Executive Summary

1.Introduction

M/s. Silicone International Products is a leading international organization specialized in Silicone fluid manufacturing and distribution to the leading multinational & domestic companies.

The Proposed project is located at Khopoli-Pen Road, Pali Phata, Village- Dahivali, Taluka- Khalapur, District- Raigad, Maharashtra- 410203 and has been engaged silicone fluid manufacturing at the above address.

1.1 PROJECT DESCRIPTION

M/s. Silicone International Products existing plant is located at Survey Nos. 34/5A-2, 34/5B-2, 36/2-B, Khopoli-Pen Road, Pali Phata, Village- Dahivali, Taluka- Khalapur, District- Raigad, Maharashtra with a plot area of 2477 m^2.The industry produces silicone fluid @ 150 MT/M according to latest Consent CTO vide order No:- **Format1.0/AS(T)/UAN No. MPCB - 0000152461/CR/2304001301** dated **20.04.2023** granted by Maharashtra State Pollution Control Board. The plant was established with CTE (Consent No. BO/PCI-I/RO Raigad- 49/E/CC-/60 dated 24.11.2005 and started operation with CTO (Consent to Operate) BO/WPAE/Raigad-108/CC-468 dated 31.07.2003.

Now the industry proposes for the expansion of Silicone fluid with increase in land area by including the abutting area of Survey Nos. 34/1,2,3,4- B2, 35/1-2 35/2 at Khopoli-Pen Road, Pali Phata, Village- Dahivali, Taluka- Khalapur, District- Raigad, Maharashtra. The total land area will be increased to 22272 m^2 after expansion. The project is involved in the Synthetic Organic Chemicals expansion of the existing Silicone Fluid manufacturing unit, as silicone fluid falls under the proposed expansion under Schedule Activity "5(f)". The project is located outside the Notified Industrial Area, hence it falls under Category "A" of the EIA Notification, 2006 and its subsequent amendments.

Production Capacity

The proposed expansion will increase the production capacity of silicone fluid capacity 150 MT/M to 750 MT/M.

1.2 About the Project

The project is involved in the Synthetic Organic Chemicals expansion of the existing Silicone Fluid manufacturing unit, as silicone fluid falls under the proposed expansion under Schedule Activity 5(f). The project is located outside the Notified Industrial Area, hence it falls under Category A of the EIA Notification, 2006 and its subsequent amendments.

The proposal for the Terms of Reference was submitted and accordingly the project was granted Terms of Reference from MoEF & CC vide File No.: IA-J-11011/436/2023-IA-II(I) dated 13/12/2023. As per the Standard TOR issued, an EIA study was undertaken during the monitoring period October 2023 to December 2023 and the report is compiled and is being submitted to MPCB towards conducting Public Hearing.

1.3 Location & Accessibility

Location: Survey No. 34/5A-2, 34/5B-2, 36/2-B, 34/1,2,3,4- B2, 35/1-2 35/2 Khopoli-Pen Road, Pali Phata, Village- Dahivali, Taluka- Khalapur, District- Raigad, Maharashtra- 410203.

Latitude: 18°47'34.19"N

Longitude: 73°17'21.35"E

Elevation: 80m (MSL)

Environment Sensitivity

Table 1. Environment sensitivity

Particular	Distance	Direction
Water Bodies		
Patal Ganga River	0.42 km	ESE
Bati Lake	3.02 km	SSE
Donvat Reservoir	3.34 km	WSW
Adoshi Dam	4.83 km	SE
Shankar Lake	6.40 km	ESE
Amba River	7.62 km	SSE
Kalote Dam	7.76 km	N
Vichare Lake	8.91 km	SSW
Ulhas River	9.74 km	ENE
Bhogeshwar River	10.26 km	SW
Western Ghat	3.62 km	NE
Forest		
Reserved Forest near Tambathi	1.95 km	WNW
Reserved Forest near Vadaval	2.70 km	SSW

