

Ref No: KPPL / ENV / MoEF&CC / 2017 / 06

Date: 04.05.2017

To

The Member Secretary,

Infrastructure and Miscellaneous Projects & CRZ (Infra 2)

Ministry of Environment, Forest & Climate Change (MoEF&CC)

Jor Bagh Road,

New Delhi - 110003.

Sub: Submission of additional information /clarifications sought by the Expert Appraisal Committee members during the 15th EAC meeting held on 12th Apr 2017 regarding:-

Ref: Minutes of the meeting of the 15th EAC held on 12th Apr 2017; 15.3.15 – Development of Bulk Liquid Berth for handling LNG at Karaikal Port, Puducherry by M/s Karaikal Port Private Limited – Further Consideration for Environmental and CRZ Clearance - (F.No11-41/2013–IA.III)

Sir,

With reference to the above, Karaikal Port Private Limited hereby furnishes the following point wise clarifications / additional information sought by the Expert Appraisal Committee members during the 15th EAC meeting held on 12th Apr 2017.

(a) Copy of certified compliance report (latest) issued by the Regional Office, Chennai/Bangalore on the environmental condition stipulated in the earlier EC issued by MoEF&CC.

Refer Annexure 1

(b) The project proponents were advised to prepare a detailed biodiversity impact assessment report and management plan through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles , birds etc. as also the productivity. The data collection and impact assessment shall be as per standard survey methods.

Refer Annexure 2

(c) Notarized affidavit of undertaking stating, no construction activity has commenced at the site and Project Proponent undertakes that the construction works will be commenced only after obtaining all necessary clearances from statutory authorities.

Refer Annexure 3

KARAIKAL PORT PRIVATE LIMITED

CIN: U45203PY2006PTC001945

Registered Office

Kheezhavanjoor Village, T.R. Pattinam, PB No. 33, Karaikal - 609 606. Tel. : +91 4365 256600 (5 Lines) Fax : +91 4365 256603

Corporate Office

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www.karaikalport.com



Minutes of the meeting of the 15th EAC held on 12th Apr 2017 (Relevant pages) is also attached herewith. Refer Annexure 4

We request you to kindly include our proposal "Development of Bulk Liquid Berth for handling LNG at Karaikal Port, Puducherry by M/s Karaikal Port Private Limited – Further Consideration for Environmental and CRZ Clearance" - (F.No11-41/2013-IA.III) in the next EAC meeting.

In case of clarifications the undersigned may be contacted.

Thank you for the anticipated cooperation.

Yours faithfully,

(Capt. Prasad Rebala)

Chief Operating Officer

Enclosure: As mentioned above.

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ANNEXURE- 1

COMPLIANCE REPORTS

- A. Karaikal port is regularly submitting compliance report to Ro MoEF&CC at Chennai. Latest Compliance report of Karaikal port has been submitted to Ro MoEF&CC at Chennai in the month of February 2017 and the same has been uploaded in the MoEF&CC website by Ro MoEF&CC. We are also attaching the previous compliance reports submitted to Ro MoEF&CC at Chennai for your kind reference. Refer annexure 1A.
- B. Further KPPL has requested Ro MoEF&CC to issue a latest compliance report for the earlier EC's issued by MoEF&CC. Refer annexure 1B.
- C. Regional office of MoEF&CC (Ro MoEF&CC) visited Karaikal Port and uploaded visit report verifying the compliances of conditions stipulated in the earlier EC, No. 10-42/2009 – IA.III & dated 22nd Sep 2009 in May 2016. Refer annexure 1C.

ANNEXURE- 1A

KPPL/ ENV/ MoEF&CC/2017/02

16.02.2017

To

Additional Principal Chief Conservator of Forests (C),

Ministry of Environment, Forests and Climate Change,

Regional Office (SEZ),

Chennai – 34

Sub: Compliance Report Jul to Dec 2016 regarding:-

Sir,

As per the conditions stipulated in Environmental Clearance letter (No.10 - 42/2009 - IA - III, dated 22.09.2009), from MOEF&CC, Govt of India, herewith we are submitting the status of compliance report including results of monitored data from Jul to Dec 2016.

Thanking you

Yours faithfully,


Capt. Prasad Rebala

Chief Operating Officer

Cc:

1. The Zonal Officer, CPCB Regional Office, Bangalore
2. The Member Secretary, Puducherry Pollution Control Committee, Puducherry

Enclosure: Compliance report Jul to Dec 2016.

