BOD value was observed low at all the locations as DO at all locations has good value

Based on above observations, Quality of all water samples collected belong to class A' Drinking water source without conventional treatment but after disinfection' as per IS 2296

1.7.8 Soil

The soil samples were collected in December 2019

Stn. No	Location	Sampling Date	Lat	Long	Dist. (~km)	Dir.
ST01	At Site	23.12.2019	19° 49' 50.51" N	73° 40' 33.57" E	0	Base
ST02	Gonde	23.12.2019	19° 49' 37.059" N	73° 41' 29.74" E	0.5	S
ST03	Wadivarhe	24.12.2019	19° 51' 52.66" N	73° 40' 26.75" E	3.5	N
ST04	Sanjegaon	24.12.2019	19° 49' 18.90" N	73° 36' 47.35" E	6.6	WSW
ST05	Mukane	23.12.2019	19° 48' 12.57" N	73° 39' 39.01" E	4.8	SW
ST06	Padli Deshmukh	23.12.2019	19° 48' 26.68" N	73° 40' 14.79" E	2.3	S
ST07	Nadurvaidya	23.12.2019	19° 49' 4.72" N	73° 43' 55.36" E	5.8	ESE
ST08	Janori	23.12.2019	19° 48' 21.34" N	73° 41' 58.17" E	3.4	SE

Observations

The analysis of physico-chemical properties of soil samples collected from site and surrounding area indicated that porosity ranged from 46 - 58 % and WHC varied from 40.93 – 55.12 %, while permeability ranged from 8.64 – 37.80 mm/hr. Moderate WHC and porosity is on account of loamy sand to clay loam texture of soils.

The CEC ranged from 22.10 – 39.96 meq/100 g soil, which is a moderate looking to the texture of soils. The EC (0.062 – 0.360 dS/m) was below prescribed limit of < 1.0 dS/m and ESP (3.53 to 4.84) was well within the safe limit of <15.0. The pH ranged from 7.67 – 8.43, indicating that soils are neutral (pH 6.5 to 7.8) to alkaline (pH 7.8 to 8.5) in reaction. Among water soluble cations predominance of Na (0.58 to 1.36 g/kg) was seen followed by Mg (0.16 to 0.58 g/kg), Ca (0.19– 0.40 g/kg) and K (0.02 - 0.19 g/kg). The soil fertility data indicate that organic carbon ranged from 0.34 to 0.56 %, which indicates that nitrogen status is low (<0.50 % OC) to medium (0.50 to 0.75 % OC). The available P (13.1 – 26.5 kg P2O5/ha) was in the low (<28 kg P2O5/ha) category, while available potassium (63 to – 426 kg/ha) was in low (<140 kg K2O /ha) to high (>280 kg K2O /ha) category. Present data are in conformity with the published information (Prasad et al., 1995).

1.7.9 Biological Environment

Wild Life (Protection) Act, 1972, amended on 17th January 2003, is an Act to provide for the protection of wild animals, birds and plants and for matters connected therewith or ancillary or incidental thereto with a view to ensuring the ecological and environmental security of the country.

Some of the sighted fauna was given protection by the Indian Wild Life (Protection) Act, 1972 by including them in different schedules. Among the birds in the study area, Pea fowl (*Pavo cristatus*), is included in schedule I. of Wild life protection Act (1972), while many other birds are included in schedule IV.

Among the reptiles, Common rat snake (Ptyas mucosus), Indian Cobra (Naja naja), are provided protection as per Schedule-II of Wild life protection act, (1972)

Among mammals; Lepus nigricollis (Black-naped hare) are schedule –IV while Muntiacus muntjak (Barking deer) is schedule- III animal of Wild Life Protection act 1972.

List of Reserve forest and distance from site

S. No.	Information/Checklist confirmation	Distance in Km	Direction
1	Reserve forest near Murambi	4.01	WNW
2	Reserve forest near nandangaon	8.45	W
3	Reserve forest near Pimpalad	9.50	N

1.8 Anticipated Environmental Impact Identification, Prediction and Mitigation Measures

1.8.1 Ambient Air

- The maximum 24 hourly average GLC's for PM is observed to be 0.037 µg/m^3. These GLC's are expected to occur at a distance of 500 m from the source towards the SE direction
- The maximum 24 hourly average GLC's for SOx is observed to be 4.72 µg/m^3 These GLC's are expected to occur at a distance of 500 m from the source towards the SE direction.
- The maximum 24 hourly average GLC's for NOx is observed to be 10.08 µg/m^3. These GLC's are expected to occur at a distance of 500 m from the source towards the SE direction

Mitigation Measures

- Closed loop system will be proposed for transfer of liquid / solid raw material from storage / tank farm area to processing areas.
- Attenuation of pollution/protection of receptor through greenbelt/green cover.
- Suitable Air Pollution Control Equipment are already in place at existing air polluting sources and will be installed at proposed boiler.

