EXECUTIVE SUMMARY

of

R E I A

Prepared for

M/s Chaitanya Biologicals Pvt. Ltd.

(*Expansion in Nutraceuticals Manufacturing unit*

with addition of Intermediates & APIS)

at

Mouza Belad,

Tehsil Malkapur, Dist - Buldhana,

Maharashtra-443101

by

M/s Oasis Environmental Foundation

1. PROJECT DESCRIPTION

Chaitanya Biological's Private Ltd has proposed to add products like API & Intermediates in their existing Nutraceutical Plant for which this report has been prepared. CBPL intend to manufacture active pharmaceutical ingredients. These are qualitative in nature and can be customized as per the specifications of their clients.

1.1 Location

This Industrial project is located at Mouza Belad, Tehsil Malkapur, Dist - Buldhana, Maharashtra. The environmental setting around the proposed site is given in **Table-1.1.**

Table-1.1: Environmental Setting of the Proposed Project

Sr. No.	Particulars	Details
1	Latitude	20^0 53'35'92"N
2	Longitude	76^0 12'54'00" E
3	Elevation	14 m Above MSL
4	Nearest City / Town	Malkapur 1.5 km
5	Nearest Highway	200 M (NH-6)
6	Nearest Railway Station	Malkapur 1.5 km
7	National Park / Wildlife Sanctuary	Nil in 10-km radius
8	Reserve Forests	Nil in 10 km radius
9	Seismic Zone	Zone-II

1.2 Project Requirements

Table 1.2 : Project Requirement

#	Project Requirement	Details
1	**Total Land Area**	9.5 acres.
2	**Capacity** **Existing** **Proposed**	 40 TPM 20 TPM
3	**Type of project**	Expansion in Nutraceuticals manufacturing unit with addition of Intermediates & APIS
4	**Water requirement** (Existing + Proposed)	 68 KLD (Fresh Water) 30 KLD (Recycled water)
4	**Expansion Cost**	1.69 Cr

1.3 List of products

Sr. No.	Product	Capacity
A	**List of Existing Products**	2.5 TPD Maximum production of one or more project as per market order
1	Ferrous Glycine Sulphate	
2	Ferrous Amminoate	
3	Ferrous Bis Glycinate	
4	Peptone's/Tryptone (Bacteriological Media Ingredients)	
5	Iron (III) Hydroxide Polymaltose Complex	
6	Iron (III) Hydroxide Polysucrose Complex	
7	Iron (III) Hydroxide Polysaccharide Complex	
8	Glucosamine Hydrochloride	
9.	Glucosamine Potasium Sulphate	
10	Glucosamine Sodium Sulphate	
11	Methyl Sulphonyl Methane	
12	Aloe vera	
13	Chitosan	
14	Malt Extract	
B	**List of Proposed Products**	
15	Iron Protein Succinylate	
16	Ferric Pyrophosphate	
17	Ferrous Ascorbate	
18	Calcium Fumarate	
19	Calcium Aspartate	
20	Calcium Pidolate	
21	Ferric Gluconate	
22	Iron Caseinate	
23	Sodium Ferric EDTA	
24	Casein Purrified	
25	Casein Protein Hydrolysates	
26	Casamino Acid	
27	Yeast Extract Bacteriological Grade	

2. DESCRIPTION OF THE ENVIRONMENT

2.1 Present Environmental Status & Data Collection

Table 2.1: Data Collection Details

Parameter	Locations for data collection	Source
Meteorology	1 location	Primary & Secondary
Air Quality	6 locations	Primary
Water	6 locations	Primary
Soil	4 locations	Primary & Secondary
Noise Level	4 locations	Primary
Ecology	Study Area	Primary & Secondary
Landuse	Study Area	Primary & Secondary
Socio- Economic	Study Area	Secondary

2.2 Meteorological

Wind Speed/Direction

Predominant wind direction was observed NE during study period.