Particular	Distance	Direction
Reserved Forest near Gaonthan	3.30 km	ESE
Reserved Forest near Khalapur	4.64 km	N
Reserved Forest near Adoshi	5.78 km	SE
Reserved Forest near Khambewadi	6.01 km	SSW
Reserved Forest near Talashi	6.64 km	WNW
Reserved Forest near Nadode	6.99 km	NNW
Reserved Forest near Kalavali	7.70 km	NE
Reserved Forest near Thakurwadi	8.72 km	SW
Reserved Forest near Karambeli	8.84 km	SW
Reserved Forest near Bhageshwar River	9.12 km	SSW
Reserved Forest near Gondhav	9.34 km	SSW
Protected Forest near Katkarwadi	9.35 km	NW
Reserved Forest near Mayani Shedashi	9.90 km	SW

1.4 Project Description

- **Land:** Existing land of the project is 2477 m^2. Now the project is going for expansion with an additional land area of 19795 m^2. So the total area after expansion will be 22272 m^2**.**
- **Water Requirement:**

Source of water : Tanker water supply

Existing Phase: The total water requirement for the existing project is 19.45 KLD, which is mainly used for domestic, plant cleaning, gardening purposes, Floor washing and dust mitigation.
Fresh Water 11.2 KLD, 4.2 KLD used for domestic purposes, 5 KLD used for industrial purposes and 2 KLD used for gardening. The ETP treated water 8.25 KLD, of which 4.25 KLD is used for plant cleaning and 4 KLD used floor mopping & dust mitigation.
Total After Expansion: The total water requirement after expansion will be 56.2 KLD, which is mainly used for domestic, plant cleaning, gardening purposes, Floor washing and dust mitigation.
Fresh Water will be 38.2 KLD, 6.2 KLD used for domestic purposes, 25 KLD used for industrial purposes and 7 KLD used for gardening. The ETP Treated water is 18 KLD, of which 7 KLD will be used for plant cleaning and 11 KLD will be used for floor mopping & dust mitigation.

Wastewater Generation & management:

Existing Phase - Total wastewater generated from domestic is 3.75 KLD which is being sent to septic tank. 9.25 KLD of effluent is generated from plant cleaning, Floor moping & process

which will be treated in ETP of capacity 20 KLD. from which 8.25 KLD of treated water will be generated and reused within the unit. 1.0 KLD of sludge will be generated which will be sent to TSDF.

After expansion, total wastewater generated from domestic is 5.5 KLD which will be treated in STP of capacity 6 KLD, 0.5 will be the sludge (used as manure for gardening) & 5 KLD of treated water will be used for gardening purposes. 20 KLD of effluent will be generated from plant cleaning, Floor moping & process which will be treated in ETP of capacity 25 KLD. from which 18 KLD of treated water will be generated and reused within the unit. 2.0 KLD of sludge will be generated which will be sent to TSDF.

- **Power Requirement:**

Demand & Source of Power: The total power requirement for the existing project is 2100 MW, there will be an additional 300 MW power requirement due to the proposed expansion. So, total power requirement after expansion will be 2400 MW, sourced from the Maharashtra State Electricity Board (MSEB). Also, the firm has installed 334 solar panels with a capacity of 150 kVA for generating energy in a sustainable way.

- **DG Sets:** D.G. Set capacity which was 1 Nos. x 125 kVA will be expanded to 1 Nos. x 500 kVA and will be used as a standby facility to fulfill the power requirements during emergency for the overall project.
- **Fuel: Existing - Coal -** 3.84 MT/Day**, Proposed Fuel - Coal -** 1.17MT/Day
  For DG set after Expansion - HSD - 45 Lt./Hr.
- **Manpower:** During the existing phase skilled & unskilled manpower is 20 Nos., after expansion, skilled & unskilled manpower will be 70.
- **Pollution Source & Mitigation Measures:** Pollution sources from the project will be air & noise emission, wastewater generation and Solid & Hazardous waste. The following are envisaged under the project:
- **Air Pollution & Air Quality:** Fuels such as HSD, to be combusted under the proposed new Thermic Fluid Heater, APCS like Dust Collector & Economizer with TFH with stack height will be used . The increment of flue gas emission sources, process emission sources, increment in nos of raw material vehicular movement, leads to increment of emissions of particulate matter, sulphur dioxide (SO_2), nitrogen oxides (NOx) and dust. D.G is set to be on standby mode for emergency purposes, so emission from these sources will not have a significant increase in the quantity of air pollutants. Incremental emission of air pollutants such as PM_{10}, SO_2, NO_x to be controlled through proposed air pollution control measures like 2 stage water scrubber followed by Alkali Scrubber, Dust collector & Economizer, water sprinkling etc.
- **Noise Generation:** The major activities which would have an impact on the environment would be operation of machinery and transportation. The aspects of the activities would