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Subject: Environmental and CRZ clearance for expansion of Karaikal Port (Phase II) by M/s. Karaikal Port Pvt. Ltd. (Karaikal) Puducherry vide the MoEF&CC letter of No 10-42/2009-IA.III dated the 22nd Sep 2009.

Sl.No	MoEF&CC Specific Conditions	Compliance Status
(I)	The quality of river of both the rivers shall be re assessed and report shall be submitted to the Ministry within three months	The quality of two rivers joining the sea near the Port i.e., river Pravadanayar on the North and the river Vettar on the South were reassessed and Report submitted to the Ministry within three months. Report is at Annexure 1
(II)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied
(III)	Washing from Auction Hall/Sewage shall be treated and the treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification. 1991. The disposal of treated water shall conform the regulation of Puducherry Pollution Control Board.	The provision of Auction Hall is not required for the Project. In respect of Sewage Treatment Plant (STP) , STP with a capacity of 25 KLD is installed for treatment of domestic sewage. Report containing treated water quality conforming to the regulation of PPCC is at Annexure 2.
(IV)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	Not applicable
(V)	Oil Spills if any shall be properly collected and disposed as per the Rules.	Till date there is no Oil Spill occurrence. However, the provisions containing the Oil Spill Contingency Plan is in place with the requisite equipment procured. Annexure 3
(VI)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	In accordance with International norms requisite provisions are in place thereby following Navigation and traffic control guidelines. Through Department of Fisheries, Govt. of Puducherry awareness and Education are regularly imparted to the fishermen including the said traffic guidelines.

(VII)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Karaikal Port Private Limited is an ISO 14001* Company. All the Department Heads are the Members of the Environmental Management Committee (EMC) and deliberates regularly and implements stipulated Environment Safeguards. Annexure 4
(VIII)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	At the project site a Nursery of indigenous variety of plantation is maintained with adequate personnel including specialist. This nursery is a regular source of plantation of Mangrove plants (Salt tolerant, Draught resistance and fruit yielding Palm species. Requisite funds allocation is provided annually as a part of Environment Management Plan. 15,000 additional saplings have been planted during Dec 2016 to Jan 2017.
(IX)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	The funds earmarked for environment management plan for 2016-17 is about Rs. 1.5 crores This is allocated for steps/action which include maintenance of nursery, plantation and its maintenance, O&M of Dust Suppression System and Truck Tyre Wash System, STP, ETP, O & M of all the Environment Infrastructure and procurement of miscellaneous and other contingent requirements.
Sl.No	MoEF &CC General Conditions	Compliance Status
(I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	The workers involved for Construction was from the nearby areas of the site were habituated in the surrounding habitations. During the working period potable water supply was provided and sanitation in place was utilized. However for the skilled construction workers make shift arrangement of accommodation to the requisite period was provided and adequate provisions were made so as to maintain sanitation and thereby damage to the environment did not occur.

(II)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	As per the Phase II EC accorded, the digging activities were carried out to the extent of erecting pillars for operation of Coal Handling Mechanization Project by adopting advanced technological practices and therefore degradation of ground water quality is not envisaged.
(III)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a). No excavation or dumping on private property is carried out without written consent of the owner. (b). No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations. (c).Excavation work shall be done in close consultation with the Conservation and watershed Development Agencies working in the area, and (d). Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the damp sites for such materials must be secured so that they shall not leach into the ground water.	The Road construction involved to the extent of sideways from the existing roads already in place under this Phase of the Project. In view of this, the conditions contained in a para (III) a,b,c & d is not applicable.
(IV)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened specific approvals from the competent authority shall be in this regard.	Construction material obtained from M/s MARG Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai. The Project Authority never envisaged for requirement of new quarries in this regard
(V)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	The above said Company had taken adequate precautions to maintain the ambient environment.
(VI)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Full support is being extended for the said activities.
(VII)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Agree to comply.

(VIII)	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted and Agreed upon.
(IX)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	Noted and Agreed upon.
(X)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	On 12th June 2009, the Financial Closure was achieved. The project is a continuity of the phase I.
(XI)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Puducherry Pollution Control Committee complied.
8	These stipulations would be enforced among others under the provisions of water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Being complied.
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc. Shall be obtained as applicable by project proponents from the respective competent authorities.	Requisite Clearances obtained from the concerned Competent Authorities by the M/s. Karaikal Port Private Limited.
10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing, that the project has been accorded Environmental Clearance and copies of Clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearances letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied. Copy enclosed as an Annexure 5
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundations Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Agreed upon.