Relative Humidity

Climate of District Buldhana can be generally classified as warm and moderately humid. Relative humidity ranges from 25 % in April to 30 % in July.

Temperature

Annual Mean Maximum Temperature: 30.8 °C

Annual Mean Minimum Temperature: 20.0 °C

Rainfall

Total Mean Annual Rainfall: 796.6 mm

2.3 Ambient Air Quality

Ambient air quality monitoring has been carried out with a frequency of two days per week at all locations for study period from Feb to April 2013. Ambient Air Quality Monitoring (AAQM) stations were set up at six locations with due consideration to the above mentioned points. The range of average values of the pollutants is as below.

Parameters	Range of Pollutant Present	Unit
SO_2	7.8 – 18.20	$\mu g/m^3$
NO_X	11.80 – 18.50	$\mu g/m^3$
PM-10	21.10 – 62.50	$\mu g/m^3$
PM-2.5	12.70 – 29.30	$\mu g/m^3$

2.4 Noise Level

Day Time Noise Levels [(L_{day})]

The noise levels ranged between 44.80 dB (A) to 62.30 dB (A).

Night Time Noise Levels (L_{night})

The noise levels ranged between 26.20 dB (A) to 42.30 dB (A).

2.5 Water Quality

Surface water (2 nos.) and ground water samples (2 nos.) were collected and analyzed for physico-chemical parameters. All parameters were found within the limits for surface water and ground water (drinking water) quality.

2.6 Flora and Fauna

The secondary data of the study area was analyzed particularly with reference to listing of species and assessment of the existing baseline ecological conditions (terrestrial and aquatic) in the study area.

2.7 Demography and Socio –economic Profile

As per 2001 census, the Tehsil Malkapur, Dist Buldhana consists of 1,58,186 persons. The distribution of population in the study area is given in table-3.15. The males and females constitute 51.56 % and 48.44 % of the study area population respectively

Table-2.2 Distribution of Population

Particulars	Study Area
No. of Households	31137
Total Population	1,58,186
Male Population	81,564
Female Population	76,622

Source: District Census Hand Book

3. ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

Prediction of impact is carried out based on waste/emission generation from the proposed plants and baseline data collected. The wastewater generation, gaseous emission and their impacts on ambient air, water, noise and soil, due to proposed facilities are given below:

3.1 Wastewater Generation & Mitigation Measures

The wastewater generated from the project is given below with treatment scheme. The total generated wastewater will be treated & reused for garden at maximum extent.

Table-3.1 Wastewater Generation

#	Source	Wastewater Cum/d	Mitigation
1	Domestic	06	Septic tank & soak pit
2	Industrial Wastewater	31.2	ETP, recycled for gardening to maximum extent

3.2 Air Pollution & Control Measures

In the existing plant, there are five stacks and the proposed development; additional 01 stack shall be installed.

Table-3.2 Source of Air pollution and control measures

#	Area of Operation	Air Pollution Mitigation Measures
1.	Boiler	Boiler I – 22 m Stack (Existing) Boiler II – 20 m Stack (Existing) Boiler III- 17 m Stack (Existing)
2.	Hot air Generator	HAG I - 17 m (Existing) HAG II - 17 m (Existing) HAG – 17 m (Proposed)
3.	Scrubber	Stack 08 m Height (Proposed)
4.	D.G (125 KVA)	4.5 m above building roof (Existing)

3.3 Solid Waste Generation & Mitigation Measures

The solid waste generation from the proposed Project is given in **Table-3.3.**

Table-3.3 Solid Waste Generation

Sr. No.	Source	Qty (TPM)	Form (Sludge /Dry / Slurry etc.)	Cate gory	Disposal
1	ETP	0.080	Sludge	33.4	CHWTSDF
2	Process Residue	0.085	Slurry	36.4	CHWTSD/Sale to Authorized Re-processor
3	Empty Containers	100 No	-	33.3	Reuse

⇒ Used oil will be generated from DG sets, machineries during change of oil and it will be given to CPCB authorized dealers.