be an increase in noise level and increased noise generation which could lead to physiological and psychological problems to workers and nearby population, increased vibration in the nearby areas and an indirect decrease in the biological diversity in the nearby area. To minimize such impacts, mitigation measures like restriction of activities in the limited project area, proper maintenance of equipment and machinery, maintenance of noise barriers, provision of protective devices like earmuffs, compactors, silencers etc., installation of plantation area in the nearby area, provision of No-Honking Zone in the area, maintenance of vehicular and traffic movement etc. would be adapted in the project site.

- **Solid Waste Generation:** During existing phase 1.1 TPA of solid waste is generated. Out of which, organic waste (Biodegradable) is 0.66 TPA & Non biodegradable waste generated is 0.44 TPA. After expansion solid waste generation will be 5.74 TPA, out of which organic waste will be 3.0 TPA & Non biodegradable waste will be 2.08 TPA. Non-Biodegradable wastes like plastic, paper and glass will be sold to authorized recyclers. Biodegradable wastes will be disposed of by inhouse OWC and will be used as manure for greenbelt development.
- **Hazardous Waste** - During existing phase, Process Residues - 142.5 MT/A, Chemical sludge from wastewater treatment -1.25 MT/A, Spent Catalyst - 3.75 MT/A, Empty barrels /containers /liners contaminated with hazardous chemicals /wastes -75 No./A.
  After expansion - Process Residues - 712.5 MT/A, Chemical sludge from wastewater treatment - 6.25 MT/A, Spent Catalyst - 18.75 MT/A, Empty barrels /containers /liners contaminated with hazardous chemicals /wastes - 375 No./A, Fillers and Salts -5,016 MT/A. Hazardous waste will be disposed off by CHWTSDF or sold to authorized vendors

1.5. DESCRIPTION OF THE ENVIRONMENT

Study Period:

Monitoring was carried out in the Post monsoon October 2023 to December 2023.

Ambient Air Quality: The ambient air quality results are summarized below.

Core zone: The value of PM_{10} at two core zone locations ranges from (58.69 to 88.33 µg/m^3) & $PM_{2.5}$ ranges from (27.73 to 43.45 µg/m^3), SO_2 ranges from (9.87 to 15.48 µg/m^3), NO_2 ranges from (20.34 to 34.58 µg/m^3), CO (1.11 to 1.80 mg/m^3), VOC (1.26 to 1.64 mg/m^3), HCl (2.78 to 4.72 mg/m^3) and THC (3.03 to 5.14 mg/m^3), NH3 (1.67 to 3.39 mg/m^3) , NHMC (0.67 - 1.13 mg/m^3)which are within the limits of National Ambient Air Quality Standards (NAAQS).

As per the Air Quality Index by CPCB, the air quality of the core **zone is found to be Satisfactory** during the sampling period - October 2023 - December 2023.

Buffer zone: The value of PM_{10} ranges from (56.34 to 109.77 µg/m^3), $PM_{2.5}$ ranges from (26.62 to 53.99 µg/m^3), SO_2 ranges from (9.47 to 19.24 µg/m^3), NO_2 ranges from (19.53 to 42.97 µg/m^3), CO ranges from (1.06 to 2.23 mg/m^3), VOC ranges from (1.21to 2.66 mg/m^3), HCl ranges from (3.11to 5.86 mg/m^3) and THC ranges from (2.91 to 6.39 mg/m^3) NH3 (1.60 to 31.59 mg/m^3) , NHMC (1.41 - 31.59 mg/m^3)which are within the limits of National Ambient Air Quality Standards (NAAQS). As per the Air Quality Index by CPCB the air quality of the buffer zone out of 8 locations 5 is found to be Satisfactory and 3 locations found to be moderate during the period - October 2023 - December 2023.

