

F.No.11-10/2014-IA-III dated 12th March, 2015
EIA & EMP REPORT

for

The proposed Captive Port of 4.5 MTPA at Nate Village, Rajapur Taluka, Ratnagiri District, Maharashtra

Executive Summary for Public Consultation

Project Proponent:



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EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s I LOG Ports Private Limited (ILPPL), an initiative of SREI Infrastructure Finance Limited has proposed to develop a captive jetty at Nate village in Rajapur Taluka of Ratnagiri District, Maharashtra. The proposal is for developing a captive jetty in phases to handle all type of cargo such bulk, container and liquid with projected handling of 1.5 MTPA in initial years to about 4.5 MTPA subsequently. The project cost is Rs. 135 Crores excluding cost of land.

The project proposal was considered in the Expert Appraisal Committee (SEAC) Meeting, Infrastructure Development and Miscellaneous Projects & CRZ, MoEFCC, New Delhi on 28th January, 2015 and TOR is obtained with MoEF F.No.11-10/2014-IA-III dated 12th March 2015. The project is classified as "7E" type "A" category as per the EIA Notification dated 14/09/2006.

2.0 ENVIRONMENTAL SENSITIVITY

- Nearest highway - State Highway-4 runs at a distance of 4 km, ESE from the project site
- Nearest railway station - Rajapur Railway station is at a distance of about 20 km from the site on Konkan Railway line
- Nearest Airport - Ratnagiri (40 km, N), Mumbai (70 km, NNE)
- Nearest major water bodies - Arabian sea, Arjuna river (3.5 km, SSE)
- Nearest town/city/village - The nearest densely populated city is Ratnagiri which is about 40 kms aerial distance from the project site
- Seismicity - Zone-III (as per IS-1983, Part I: 2002)
- Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves) - No Protected areas as per Wildlife Protection Act, however Bharade village (4.5 km) is a Western Ghats-Environmentally Sensitive Area (ESA)

3.0 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The proposed project area does not have significant vegetation. There are no existing buildings in the proposed project area. Project site is located at latitude and longitude ranges of 16^o38'54"N - 16^o39'30" N and 73^o19'45" E-73^o20'00" E respectively, at a distance of 4 km from Nate village. The naval hydrographic chart no 213 is referred for planning.

The proposed jetty will be set up in an area of 100 ha in initial phase and expanded further in phases to cover total allotted area of 428.515 ha.

SALIENT FEATURES OF THE PROPOSED CAPTIVE JETTY

S.No.	Features	Details
1	Projected Throughput	1.50 Million Tonnes Per Annum (MTPA) in the initial years to about 4.5 MTPA in the later years
2	Minimum width of entrance channel	200 m
3	Design ship size	50,000 DW'T vessels
4	Break water	About 1,000 m long breakwater on south side in 2 nd phase
5	Berth length and width	250 m long and 30 wide
6	Turning circle depth	-12.50m
7	Turning circle diameter	600 m
8	Storage area and area for port based	About 100 ha excluding area developed through

S.No.	Features	Details
	industries	reclamation
9	Berth Plan	One Off shore jetty
10	Back-up land area requirement for utilities	100 ha in initial phase and expanded further in phases to cover total allotted area of 428.515 ha
11	Facilities	Site development, utilities and administrative building
12	Source of water	Water supply from the river and stored rain water and local water suppliers
13	Estimated project cost	Rs. 135 Crores excluding cost of land

Source: CIL

The construction of the jetty facilities will be implemented in four phases as described below:

- Phase-1: One berth and storage area for bulk cargo using fair weather operations along with part dredging/reclamation.
- Phase-2: South breakwater about 500 m long
- Phase-3: South breakwater extension by about 500 m
- Phase-4: Additional berths for handling bulk and general cargo and with additional storage area

Major activities that would be involved in the construction/ operation stages of the proposed jetty are as follows:

- Piling for construction of jetty.
- Reclamation for operational area.
- Construction of approach road.
- Loading/ unloading of dry bulk cargo, sugar etc.
- Stacking of dry bulk cargo, sugar etc.
- Transportation of dry bulk cargo, sugar etc.

Location & Accessibility

The infrastructure planned consists of a main berth about 700 m away from shore line connected by approach trestle / approach bund connecting to the shoreline. As per the Maharashtra Industrial Development Policy, authorities have accorded approval for development of sea water cooled thermal power plant and to purchase land required for development of the project.