1.8.2 Noise Environment

During construction phase, operation of earth movers like crane, dumper, roller, bulldozers etc. will be used. The machinery will be used during daytime and will emit noise within permissible limits. Thus, there will not be any adverse impact on nearby habitation due to proposed activity.

Vehicle movement for transportation of materials and work force to the site will cause minor noise emission as the frequency of vehicular movement is few times in a week.

Noise generated from DG Set, pump, incinerator, compressor, boiler etc. will have a permanent effect, if they will work for more hours in a day.

Mitigation Measures

- Acoustic Enclosures on all major equipment in the plant will have to be provided for noise attenuation
- Workers should also be provided with suitable personal protective equipment (PPE) such as earmuffs and earplugs.
- Rotation of workers in the high noise area
- High noise generating areas would be identified and tags marked.
- Green belt will be developed to reduce noise.
- Vehicle trips to be minimized to the extent possible
- Acoustic mufflers / enclosures to be provided in large engines/machinery.
- Equipment to be maintained in good working order.

1.8.3 Water environment

Impact Identification

Ground Water

Source of water for industrial use is tanker so there is no ground water extraction required.

Surface Water

The main impact on water will be due to generation of waste water from process as well as domestic uses.

Mitigation Measures

- Fresh water demand will be optimized by recycling and reuse of treated water through recycle and reuse system.
- For greenbelt, development of native species will be done to optimize the water consumption.
- Use of spill control measures and PPE's while handling the chemicals as well as during the treatment of liquid and solid waste.
- Separate drainage for storm water and effluent will be provided to avoid any contamination of surface water sources.
- Chemical and fuel storage, handling areas will be provided with proper bunds to avoid runoff contamination during rainy season

1.8.4 Soil Environment

Based on the impacting activities and their impacts over the soil quality, it has been observed that the soil quality get impacted by activities like excavation work, transportation and storage of chemicals

Mitigation Measures

- During excavation there may increase in soil erosion, level the soil by cutting & filling
- Top soil loss due to excavation, store the soil for landscape
- Spillage of construction material may affect soil quality
- Spillage of liquid and solid hazardous wastes may affect soil quality, disposed it off at the earmarked site

1.8.5 Ecology & Biodiversity

Impact Identification

Clearance of vegetation, disposal of construction waste, handling of hazardous waste and spillage of chemical will cause impact on site specific terrestrial flora.

Air emission from process including VOC and pigment dust and transportation will cause impact on flora and fauna in nearby areaMitigation Measures.

Mitigation Measures

Thick Green belt will be developed around project site to avoid any such depositions outside the project premises. Gas absorbing plant species (OGE – Absorb Gas emission) will be planted along with dust absorbing broad leaf species.

1.8.6 Socio-Economic Environment

Project proponent may provide educational aid to local villages based on need and request from the village Panchayat.

The roads connecting to the villages will be repaired at regular interval by the project proponent.

The project proponent will provide employment opportunities to the local people of the villages.

1.9 Environmental Management Plan (EMP)

The Environment Management Plan (EMP) is prepared with a view to facilitate effective environmental management of the project, in general and implementation of the mitigation measures in particular. The EMP provides a delivery mechanism to address potential adverse impacts and to introduce standards of good practice to be adopted for all project works. For each stage of the programme, the EMP lists all the requirements to ensure effective mitigation of every potential biophysical and socio-economic impact identified in the EIA. For each impact or operation, which could otherwise give rise to impact, the following information is presented:

Role of SPL and its contractors;

- A comprehensive listing of the mitigation measures (actions) that Shalimar Paints Limited shall implement;
- The parameters that shall be monitored to ensure effective implementation of the action;
- The timing for implementation of the action to ensure that the objectives of mitigation are fully met.
- Specifically project related management plans has been prepared for air, water, noise, soil, ecology and biodiversity, occupational health and socio-economic conditions

1.10 Environmental Monitoring Plan

Environmental monitoring plan is given below.