Ambient Noise Quality:

Core Zone :

The ambient noise level during day time at the proposed project site varies from 64.2 dB (A) to 65.8 dB (A) which are within the day time standard limit of Industrial area ~75 dB (A). During night the noise level at the project site ranges from 57.8 dB (A) to 58.2 dB (A) which are within the night time standard limit of Industrial area 70.0 dB (A).

Buffer Zone:

Residential Area:

N3: The ambient noise level at Dhahiwali is 56.5 dB (A) which is within the daytime noise standard limit of the Residential area of ~ 55.0 dB (A). During the night the noise level was recorded at 46.3 dB (A) which is within the night-time noise standard limit of ~ 45.0 dB (A).

N4: The noise level at Sarsan is 53.7 dB (A) which is within the daytime noise standard limit of ~ 55 dB (A). During the night the noise level was recorded at 44.7 dB (A) which is within the night-time noise standard limit of ~ 45 dB (A).

N5: The ambient noise level at Devnhave is 53.9 dB (A) which is within the daytime noise standard limit of the Residential area of ~ 55.0 dB (A). During the night the noise level was recorded at 44.2 dB (A) which is within the night-time noise standard limit of ~ 45.0 dB (A).

N6: The ambient noise level at Savroli is 56.2 dB (A) which is slightly higher than the daytime noise standard limit of Residential area ~ 55.0 dB (A). During the night the noise level was recorded at 45.2 dB (A) which is slightly higher than the night-time noise standard limit of ~ 45 dB (A).

N7: The noise level at Tambati is 54.8 dB (A) which is within the daytime noise within the standard limit of Residential area ~ 55 dB (A). During the night the noise level was recorded at 44.5 dB (A) which is within the night-time noise standard limit of ~ 45 dB (A).

N8: The noise level at Dheku is 56.8 dB (A) which is slightly higher than the daytime noise within the standard limit of Residential area ~ 55.0 dB (A). During the night the noise level was

recorded at 46.8 dB (A) which is slightly higher than the night-time noise standard limit of ~ 45 dB (A).

Commercial Area:

N9: The noise level at Mumbai-Pune highway is 73.4 dB (A) which is higher than the daytime noise within the standard limit of Commercial area ~ 65.0 dB (A). During the night the noise level was recorded at 69.7 dB (A) which is slightly higher than the night-time noise standard limit of ~ 55 dB (A).

N10: The noise level at Approach road is 65.7 dB (A) which is slightly higher than the daytime noise standard limit of Commercial area ~ 65.0 dB (A). During the night the noise level was recorded at 60.6 dB (A) which is slightly higher than the night-time noise standard limit of ~ 55 dB (A)

Groundwater Quality:

Ground water Quality Monitoring was carried out at 8 locations.

Core zone: The water quality at location GW1 (onsite) shows that all the parameters are within the drinking water standards (IS:10500) except total hardness and magnesium which are slightly higher than the drinking water standards (IS:10500).

Buffer zone: The data shows that all the parameters are within the standard limits & quality shows range of primary characteristics as pH: 6.75-7.05, Total Hardness: 60 mg/l to 328 mg/l, Chlorides: 20 mg/l to 108 mg/l, TDS: 92 mg/l to 640 mg/l. The groundwater quality parameters (buffer zone) are slightly higher than the IS 10500:2012 (Drinking water standard).

Surface water Quality:

Surface Water Quality Monitoring was carried out at 6 locations in the Buffer Zone. As per the samples collected and analyzed from locations SW1, SW2, SW3, SW4 SW5, and SW6 surface water quality is meeting the criteria defined by class "C" as per the CPCB criteria. It is suitable for Drinking water source after conventional treatment and disinfection.