At present the site is easily accessible by a village road from the State Highway-4, connecting Ratnagiri and Rajapur at Nate junction at a distance of about 4 km. About 300 meter of new road to connect to an existing two-lane village road is proposed to access the site. The railway siding can be planned in future near Rajapur station in Konkan Railway. The nearest Rajapur Railway station is at a distance of 20 km from the site.

4.0 RESOURCES REQUIREMENT

Land Requirement

The proposed jetty will be set up in an area of 100 ha in initial phase and expanded further in phases to cover total allotted area of 428.515 ha.

Water Requirement in Construction & Operation Phase

The drinking water and other water will be arranged locally through state water Board. (Jeevan Pradhikaran) or local bodies. The total water requirement is initially expected to be around 140 m³ per day. The ground water reservoir of 500 m³ capacity and elevated reservoir of 150 m³ capacities will be constructed.

Power Requirement

The electrical supply will be taken from Maharashtra State Electricity Distribution Company Limited (MSEDCL) at a sub station at 11 KV with a transformer of 1,000 KVA capacity initially considering the maximum requirement including that required for conveyor system. Initial power requirement is 0.9MW in later phases it will be increased to 2MW

Employment Generation (Direct and Indirect) due to the Project

It is expected that, during construction phase the direct employment will be 20 and indirect employment will be 200. Local labours will be employed from the surrounding villages. A temporary labour camp also may be provided as per the situation. However, the responsibility of constructing a labour camp, if the need be, will lie with the Civil contract awardee during Construction.

During Operational phase, there will be both Direct and Indirect employment generation. About 50 are directly employed and indirect employment will be 200 persons. Local villagers will be suitably trained for the same

5.0 INFRASTRUCTURE DEVELOPMENT

Green Area development

Ilog Port proposes to develop the Green belt in 33% Area within the project site as Green Area..

Road development

The site is easily accessible by a village road from coastal highway connecting Ratnagiri & Rajapur at Nate junction covering a distance of about 4 kms. However, the provision will be required to be made for widening to two lanes initially to four lanes in future to take care of the increased traffic intensity.

The railway siding can be planned in future near Rajapur station of Konkan Railway at 63.00 kms from the proposed port site.

Drainage & sewerage system

Storm water drainage system using rational method with R.C.O drains of various sizes is proposed. The drains will ultimately discharge into sea through outfalls at various locations. The sewerage system will be provided using sewage treatment plant of required capacity as per the design using the standard manual on sewage and sewage treatment.

6.0 LOCATIONAL ADVANTAGE OF THE PROJECT

It is proposed to have both forward and backward integration by developing port based industries such as bauxite beneficiation plant, steel plant and gas/ coal based thermal power plant and sugar refineries, container hub and tank farms directly or through joint ventures/ acquisitions. The proposed port will be used to handle captive needs initially as a fair weather port and converted into an all-weather captive port at later stage. The proposed project location near Nate village is well suited for setting up the infrastructural facilities proposed in this report on the basis of following advantages:

- The port will be ideally suited to handle the entire captive requirement by direct berthing of handimax/ panamax vessels.
- The site is situated in the vicinity of the bauxite mines and bauxite from mines which is required to be transported by road to the nearest port site and loaded in the mother ship using barges for lighterage operations can be transported to the proposed port and can be directly exported or used for beneficiation plant and semi-finished products can be exported directly to the destinations, thereby reducing cost of transportation as well as saving in time.

- Due to sufficient back up land and potential to increase the area by reclamation for storage of various materials, many port based industries can be developed in the inhabited backup land of about 800 to 1,000 hectares.
- Due to no habitation in a radius of almost 2.50 kms and sufficient storage area, all types of cargo which can be part of port based industry can also be handled at proposed port location by setting up that industry near the port or suitable location away from the port.
- The proposed development will help in overall economic growth of the undeveloped/ underdeveloped region of Konkan in Ratnagiri District and around directly through the employment generated and indirectly through development of ancillary industries in the nearby villages and corresponding overall growth of trade and improvements in living standard.
- The site has tangible oceanography advantage and strategically located with the similar facilities in the vicinity.

7.0 DESCRIPTION OF THE ENVIRONMENT

Study Period: September-2014-February-2015

In post monsoon predominant wind direction is West, in winter predominant wind direction is East and in summer it is north west.