3.4 Noise Pollution & Control Measures

The effect of the proposed plant on the noise quality of the surrounding area will be very negligible. As a large area has been kept for green belt development and boundary walls trapped the noise. Also regular maintenance of equipments will reduce the noise pollution.

Table-3.4 Noise pollution and control measures

#	Source	Mitigation
1	Rotary equipments	Predictive maintenance of Fans, blowers and compressors.
2	Steam generator	Acoustic system
3	Steam traps and leaking points	Predictive maintenance

4. ENVIRONMENTAL MONITORING PROGRAMME

4.1 Environmental Monitoring

The Post Project Monitoring to be carried out at the project is mentioned below:

Air Pollution and Meteorological Aspects

Both ambient air quality and stack emissions shall be monitored. The ambient air quality shall be monitored once in three months in the work zone by engaging the

services of the laboratory approved by SPCB/MoEF. Similarly, the stack monitoring shall be carried out quarterly and the results shall be reported to the State pollution control authorities.

Wastewater Quality

The wastewater generated from various industrial processes shall be monitored once in a month for physico-chemical characteristics and results reported to SPCB.

Noise Levels

Noise levels near the DG set shall be monitored once in three months.

4.2 COST PROVISION FOR ENVIRONMENTAL MEASURES

Table-4.2 Budget Allocation for Environmental Protection

#	Description	Capital Investment			Recurring Cost
		Existing	Proposed	Total	
1.	Wastewater Treatment Plant	15.0	7.0	22.0	5.0
2.	Air Pollution Control Measures	10.0	5.0	15.0	4.0
3.	Solid & Hazardous Waste Management	5.0	1.0	6.0	1.0
4.	Landscaping	10.0	5.0	15.0	2.0
5.	Environmental Monitoring	2.0	2.0	4.0	2.5
6.	Occupational Health, Fire & Safety	4.0	2.0	6.0	1.0
7.	Rain Water Harvesting	-	5.0	5.0	0.5
8.	CSR activity		5.0	5.0	1.0
	Total	**46.0**	**32.0**	**78.0**	**17.0**

5. ADDITIONAL STUDIES

5.1 Risk Assessment & Management

Risk Assessment

Risk Assessment study covers the following:

- Hazard Identification
- Hazard Unit Identification
- Causes of Risks/Hazards
- Recommendations on the minimization of the worst accident possibilities

Risk Management

This accident scenario has considerable damage potential. In such scenario the following steps should be taken:

- Determine the extent of damage; and
- Undertake all the emergency actions i. e. evacuate the area in vicinity, take all necessary

  actions to avoid escalation of the accident
- Detect the source of leakage/Fire Accident Involving inflammable substances
- If possible, will try to collect the leaking oil in a suitable container
- Use of fire extinguishers to diminish the fire
- In case of fire, minimize/prevent suffocation and toxicity due to which flame does not take place
- Call fire brigade & police for assistance

5.1 Occupational Health Management

Following measures will be undertaken in the installation for occupational safety and health of workers.

- Inspection and maintenance of pollution control systems will be undertaken only after checking that the equipment has been properly shut down or with permission of authorized officer.

- Immediate removal of waste accumulated in working areas.
- Insulation of hot surfaces
- All safety measures will be strictly implemented. Fire fighting equipment will be tested regularly to ensure their full serviceability. Contingency plans drawn up to deal with accidents will be rehearsed by all personnel.
- Training given to employees for use of safety appliances and first aid.
- Regular medical check up of personnel will be carried out.