12	Any appeal against the Environment Clearance shall be with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 off the National Environment Appellate Act, 1997.	Noted
13	A copy of Clearance letter shall be sent by the proponent to concerned Panchayat,Zilla Parisad/Municipal Corporation. Urban Local body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Copy of the Clearance letter sent by the Project proponent to the said concerned Agencies. The clearance letter also put on the website (www.karaikalport.com) of the company by the proponent.
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Project Proponent submits the status of Compliance on six monthly basis. The ambient criteria pollutant levels monitored are being displayed regularly at the main gate of the company. The Jul to Dec 2016 compliance report is attached as an Annexure 6.
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Six monthly reports on the status of compliance of the stipulated EC conditions submitted regularly to the Regional Office of the MoEF&CC at Bangalore, CPCB Zonal Office, Bangalore and PPCC, Puducherry.
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	The environmental Statement for each Financial Year ending 31 st March in Form-V submitted regularly to PPCC, Puducherry. Latest copy (ends Mar 2016) is attached as an Annexure 7

Present Status of the Project: Enhancing the handling capacity to 20.5 million MTPA is in progress by way of the Coal Mechanisation Project. The construction of three additional berths, dredging in the channel and the turning circle diameter is partially completed and are in use.

Some components of the Project is under implementation and the EC validity has been extended upto Nov 2017 by the EAC of the MoEF&CC vide letter dated 3rd Feb 2015. Extension letter attached as Annexure 8.



(Capt. Prasad Rebala)
Chief Operating Officer

KPPL/ ENV/ MoEF&CC/ RO/ 2016/ 02

03.08.2016

To

Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests and Climate Change,
Regional Office (SEZ),
Chennai – 34

CHP/ASST (Env)
30/8/16

Sub: Compliance Report Jan to Jun 2016

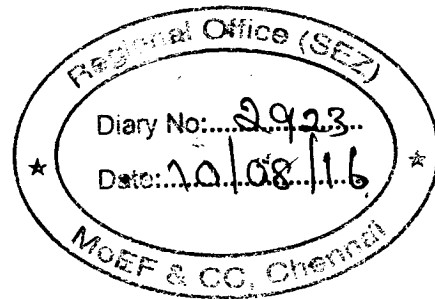
Sir,

As per the conditions stipulated in Environmental Clearance letter (No.10 - 42/2009 - IA – III, dated 22.09.2009), from MOEF&CC, Govt of India, herewith we are submitting the status of compliance report including results of monitored data from Jan to Jun 2016.

Thanking you

Yours faithfully,


Capt. Prasad Rebala
Chief Operating Officer



Cc:

1. The Zonal Officer, CPCB Regional Office, Bangalore
2. The Member Secretary, Puducherry Pollution Control Committee, Puducherry

Enclosure: Compliance report Jan to Jun 2016.

11/8/16
RQ

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Sl.No	MoEF&CC Specific Conditions	Compliance Status
(I)	The quality of river of both the rivers shall be re assessed and report shall be submitted to the Ministry within three months	The quality of two rivers joining the sea near the Port i.e., river Pravadanayar on the North and the river Vettar on the South were reassessed and Report submitted to the Ministry within three months. Report is at Annexure 1
(II)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied
(III)	Washing from Auction Hall/Sewage shall be treated and the treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification. 1991. The disposal of treated water shall conform the regulation of Puducherry Pollution Control Board.	The provision of Auction Hall is not required for the Project. In respect of Sewage Treatment Plant (STP) , STP with a capacity of 25 KLD is installed for treatment of domestic sewage. Report containing treated water quality conforming to the regulation of PPCC is at Annexure 2.
(IV)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	Not applicable
(V)	Oil Spills if any shall be properly collected and disposed as per the Rules.	Till date there is no Oil Spill occurrence. However, the provisions containing the Oil Spill Contingency Plan is in place with the requisite equipment procured. Annexure 3
(VI)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	In accordance with International norms requisite provisions are in place thereby following Navigation and traffic control guidelines. Through Department of Fisheries, Govt. of Puducherry awareness and Education are regularly imparted to the fishermen including the said traffic guidelines.