Soil Quality:

Soil Quality Monitoring was carried out at 8 locations and the analysis showed samples in Core Zone have soil texture is Clay, Colour is Dull Reddish Brown, pH is 6.5. The amount of primary nutrients like Organic matter is 0.77%, the available nitrogen 85.4 mg/kg is low to medium and available Potassium 53.7 mg/kg is low to medium & the available Phosphorus 10.8 mg/kg is medium to high range. Thus it can be concluded that soil is average fertile in the core Zone.

In the buffer Zone, colour Dull Reddish Brown, pH ranges from 6.4 to 7.0. Amount of primary nutrients like Organic matter 0.27 to 1.75 %, the Available Nitrogen 54.2 to 106.4 mg/kg is low to medium range, the Available Phosphorus 6.6 mg/kg to 12.4 mg/kg is low to high range, Available

Potassium 18.4 mg/kg to 39.3 mg/kg is low to medium range, Primary nutrient profile shows that soil is average fertile.

Biological Environment:

Flora Core Zone: The core at present is devoid of trees.

Flora Buffer Zone: In Buffer Zone varieties of trees, Varieties trees, shrubs, wild plants, flowering plants such as *Acacia auriculiformis* (Ear leaf Acacia), *Acacia catechu* (Khair), *Acacia nilotica* (Babool), *Anacardium occidentale* (Cashew), *Artocarpus heterophyllus* (Jackfruit), *Bauhinia variegata* (Kanchan), *Dalbergia latifolia* (Shishum), *Delonix regia* (Gulmohar) etc.

Endangered Species: 1. ***Canis aureus (***Jackal***), 2. Hystrix indica (***Indian Porcupine***), 3. Ratufa indica (***Indian Giant Squirrel***), 4. Semnopithecus hypoleucos (***Black-footed Gray Langur***), 5. Vulpes bengalensis (***fox***), 6. Accipiter badius (***shikra***), 7. Pavo cristatus (***Peafowl***), 8. Daboia russelii (***Russell's Viper***), 9. Naja naja (***Cobra***), 10. Ptyas mucosa (***Rat Snake***), 11. Python molurus (***Indian Python***), 12. Varanus bengalensis (***Bengal Monitor***).**

Socio-Economic Environment:

The parameters selected for the baseline information on socio-economic components were demographic structure, infrastructure base in the area, economic structure, health status, and cultural attributes, socio-economic status in relation to quality of life and public awareness & public concern about the project. Relevant information was collected from randomly selected villages. No rehabilitation and resettlement are required. Employment opportunities will be generated for the local population during the construction/installation phase as well as the operational phase. It will provide direct and indirect employment to local youth.

2. ANTICIPATED ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

Air environment

During the installation phase, impacts on ambient air would be mainly due to dust emissions and movement of vehicles. However, these impacts would be short term in nature and limited only to the construction period. Dust suppression systems (water spray) will be used. Construction materials will be fully covered during transportation to the project site by road.

During the operational phase, To prevent emissions, APCS like chimneys (cyclone type dust collector), 2 stage water scrubber followed by Alkali Scrubber, packed column scrubber with stack height of 30 m in accordance with CPCB norms will be provided. Same will be followed for further expansion. All reactors / storage tanks will be connected with scrubbers. Reactor agitator and scrubber blower will be interlocked to ensure scrubber running during manufacturing

activity. Scrubber liquid will be sent to ETP for treatment and scrubbed air let out through a tall stack for effective dispersion.

Specifically, the industry may emit VOCs, toxic pollutants like chlorine, particulate matter, NH3,, HCl, SOx, NOx, CO, and lead to an increase in ground concentration level (GLC), respiratory problems, damage to flora and fauna and aesthetic properties in the environment and increase the level of toxic chemicals to other aspect of environment indirectly.