7.1 Ambient Air Quality

The ambient air quality status with respect to the study zone of 10 km radius from the centre of the site will form the baseline information. The baseline ambient air quality has been assessed through a scientifically designed ambient air quality network. The details of the sampling stations are presented below

SUMMARY OF AMBIENT AIR QUALITY IN THE STUDY PERIOD 98% RANGE ($\mu\text{G}/\text{M}^3$)

Season	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	O ₃	Pb	NH ₃	Benzene	BaP	As	Ni (ng/m ³)
Post Monsoon	54.3-65.4	20.3-34.5	13.2-15.2	18.3-21.3	1.1-4.0	18.7-22.3	<0.01	0.9-22.3	<0.01	<0.1	<0.1	<0.1
Winter	51.0-58.5	18.8-21.5	11.4-12.5	17.0-18.3	<0.1	18.6-21.2	<0.01	23.6-28.3	<0.01	<0.1	<0.1	<0.1
Summer	51-58.5	18.8-21.5	11.4-12.5	17-18.3	<0.01	18.6-21.2	<0.01	23.6-28.3	<0.01	<0.1	<0.1	<0.1
NAAQ Standards Annual/24 Hr	100	60	80	80	24	100	1.0	400	05	01	06	20

7.2 Ambient Noise Level

The baseline data survey for noise levels in the study area has been carried out by selecting 10 Noise-monitoring stations. The noise quality monitoring stations are presented below.

The values of noise observed in some of the rural areas are primarily owing to vehicular traffic and other anthropogenic activities. In rural areas wind blowing and chirping of birds would contribute to noise levels especially during the nights. Assessment of day and night noise levels around the study area are ranging between 35.9 to 58.6 dB(A) during study period. The day equivalents during the study period are ranging between 52 to 54.30 dB(A). Where as the night equivalents were in the range of 39.4 to 41.5 dB(A). From the results it can be seen that the Day equivalents and the Night equivalents were within the Ambient Noise standards of residential areas standards.

7.3 Water Environment

Water samples were collected from ground and surface waters covering 10 km radial distance. A total 8 samples were selected for sampling. The samples were analysed for Physico-Chemical parameters, the sampling and analysis of water were carried out as described in standard methods of water and wastewater analysis (APHA). The results of water analysis were compared with IS: 10500 – 1992 drinking water standard to study their suitability for drinking purpose and surface water were classified on basis of CPCB standard.

About 8 ground and 6 surface water samples were collected from the study area to assess the water quality during the study period. The ground water samples were drawn from the hand pumps and open wells being used by the villagers for their domestic needs. Surface water sampling was carried out from major tanks / Lakes within 10 Km of the proposed project site and all are found to be good as per the standards

The three seasons ground water quality was compared with drinking water standards (IS: 10500). The ground water quality in the study area is good. All the parameters are observed to be within the permissible limits as per the drinking water standards (IS: 10500). The ground water can be used for drinking purpose.

7.4 Soil Quality

Total seven locations were selected for analyzing the soil quality status in the study area. The soil samples were collected from core zone and buffer zone area.

- The pH values of the soil samples collected were in the range of 7.20 – 7.5
- Water holding capacity is in the range of 44 – 51%
- Organic matter % in the range of 3.5 – 6.0 mg/l
- The nutrients like N, P and K are in moderate concentration in all the samples

7.5 Land Use

48.75% land in the study area are water bodies followed by 39% waste land. No Forest land in the study area and Agricultural Land cover about 10% of the study area.

7.6 Biological Environment

- No endangered or Endemic Species observed in the study area
- No environmental sensitive areas
- No forests in the 10 km radius of the study area
- The dredging activity would cause increase in turbidity level of the seawater at the dredging site, entrainment and removal of marine living organisms, organic matter enrichment, fish injury associated with exposure to suspended sediments and decreased dissolved oxygen and fish behavioral effects due to the effects of noise.

7.7 Socio-Economic Environment

The total 57 villages, from Rajapur sub District, Ratnagiri District of Maharashtra comprises in the buffer zone, total population is 34472 among them 15646 are male and 18826 are female, among them 3107 are total children, male children are 1633 and female children are 1474. The male and female ratio of the study area is 831males per every 1000 females.

7.8 CRZ Area

The Port falls under CRZ IB, III & IVA the CRZ mapping has been done by Anna University.