(VII)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Karaikal Port Private Limited is an ISO 14001* Company. All the Department Heads are the Members of the Environmental Management Committee (EMC) and deliberates regularly and implements stipulated Environment Safeguards.* Annexure 4
(VIII)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	At the project site a Nursery of indigenous variety of plantation is maintained with adequate personnel including specialist. This nursery is a regular source of plantation of Mangrove plants (Salt tolerant, Draught resistance and fruit yielding Palm species. Requisite funds allocation is provided annually. As a part of Environment Management Plan .
(IX)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	The funds earmarked for environment management plan for 2016-17 is about Rs. 1.5 crores This is allocated for steps/action which include maintenance of nursery, plantation and its maintenance, O&M of Dust Suppression System and Truck Tyre Wash System, STP, ETP, O & M of all the Environment Infrastructure and procurement of miscellaneous and other contingent requirements.
Sl.No	MoEF &CC General Conditions	Compliance Status
(I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	The workers involved for Construction was from the nearby areas of the site were habituated in the surrounding habitations. During the working period potable water supply was provided and sanitation in place was utilized. However for the skilled construction workers make shift arrangement of accommodation to the requisite period was provided and adequate provisions were made so as to maintain sanitation and thereby damage to the environment did not occur.

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(III)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a). No excavation or dumping on private property is carried out without written consent of the owner. (b). No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations. (c).Excavation work shall be done in close consultation with the Conservation and watershed Development Agencies working in the area, and (d). Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the damp sites for such materials must be secured so that they shall not leach into the ground water.	The Road construction involved to the extent of sideways from the existing roads already in place under this Phase of the Project. In view of this, the conditions contained in a para (III) a,b,c & d is not applicable.
(IV)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened specific approvals from the competent authority shall be in this regard.	Construction material obtained from M/s MARG Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai. The Project Authority never envisaged for requirement of new quarries in this regard
(V)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	The above said Company had taken adequate precautions to maintain the ambient environment.
(VI)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Full support is being extended for the said activities.
(VII)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Agree to comply.



(VIII)	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted and Agreed upon.
(IX)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	Noted and Agreed upon.
(X)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	On 12th June 2009, the Financial Closure was achieved. The project is a continuity of the phase I.
(XI)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Puducherry Pollution Control Committee complied.
8	These stipulations would be enforced among others under the provisions of water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Being complied.
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc. Shall be obtained as applicable by project proponents from the respective competent authorities.	Requisite Clearances obtained from the concerned Competent Authorities by the M/s. Karaikal Port Private Limited.
10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing, that the project has been accorded Environmental Clearance and copies of Clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearances letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied. Copy enclosed as an Annexure 5
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12	Any appeal against the Environment Clearance shall be with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 off the National Environment Appellate Act, 1997.	Noted
13	A copy of Clearance letter shall be sent by the proponent to concerned Panchayat,Zilla Parisad/Municipal Corporation. Urban Local body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Copy of the Clearance letter sent by the Project proponent to the said concerned Agencies. The clearance letter also put on the website (www.karaikalport.com) of the company by the proponent.
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Project Proponent submits the status of Compliance from Jan to June 2016. The ambient criteria pollutant levels monitored are being displayed regularly at the main gate of the company. Latest copy of is attached as an Annexure 6 .
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Six monthly reports on the status of compliance of the stipulated EC conditions submitted regularly to the Regional Office of the MoEF&CC at Bangalore, CPCB Zonal Office, Bangalore and PPCC, Puducherry.
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	The environmental Statement for each Financial Year ending 31 st March in Form-V submitted regularly to PPCC, Puducherry. Latest copy of is attached as an Annexure 7

KPPL/ ENV/ MoEF&CC/2017/02

16.02.2017

To

Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forests and Climate Change,
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Yours faithfully,


(Capt. Prasad Rebala)
Chief Operating Officer

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Sl.No	MoEF&CC Specific Conditions	Compliance Status
(I)	The quality of river of both the rivers shall be re assessed and report shall be submitted to the Ministry within three months	The quality of two rivers joining the sea near the Port i.e., river Pravadanayar on the North and the river Vettar on the South were reassessed and Report submitted to the Ministry within three months. Report is at Annexure 1
(II)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied
(III)	Washing from Auction Hall/Sewage shall be treated and the treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification. 1991. The disposal of treated water shall conform the regulation of Puducherry Pollution Control Board.	The provision of Auction Hall is not required for the Project. In respect of Sewage Treatment Plant (STP) , STP with a capacity of 25 KLD is installed for treatment of domestic sewage. Report containing treated water quality conforming to the regulation of PPCC is at Annexure 2.
(IV)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	Not applicable
(V)	Oil Spills if any shall be properly collected and disposed as per the Rules.	Till date there is no Oil Spill occurrence. However, the provisions containing the Oil Spill Contingency Plan is in place with the requisite equipment procured. Annexure 3
(VI)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	In accordance with International norms requisite provisions are in place thereby following Navigation and traffic control guidelines. Through Department of Fisheries, Govt. of Puducherry awareness and Education are regularly imparted to the fishermen including the said traffic guidelines.