To mitigate these impacts, measures such as using high-efficiency air pollution control systems like shifting to cleaner fuels like use of natural gas, use of low NOx burner, efficient and sealed systems to prevent accidental release of Cl_2, use of closed production systems to minimize fugitive emissions, ensuring regular equipment maintenance, adopting sealed systems to prevent accidental releases, and implementation of continuous emission monitoring will be adopted. It's essential for each facility to tailor these mitigation measures based on their specific processes, local conditions, and regulations. APCS like ESP, (cyclone type dust collector), wet scrubber, Bag Filter have been installed with adequate stack height to avoid emissions from process pollutants, measures like continuous scrubbing off the fumes with suitable media for production are being done, Plantation of trees, installation of water sprinkling systems and dust compression systems in the nearby areas, provision of proper nose masks to workers, Vehicles with valid PUC certificates will be used for transportation etc. shall be done. Vehicles with valid PUC certificates will be used for transportation of construction material, raw material, waste and finished products.

Water Environment

Existing Phase: The total water requirement for the existing project is 19.45 KLD, which is mainly used for domestic, plant cleaning, gardening purposes, Floor washing and dust mitigation.
Fresh Water 11.2 KLD, 4.2 KLD used for domestic purposes, 5 KLD used for industrial purposes and 2 KLD used for gardening. The ETP treated water 8.25 KLD, of which 4.25 KLD is used for plant cleaning and 4 KLD used floor mopping & dust mitigation.
Total After Expansion: The total water requirement for the existing project is 56.2 KLD, which is mainly used for domestic, plant cleaning, gardening purposes, Floor washing and dust mitigation.
Fresh Water 38.2 KLD, 6.2 KLD used for domestic purposes, 25 KLD used for industrial purposes and 7 KLD used for gardening. The ETP Treated water is 18 KLD, of which 7 KLD will be used for plant cleaning and 11 KLD will be used for floor mopping & dust mitigation.

Land Use

- **Agricultural land:** Based on satellite imagery, topographical maps and ground truth. The land use is mainly agricultural. It is generally synonymous with farm land or cropland, as well as pasture or range land. This also includes agricultural plantations. This is the major

part of within buffer zone. The total agricultural area is about 10285.70 hectares which is 32.08 percent of the total study area.

- **Built-up land:** Built-up land includes the urban settlements, rural settlements and mining area. The village locations and their area extent have been extracted from the existing Satellite Imagery. The major built-up area is about 1844.14 hectares which is 5.75 percent of the total 10 km radius study area.

- **Forest:** Forest land includes the forest area. The major forest area is about 13045.01 hectares which is 40.69 percent of the total 10 km radius study area.

- **Barren land:** Based on satellite imagery and ground truth Waste/ Barren land their area extent has been extracted. The Barren land area is about 6409.38 hectares which is 19.99 percent of the total 10 km radius study area.

- **Rivers/Water Bodies, Wet Land:** It comprises areas of surface water, either impounded in the form of ponds, lakes and reservoirs or flowing as streams, rivers, canals etc. the total area covered by the river or water bodies is 477.62 hectares which is 1.49 percent of the total study area.

Noise Levels

Some amount of noise will be generated from vehicular movement in the installation/construction. Green belts developed at the periphery of the project site have already developed which will act as a barrier to noise. Machines having high standards shall be deployed so that minimum levels of noise & vibrations are produced during the construction work with excavators having vibration isolators. Silencers provided in the machines to modulate the noise generated by machines will be regularly checked for its effectiveness. For noise pollution control, the D.G. sets will be kept in an acoustically treated room. Noise generating units like machinery areas etc. are well insulated with enclosed doors. Earmuffs will be used while in high noise areas. Stationary machineries and equipment will be properly enclosed by enclosures and vibration pads for minimising noise generated due to vibration of machineries.

Solid and Hazardous Waste

The major activities which would have a probable impact on the environment would be manufacturing process of product, operation of machinery (DG set, Thermic Fluid Heaters, etc), handling of raw material, transportation of raw material, finished product and waste and Working and daily activities of laborers, staff and workers. Hazardous waste like ETP sludge, Used oil, Discarded containers, Organic Residue,, Inorganic salts, Ash,, , sent to common TSDF site for further treatment, reused in process, sold to MPCB authorized dealer or disposed to landfill site.