S. No.	Parameters	Measurement Methodology	Frequency	Location	Data Analysis	Reporting Schedule	Fixed Cost, INR	Recurring Budget in INR
A	Air							
1	Ambient air monitoring of parameters specified by MPCB consents from time to time (PM_{10}, $PM_{2.5}$, SO_2, NOx)	IS 5182 & CPCB Guidelines Vol. 1 (Gravimetric Method)	Once in Quarter	At Site	Comparison with specified limits and previous baseline data of the area if available	Compliance report of EC to MOEF&CC on 6 monthly and Compliance report of consent to MPCB in case on new application or as per requirement Reports to be sent to top management and the process manager as well.	-	5000 per location X 4 = 20,000 per Annum
2	Stack monitoring of parameters specified by MPCB consents from time to time	Stack monitoring by Isokinetic sampling IS: 11255.	Once in a month	Flue gas stacks	Comparison with specified limits in MPCB consents	Compliance report of EC to MOEF&CC on 6 monthly and Compliance report of consent to MPCB in case on new/expansion/renewal application or as per requirement Reports to be sent to top management and the process manager as well.	-	2250 per stack X 3 Stack X 12 months = 81,000 per Annum
Water								

S. No.	Parameters	Measurement Methodology	Frequency	Location	Data Analysis	Reporting Schedule	Fixed Cost, INR	Recurring Budget in INR
3	Maintaining record of water consumption and wastewater generation	SOP of maintaining record of flow meter for water consumption and wastewater generation	Daily	Near fresh water consumption tank and treated effluent collection tank	Comparison with allowed water consumption and effluent generation as per Consents	Compliance report of EC to MOEF&CC on 6 monthly and Compliance report of consent to MPCB in case on new/ expansion/ renewal application or as per requirement Reports to be sent to top management and the process manager as well.	-	Plant staff will maintain the record
4	Monitoring of industrial effluent of parameters	APHA : 23rd Edition, 2017	In house– Daily Once in a month	Inlet and out let of ETP	Comparison with design parameter of inlet of ETP and RO/MEE	Reports to be sent to top management and the process manager as well.	Inhouse lab	1800 per sample x 2x 12 = 43,200/-
	Analysis of sewage water	APHA : 23rd Edition, 2017	In house– Daily Once in a month	Inlet and outlet of STP	Comparison with specified limits in MPCB consents	Reports to be sent to top management and the process manager as well.	In house lab	1800 per sample x 2x 12 = 43,200/-
5	Ambient Noise level	IS 9989 : 1981	Once in a month	5 locations	Comparison with specified limits	Compliance report of EC to MOEF&CC on 6 monthly and Compliance report of consent to MPCB in case on new/expansion/renewal application or as per requirement	-	1000 X 5 x 12= 60000 per Annum

S. No.	Parameters	Measurement Methodology	Frequency	Location	Data Analysis	Reporting Schedule	Fixed Cost, INR	Recurring Budget in INR
7	Workplace air monitoring		Once in a month	5 locations at site	Comparison with specified limits			VOC: 1800 X 5 X 4 = 36000/- per annum Dust: 900 X 5 X 4 = 18000/- per annum
	Hazardous Waste							
9	Maintaining record of Hazardous Waste Generation, Storage and Disposal	SOP of Hazardous waste management	Maintain hazardous waste generation, disposal and stock data as and when generated and disposed.	Hazardous waste storage facility	Comparison of quantity with permitted limit as per Consent	Form-4 & Form-5 annually to MPCB. Compliance of Consent to MPCB, reporting to higher authority as per company procedure Reports to be sent to top management and the process manager as well.	-	Will be done by inhouse staff only
11	Greenbelt development	As per CPCB Guideline	Regular	At site	Survival rate, water consumption	Compliance report of EC to MOEF&CC on 6 monthly and Compliance report of consent to MPCB in case on new/expansion/renewal application or as per requirement Reports to be sent to top management and the process manager as well.		Mentioned Seperately

S. No.	Parameters	Measurement Methodology	Frequency	Location	Data Analysis	Reporting Schedule	Fixed Cost, INR	Recurring Budget in INR
12	Readyness for Emergency Responce	Conduct mockdrill in presence of observer	Once in a year	Various location in mining area	Mockdrill report for identifying deficiency and opprotunities for improvement	Mock drill report sent to Management as and when mock drill conducted	-	10,000/- (Cosumables)