(VII)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Karaikal Port Private Limited is an ISO 14001* Company. All the Department Heads are the Members of the Environmental Management Committee (EMC) and deliberates regularly and implements stipulated Environment Safeguards. Annexure 4
(VIII)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	At the project site a Nursery of indigenous variety of plantation is maintained with adequate personnel including specialist. This nursery is a regular source of plantation of Mangrove plants (Salt tolerant, Draught resistance and fruit yielding Palm species. Requisite funds allocation is provided annually as a part of Environment Management Plan. 15,000 additional saplings have been planted during Dec 2016 to Jan 2017.
(IX)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	The funds earmarked for environment management plan for 2016-17 is about Rs. 1.5 crores This is allocated for steps/action which include maintenance of nursery, plantation and its maintenance, O&M of Dust Suppression System and Truck Tyre Wash System, STP, ETP, O & M of all the Environment Infrastructure and procurement of miscellaneous and other contingent requirements.
Sl.No	MoEF &CC General Conditions	Compliance Status
(I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	The workers involved for Construction was from the nearby areas of the site were habituated in the surrounding habitations. During the working period potable water supply was provided and sanitation in place was utilized. However for the skilled construction workers make shift arrangement of accommodation to the requisite period was provided and adequate provisions were made so as to maintain sanitation and thereby damage to the environment did not occur.

(II)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	As per the Phase II EC accorded, the digging activities were carried out to the extent of erecting pillars for operation of Coal Handling Mechanization Project by adopting advanced technological practices and therefore degradation of ground water quality is not envisaged.
(III)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a). No excavation or dumping on private property is carried out without written consent of the owner. (b). No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations. (c). Excavation work shall be done in close consultation with the Conservation and watershed Development Agencies working in the area, and (d). Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach into the ground water.	The Road construction involved to the extent of sideways from the existing roads already in place under this Phase of the Project. In view of this, the conditions contained in a para (III) a,b,c & d is not applicable.
(IV)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened specific approvals from the competent authority shall be in this regard.	Construction material obtained from M/s MARG Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai. The Project Authority never envisaged for requirement of new quarries in this regard
(V)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	The above said Company had taken adequate precautions to maintain the ambient environment.
(VI)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Full support is being extended for the said activities.
(VII)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Agree to comply.

(VIII)	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted and Agreed upon.
(IX)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	Noted and Agreed upon.
(X)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	On 12th June 2009, the Financial Closure was achieved. The project is a continuity of the phase I.
(XI)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Puducherry Pollution Control Committee complied.
8	These stipulations would be enforced among others under the provisions of water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Being complied.
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc. Shall be obtained as applicable by project proponents from the respective competent authorities.	Requisite Clearances obtained from the concerned Competent Authorities by the M/s. Karaikal Port Private Limited.
10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing, that the project has been accorded Environmental Clearance and copies of Clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearances letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied. Copy enclosed as an Annexure 5
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundations Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Agreed upon.

12	Any appeal against the Environment Clearance shall be with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 off the National Environment Appellate Act, 1997.	Noted
13	A copy of Clearance letter shall be sent by the proponent to concerned Panchayat,Zilla Parisad/Municipal Corporation. Urban Local body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Copy of the Clearance letter sent by the Project proponent to the said concerned Agencies. The clearance letter also put on the website (www.karaikalport.com) of the company by the proponent.
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Project Proponent submits the status of Compliance on six monthly basis. The ambient criteria pollutant levels monitored are being displayed regularly at the main gate of the company. The Jul to Dec 2016 compliance report is attached as an Annexure 6.
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Six monthly reports on the status of compliance of the stipulated EC conditions submitted regularly to the Regional Office of the MoEF&CC at Bangalore, CPCB Zonal Office, Bangalore and PPCC, Puducherry.
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	The environmental Statement for each Financial Year ending 31 st March in Form-V submitted regularly to PPCC, Puducherry. Latest copy (ends Mar 2016) is attached as an Annexure 7

Present Status of the Project: Enhancing the handling capacity to 20.5 million MTPA is in progress by way of the Coal Mechanisation Project. The construction of three additional berths, dredging in the channel and the turning circle diameter is partially completed and are in use.

Some components of the Project is under implementation and the EC validity has been extended upto Nov 2017 by the EAC of the MoEF&CC vide letter dated 3rd Feb 2015. Extension letter attached as Annexure 8.