The aspects of the activities would be generation of solid, hazardous and recyclable wastes, oil & chemical spillage and accidental leakage which would impact in degradation of quality of waste which would be used for further treatment, harmful emissions and spread to other parameters of environment, nuisance among the workers and nearby population, Improper hazardous waste disposal if comes in contact with human body may cause skin irritation and could be flammable also, generation of ETP sludge, and used oil. To minimize such impacts, mitigation measures like proper collection of waste. After expansion, All the solid waste will be collected in a segregated manner. Biodegradable waste will be treated in OWC and Non-Biodegradable waste will be given to authorized recyclers.

Procedures for proper storage, handling, transferring and processing will be made to ensure that the risk is minimized and clean-up response is rapid if any spill occurs. The tankers, drums etc. would be ISO approved and as per the specifications of internationally approved vendors so as to minimize any spillage etc. therefore there would be no impact on soil after this precaution is ensured. Sump will be made and proper channelization of spillage will be made.

Flora and Fauna: Green belt/greenery has been developed along most of the periphery of the project area as well as along roads. Out of the total plant area; 45.6 % (10148 m^2) of the area will be developed as greenbelt in order to reduce dust and noise pollution levels and to increase aesthetic beauty of the area

Socio-economic Environment: No rehabilitation and resettlement are required. Employment opportunities will be generated for the local population during the construction/installation phase.Total manpower of 70 people (20 nos. - existing and 50 nos. - for proposed expansion) will lead to a rise in income and improve standard of living. The expansion of existing industry would also generate jobs for the labourers during the construction phase as well as during the operation phase. It will provide direct and indirect employment to local youth.

3. ENVIRONMENTAL MONITORING PROGRAMME

M/s Silicone International Product. will ensure that the environmental performances of all the activities are monitored throughout the execution of the various project activities. Monitoring will include all the aspects and parameters related to the process emissions from the manufacturing process, storage area, work zone area, quantities of waste generated, effluent generation and its characteristics, Environmental quality of components like Air, water, Soil, Noise are being verified that they meet the prescribed standards. Occupational health and safety monitoring will include Effective Health and safety management of the workers engaged, periodic health check up, reporting of all the incidents in the plant during the installation and operation phase. All the reports will be periodically submitted to the concerned regulatory authorities as compliance, audit reports.

4. ADDITIONAL STUDIES

The project is situated in the Seismic zone-IV area. For pesticide manufacturing units, all practicable measures shall be taken to prevent outbreak of fire and its spread, both internally and externally. The chemicals shall be stored in a separate safety storage room, shall be kept away from sources of ignition. All measures shall be taken as per law.

General safety measures

- Occupational health surveillance programmes will be done six monthly & and their records will be well maintained.
- At the project site an emergency First Aid facility will be provided. A room will be provided separately with provision of bed and an experienced doctor.
- Health check-up camps will be organised on a regular basis at company dispensary / nearby locations for nearby people to evaluate exposure of the workers to chemicals during pre-placement and periodic medical monitoring.
- Prior to working with chemicals, workers will be trained on its proper handling & storage and its MSDS.
- Proper medical facility arrangements will be provided in case of any accidental release.
- Label Precautions and First Aid facility will be provided.
- Emergency plans will be prepared and a mock drill of the on-site emergency conducted.
- Employers and employees will be made aware of the hazardous properties of materials in their workplaces, and the degree of hazard each poses.
- Inspection of the industrial activity will be done at least once a year and an annual status report on compliance with the Rules will be submitted.
- An Environment, Health and Safety (EHS) Manager will be available, which handles all the safety issues related to man, machine & materials.
- Exterior refuge or safe areas include parking lots, open fields or streets which will be located away from the site of the emergency and which provide sufficient space to accommodate the employees.