8.0 IMPACTS DURING CONSTRUCTION & OPERATION PHASE AND MANAGEMENT PLAN

Discipline	Potential Impacts	Probable Source	Mitigative Measures	Remarks
Constructional Impact				
Water Quality	Increase in suspended solids due to soil run-off during heavy precipitation	Loose soil at construction site	During monsoon season run off from construction site will be routed to a temporary sedimentation tank for settlement of suspended solids.	—
Air Quality	Increase in dust and NOx concentration	Leveling activity and Heavy vehicular movement	Sprinkling of water in the construction area and on unpaved roads. Proper maintenance of vehicles will be done.	The impact will be low, as the main approach road will be tarred.
Noise	Increase in noise level	Construction equipment	Equipment will be kept in good condition to keep the noise level within 90 dB(A).	Workers will be provided necessary protective equipment e.g. ear plug, earmuffs.
Terrestrial Ecology	Clearing of Vegetation	Soil enabling activities	Landscaping and extensive plantation will be done.	Plantation will be done.
Marine ecology	Disturbance of biota and water chemistry	Development of breakwater structures, dredging of channel	Limit the damage to benthos at initial stage, The construction materials should be placed above one another by using proper hoisting machineries and should not be dropped on the seafloor. There should not be any sudden increase in flow velocity close to the shore, which will pose danger for the human being and fishing boats. Port authorities has to make necessary arrangement for continuous dredging. On monitoring the behavior of the coastal processes, a suitable shore/ Canal mouth protection system can be evaluated for	Regular monitoring of the turbidity and sediment concentration may be carried by water sampling

Discipline	Potential Impacts	Probable Source	Mitigative Measures	Remarks
			<p>future.</p> <p>The controlled method of dredging may be carried out confined to only port area. The dredge disposal during maintenance dredging may be done at offshore or at the eroding segment of coastline for beach nourishment. The turbidity induced during the dredging can be minimized by controlled dredging techniques using appropriate bucket/cutter suction dredgers. The net enclosures with booms may be placed around the dredging area in order to control the spread of the turbid plume.</p>	
Socio-economics	Land oustees	Land Acquisition	No R&R issues are involved in the proposed project.	--
Operational Impact				
Water Quality	Deterioration of surface water quality	Discharge from various units	Adequate treatment facilities will be provided so that the treated effluents conform to the regulatory standards. Further, all waste water will be utilized in various activities such as green belt and dust suppression systems.	The plant effluent after treatment will be reused to maximum possible extent and will be used for horticulture and greenbelt development. No discharge is envisaged into any surface river water bodies; hence, no impact is envisaged on surface river water quality.
Ecology				
a. Terrestrial	Impact on plant species	Emissions from port.	Emission will be controlled as well as dispersed through appropriate design.	As Ambient air quality will be within limits, no active injury to the vegetation is expected.
b. Aquatic	Impact on water	Treated waste	The wastewater will be	Effluents will be

Discipline	Potential Impacts	Probable Source	Mitigative Measures	Remarks
	bodies	water from port operations	provided with adequate treatment, and will be used for Horticulture purposes.	treated to conform to prescribed limits, no significant impact on aquatic life is expected
Noise	Increase in noise levels in the port area.	Equipment and auxiliaries.	Equipment will be designed to conform to noise levels prescribed by regulatory agencies. Provision of green belt and plantation would further help in attenuating noise.	Employees working in high noise areas would be provided earplugs/ earmuffs as protective device.
Demography and Socio-economics	Strain on existing amenities like housing, water sources and sanitation, medical and infrastructure facilities.	Influx of people of proposed port employees as well as contractor's employees/ laborers.	Local population will be given preference in awarding work. No significant impact is envisaged. Additional facilities will be developed by the project proponents with mechanized facilities thus reducing the need for manpower.	Overall socio-economic status of the area is expected to improve.

9.0 EXPENDITURE OF ENVIRONMENTAL MEASURES

- Capital Cost of the project including the KIADB unit is estimated at Rs.135 Crores.
- Cost of environmental Protection measures will be Rs. 7 Crores.
- Post project monitoring will be carried out as per the Guidelines provided by MOEF&CC, CPCB and MSPCB

MANAGEMENT COMMITMENT WITH SCHEDULE TIME ON MITIGATION MEASURES

Sr. No.	Recommendations	Time Requirement	Schedule
1	Air pollution control measures	Before commissioning of respective units	Immediate
2	Water pollution control measures	Before commissioning of the port	Immediate
3	Noise control measures	Along with the commissioning of the Port activities	Immediate
4	Ecological preservation and up gradation	Stage wise implementation	Immediate & Progressive

10.0 CORPORATE SOCIAL RESPONSIBILITY (CSR)

Ilog Port through its Corporate Social Responsibility arm will endeavor to develop the social infrastructure and enhance the quality of life of communities in the villages located around the proposed site. As far as CSR data is concerned, ILog Port keeps a provision of about 2% for CSR