(Capt. Prasad Rebala)
Chief Operating Officer

KPPL/ ENV/ MoEF&CC/ RO/ 2016/ 02

03.08.2016

To

Additional Principal Chief Conservator of Forests (C),

Ministry of Environment, Forests and Climate Change,

Regional Office (SEZ),

Chennai – 34

Sub: Compliance Report Jan to Jun 2016

Sir,

As per the conditions stipulated in Environmental Clearance letter (No.10 - 42/2009 - IA – III, dated 22.09.2009), from MOEF&CC, Govt of India, herewith we are submitting the status of compliance report including results of monitored data from Jan to Jun 2016.

Thanking you

Yours faithfully,



Capt. Prasad Rebala

Chief Operating Officer

Cc:

1. The Zonal Officer, CPCB Regional Office, Bangalore
2. The Member Secretary, Puducherry Pollution Control Committee, Puducherry

Enclosure: Compliance report Jan to Jun 2016.

KARAİKAL PORT PRIVATE LIMITED

CIN: U45203PY2006PTC001945

Registered Office

Kheezhavanjoor Village, T.R. Pattinam, PB No. 33, Kariakal - 609 606. Tel. : +91 4365 256600 (5 Lines) Fax : +91 4365 256603

Corporate Office

Chettinad Business Chamber, 3rd Floor, Dr. Radhakrishnan Salai, 5th Street (Near AVM Rajeswari Marriage Hall)

Mylapore, Chennai 600 004. Tel. : +91 44 4562 2000 Fax : +91 44 4562 2082

www.karaikalport.com

Subject: Environmental and CRZ clearance for expansion of Karaikal Port (Phase II) by M/s. Karaikal Port Pvt. Ltd. (Karaikal) Puducherry vide the MoEF&CC letter of No 10-42/2009-IA.III dated the 22nd Sep 2009.

Sl.No	MoEF&CC Specific Conditions	Compliance Status
(I)	The quality of river of both the rivers shall be re assessed and report shall be submitted to the Ministry within three months	The quality of two rivers joining the sea near the Port i.e., river Pravadanayar on the North and the river Vettar on the South were reassessed and Report submitted to the Ministry within three months. Report is at Annexure 1
(II)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied
(III)	Washing from Auction Hall/Sewage shall be treated and the treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification, 1991. The disposal of treated water shall conform the regulation of Puducherry Pollution Control Board.	The provision of Auction Hall is not required for the Project. In respect of Sewage Treatment Plant (STP) , STP with a capacity of 25 KLD is installed for treatment of domestic sewage. Report containing treated water quality conforming to the regulation of PPCC is at Annexure 2 .
(IV)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	Not applicable
(V)	Oil Spills if any shall be properly collected and disposed as per the Rules.	Till date there is no Oil Spill occurrence. However, the provisions containing the Oil Spill Contingency Plan is in place with the requisite equipment procured. Annexure 3
(VI)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	In accordance with International norms requisite provisions are in place thereby following Navigation and traffic control guidelines. Through Department of Fisheries, Govt. of Puducherry awareness and Education are regularly imparted to the fishermen including the said traffic guidelines.

VII)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Karaikal Port Private Limited is an ISO 14001* Company. All the Department Heads are the Members of the Environmental Management Committee (EMC) and deliberates regularly and implements stipulated Environment Safeguards.* Annexure 4
VIII)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	At the project site a Nursery of indigenous variety of plantation is maintained with adequate personnel including specialist. This nursery is a regular source of plantation of Mangrove plants (Salt tolerant, Draught resistance and fruit yielding Palm species. Requisite funds allocation is provided annually. As a part of Environment Management Plan .
IX)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	The funds earmarked for environment management plan for 2016-17 is about Rs. 1.5 crores This is allocated for steps/action which include maintenance of nursery, plantation and its maintenance, O&M of Dust Suppression System and Truck Tyre Wash System, STP, ETP, O & M of all the Environment Infrastructure and procurement of miscellaneous and other contingent requirements.
Sl.No	MoEF &CC General Conditions	Compliance Status
(I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	The workers involved for Construction was from the nearby areas of the site were habituated in the surrounding habitations. During the working period potable water supply was provided and sanitation in place was utilized. However for the skilled construction workers make shift arrangement of accommodation to the requisite period was provided and adequate provisions were made so as to maintain sanitation and thereby damage to the environment did not occur.