5. PROJECT BENEFITS

- The benefits due to the proposed project are given below:
- The industry will spent Rs. 10.80 lakhs towards social activities
- The proposed industry will lead to a rise in income and improve standard of living. The industry would also generate jobs for the labourers during the construction phase as well as during the operation phase. It will provide direct and indirect employment to local youth.
- Additional employment opportunities will lead to a rise in income and improve standard of living. Setting up of industry would also generate jobs for the labourers during the

construction phase as well as during operation phase. It will provide direct and indirect employment and training to local people.

6. ENVIRONMENT MANAGEMENT PLAN

The effective management system involves proper and regular monitoring of the environment components for continual improvement. Based on the project descriptions and the activities associated, the Environment Management plan has been prepared for all the valued Components for which the Budget of Rs. 25.85 lakhs as capital cost & Rs 5.14 Lakhs/year as recurring cost has been proposed by the M/s Silicone International Products. Work zone monitoring shall be carried out by the HSE department every month for gaseous pollutants and dust. Records will be kept in standard Form as per Factories Rules. Location for sampling shall be identified. Quarterly and half yearly monitoring will be done by 3rd party during the operation phase.

Existing Project Cost: **INR 1177.09 Lakhs**

Proposed Cost for Expansion: **INR 1001.55 Lakhs**

So, total cost of the project after expansion- **INR 2178.64 Lakhs.**

i) Capital Cost

Table 2. Capital Expenditure

Sr. No.	Particulars	Existing	Proposed	After Expansion
		INR in Lakhs		
1	Air Pollution Control System	0.70	11.45	12.15
2	Water pollution control	9.0	1.0	10.0
3	Noise Control System	0.50	0.15	0.65
4	Green Belt Development	0.20	0.35	0.55
5	Environment Monitoring and Management	1.0	0.2	1.2
6	Rainwater harvesting	0.1	0.1	0.2
7	Occupational Health & Safety	1.0	0.1	1.1
Total		**12.5**	**13.35**	**25.85**

ii) Recurring Cost

Table 3. Recurring Expenditure

Sr. No.	Particulars	Existing	Proposed	After Expansion
		INR in Lakhs		
1	Air Pollution Control System	0.14	2.29	2.43
2	Water pollution control	1.8	0.2	2
3	Noise Control System	0.1	0.03	0.13
4	Green Belt Development	0.04	0.04	0.08

Sr. No.	Particulars	Existing	Proposed	After Expansion
		INR in Lakhs		
5	Environment Monitoring and Management	0.2	0.04	0.24
6	Rainwater harvesting	0.02	0.02	0.04
7	Occupational Health & Safety	0.2	0.02	0.22
Total		**2.5**	**2.64**	**5.14**

ii) Budgetary provision for Corporate Environment Responsibility (CER):

Table 4. CER Expenditure

Sr. No.	Proposed Activity	Investment (In INR Lakhs)
1.	● Plantation of trees in nearby area ● Solid waste management facility in a nearby area.	1.20
2.	**Health:** Free health checkup camp in a nearby area.	1.65
3.	**Education:** ● Scholarship to Poor & Meritorious students. ● Provision of furniture, study material, uniform.	2.85
4.	**Sustainable Livelihood:** ● Skill development programs for Youth & women. ● Promotion of solar use and distribution of LEDs. ● Organizing camps for agricultural related queries of farmers.	1.20
5.	**Infrastructure Development:** ● Development of the Drinking Water Facility, Provision of public sanitation facilities. ● Installation of rainwater harvesting.	1.35
6.	**Miscellaneous:** ● Promotion of social welfare and cultural events.	2.55
	Total	**10.80**

7. CONCLUSION

The proposed activities will be carried out on the land area of 22272m^2 owned by M/s Silicone International Products Also the unit is located in the non notified Industrial area i.e. Khopoli-Pen Road, Pali Phata, Village- Dahivali, Taluka Khalapur, District- Raigad, Maharashtra. Thus it can be concluded that the proposed project will not have any major impacts, which can lead to serious issues to environmental pollution or any hazards with the implementation of the mitigation measures and Environmental Management Plan.