Safety of Personnel

All workmen employed in work zones will be provided with adequate personal safety equipments as:

- Safety Shoes
- Industrial Helmets
- Hand gloves
- Ear Muffs
- Welder's screen
- Aprons
- Gas masks
- Respirators
- Safety Belts
- Goggles

6. PROJECT BENEFITS

6.1 Improvement in the Physical Infrastructure

- To create an environment that could support the culture of good standards;
- To emphasise the policy of afforestation and rainwater harvesting to create a better micro climate in the area;
- The development of land for any purpose creates both an immediate demand for services and a flow of revenues to the community and govt. from a variety of sources, for example transportation, property tax, licenses and permits fee etc.

6.2 Improvement in the Social Infrastructure

- This project will increase the economic activities around the area, creating avenues for direct/ indirect employment in the post project period. There would be a wider economic impact in terms of generating opportunities for other business like workshops, marketing, repair and maintenance tasks etc.
- The continuous inflow of people will require local transport systems like autos, taxis etc which would help their business;

6.3 Employment Potential

- During construction phase, the project will provide temporary employment to many unskilled and semi-skilled laborers in nearby villages. The project will also help in generation of indirect employment to those people who render their services for the personnel directly working in the project; and
- During the social impact assessment process, locals raised the question regarding more job opportunities. Jobs would be given to the unskilled, semi skilled as well as skilled labor category, for which locals would be given preference and thereby the over all development of the region is envisaged.

7. ENVIRONMENTAL MANAGEMENT PLAN

Preparation of Environmental Management Plan is a must to fulfill bifocal aspect of the statutory compliance as well as that of social concern.

7.1 Air Environment

- Monitor the consented parameters for ambient air, regularly.
- Monitor the air pollution control devices.
- Monitor the stacks.
- 8 hourly average concentration of total suspended particulate matter in ambient air shall be monitored at 10 metre distance from the primary vibratory/rotary /screen area
- Monitor the work zone to satisfy the requirements for health and environment.
- Use of low Sulphur fuel
- Covered storage for raw materials, wherever necessary
- Use enclosed conveyors for raw material handling
- Release gases would be removed & passed through bag filters.
- Water sprinklers
- Green Belt development

7.2 Water Environment

- Keep record of input water every day for quantity and periodically for quality.
- Measures are taken to segregate the sub-streams of effluent as per their characterization.
- Water conservation shall be accorded highest priority in every section of the activity.
- Keep record of wastewater used for gardening, both the quantity and quality details.

7.3 Solid Waste

- Monitor solid waste zones environment.
- Hazardous waste sent to CHWTSD/Sale to Authorized Re-processor
- Biodegradable waste composted at the site

7.4 Aesthetic (Noise & Odour) Environment

The Project will generate noise from various locations like -

- Steam Generator
- Rotary equipments like fans, blowers and compressors
- Combustion Chamber
- Steam traps

The Project shall have the following facilities, which will help to reduce the overall impact of noise pollution –

- Enforce to use of acoustic enclosure systems to minimize noise generated by the equipments.
- Regular maintenance of equipments to minimize noise pollution.
- Monitor the ambient noise level and work zone noise level to confirm the stipulated norms.
- Creation of awareness for noise attenuation and mitigation program.

7.5 Biological Environment

- Special attention is planned to maintain green belt in and around the premises.
- Adequate provisions are made to facilitate daily watering of all plants and lawns. Ensure the availability of water for green belt.
- Development & maintenance of green belt to be considered as a priority issue.
- We will keep watch on Wastewater collection, treatment and reuse.

7.6 Work-zone Comfort Environment

- Monitor the work zone temperature levels.
- Monitor the work zone humidity.
- Examine the health of staff workers and keep record.

7.7 Socio- Economic Environment

- Training program for workers in various aspects of ESH (Environment, Safety and Health).
- Workshop and up gradation of information on various environmental issues for managers and officers involved in Environment Management Cell.
- The industrial management staff shall help in promoting the activities related to environmental awareness in nearby villages and visitors.
- Health Statistics will be assembled, compiled and displayed.
- Environmental status will be displayed.