(II)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	As per the Phase II EC accorded, the digging activities were carried out to the extent of erecting pillars for operation of Coal Handling Mechanization Project by adopting advanced technological practices and therefore degradation of ground water quality is not envisaged.
(III)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a). No excavation or dumping on private property is carried out without written consent of the owner. (b). No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations. (c).Excavation work shall be done in close consultation with the Conservation and watershed Development Agencies working in the area, and (d). Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the damp sites for such materials must be secured so that they shall not leach into the ground water.	The Road construction involved to the extent of sideways from the existing roads already in place under this Phase of the Project. In view of this, the conditions contained in a para (III) a,b,c & d is not applicable.
(IV)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened specific approvals from the competent authority shall be in this regard.	Construction material obtained from M/s MARG Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai. The Project Authority never envisaged for requirement of new quarries in this regard
(V)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	The above said Company had taken adequate precautions to maintain the ambient environment.
(VI)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Full support is being extended for the said activities.
(VII)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Agree to comply.

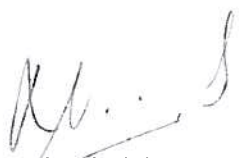
VIII)	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted and Agreed upon.
(IX)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	Noted and Agreed upon.
(X)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	On 12th June 2009, the Financial Closure was achieved. The project is a continuity of the phase I.
(XI)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Puducherry Pollution Control Committee complied.
8	These stipulations would be enforced among others under the provisions of water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Being complied.
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc. Shall be obtained as applicable by project proponents from the respective competent authorities.	Requisite Clearances obtained from the concerned Competent Authorities by the M/s. Karaikal Port Private Limited.
10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing, that the project has been accorded Environmental Clearance and copies of Clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearances letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied. Copy enclosed as an Annexure 5
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundations Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Agreed upon.

12	Any appeal against the Environment Clearance shall be with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 off the National Environment Appellate Act, 1997.	Noted
13	A copy of Clearance letter shall be sent by the proponent to concerned Panchayat,Zilla Parisad/Municipal Corporation. Urban Local body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Copy of the Clearance letter sent by the Project proponent to the said concerned Agencies. The clearance letter also put on the website (www.karaikalport.com) of the company by the proponent.
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Project Proponent submits the status of Compliance from Jan to June 2016. The ambient criteria pollutant levels monitored are being displayed regularly at the main gate of the company. Latest copy of is attached as an Annexure 6 .
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Six monthly reports on the status of compliance of the stipulated EC conditions submitted regularly to the Regional Office of the MoEF&CC at Bangalore, CPCB Zonal Office, Bangalore and PPCC, Puducherry.
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	The environmental Statement for each Financial Year ending 31 st March in Form-V submitted regularly to PPCC, Puducherry. Latest copy of is attached as an Annexure 7

Present Status of the Project

Enhancing the handling capacity to 20.5 million MTPA is in progress by way of the Coal Mechanisation Project. The construction of three additional berths, dredging in the channel and the turning circle diameter is partially completed and are in use.

Some components of the Project is under implementation and the EC validity has been extended upto Nov 2017 by the EAC of the MoEF&CC vide letter dated 3rd Feb 2015. Extension letter attached as Annexure 8. The component packages of the coal handling Mechanisation project are in various stages of completion. The vendors are estimating the remaining work on the same and some of them have re-commenced working.



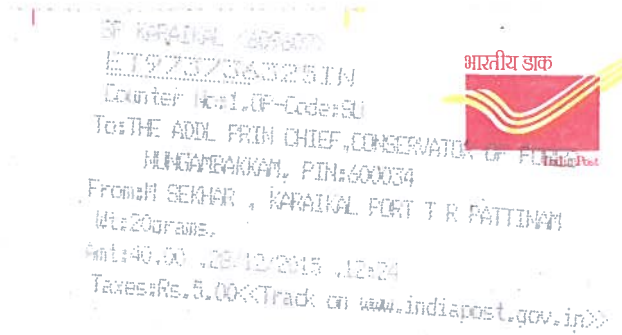
(Capt. Prasad Rebala)
Chief Operating Officer

Ref No: KPPL/ENV/MOEF&CC/RO/2015/01

Date: 26.12.2015

To ,

The Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (SEZ),
1st and 11nd Floor, Handloom Export Promotion Council,
34, Cathedral Garden Road,
Nungambakkam,
Chennai – 34.



Sub: six monthly report on the status of Compliance of the stipulated EC conditions

Ref: MoEF&CC F.No.10-42/2009-IA.III dated 03rd Feb 2015
Environment Clearance issued by MoEF dated 22.09.2009

Sir,

With reference to the above and conditions (General Condition No. 15) stipulated in the referred Environmental Clearance letter from MOEF, Govt of India (No.10 - 42/2009 - IA – III, dated 22.09.2009) under coastal regulation zone notification 1991 herewith we are submitting the report on the status of compliance for Apr 2015 to Sep 2015.

Thanking you.

Yours Sincerely,

(Capt. Prasad Rebala)
Chief Operating Officer

Encl: Status of compliance report - Apr 2015 to Sep 2015.

KARAIKAL PORT PRIVATE LIMITED

CIN: U45203PY2006PTC001945

Registered Office

Khreezhavanjoor Village, T.R. Pattinam, PB No. 33, Kariakal - 609 606. Tel. : +91 4365 256600 (5 Lines) Fax : +91 4365 256603

Corporate Office

Chettinad Business Chamber, 3rd Floor, Dr. Radhakrishnan Salai, 5th Street (Near AVM Rajeswari Marriage Hall)
Mylapore, Chennai 600 004. Tel. : +91 44 4562 2000 Fax : +91 44 4562 2082

Compliance report on the conditions specified in the Environment Clearance issued by MoEF

dated 22.09.2009

Cond. No	Conditions	Status	KPPL Actions
Specific Conditions			
(I)	The quality of river of both the rivers shall be re assessed and report shall be submitted to the Ministry within three months	Complied	The quality of both rivers were assessed and the reports submitted.
(II)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Noted	Complied
(III)	Washing from auction hall/Sewage shall be treated and the treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification. 1991. The disposal of treated water shall confirm the regulation of Puducherry Pollution Control Board.	Complied	25 KLD sewage Treatment Plant (STP) is established. The treated water used for Green Belt development
(IV)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	Not applicable	
(V)	Oil spills if any shall be properly collected and disposed as per the Rules.	Noted	Noted for implementation
(VI)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	Complied	Efficient Navigation system in place
(VII)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Complied	EMC available
(VIII)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	Complied	Green Belt has been developed in & around the Port /Project area & it Continues
(IX)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	Complied	Separate Environment budget is in place
General Conditions			
7 (I)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	Complied	The necessary facilities such as water, power, sanitation etc in place
(II)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Noted	Safe practices In place



Cond. No	Conditions	Status	KPPL Actions
(III)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: a. No excavation or dumping on private property is carried out without written consent of the owner. B. No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations .Excavation work shall be done in close consultation with the Conservation and watershed Development Agencies working in the area , and d. Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the damp sites for such materials must be secured so that they shall not leach into the ground water.	Complied	Noted and followed
(IV)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened specific approvals from the competent authority shall be in this regard.	Complied	Noted and followed
(V)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	Complied	Noted and followed
(VI)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Noted	
(VII)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Noted	
(VIII)	The ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted	
(IX)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment & Forests.	Noted	
(X)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Noted	
(XI)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Noted	



Cond. No	Conditions	Status	KPPL Actions
8	These stipulations would be enforced among others under the provisions of water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted	Noted and followed
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc. Shall be obtained as applicable by project proponents from the respective competent authorities.	Noted	Noted and appropriate approvals in place
10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing, that the project has been accorded Environmental Clearance and copies of Clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment & Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearances letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied	Advertisement given in the two local newspapers
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundations Vs. Union of India in Writ Petition (Civil)No.460 of 2004 as may be applicable to this project.	Noted	
12	Any appeal against the Environment Clearance shall be with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 off the National Environment Appellate Act, 1997.	Noted	
13	A copy of Clearance letter shall be sent by the proponent to concerned Panchayat,Zilla Parisad/Municipal Corporation. Urban Local body and the Local NGO, if any , from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Noted	
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ ,NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complied	Uploading the monitoring results in the KPPL website on monthly basis

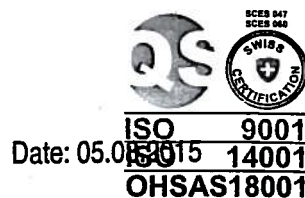


Cond. No	<u>Conditions</u>	<u>Status</u>	<u>KPPL Actions</u>
15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB	Complied	Six monthly reports are being sent
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Complied	Being sent on regular basis





Ref: KPPL/ENV/MOEF/031.



To
The Director,
Ministry of Environment and Forest and Climate Change,
Regional office,
Bangalore – 560034.

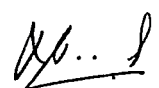
Sub: Submission of Half Yearly Periodic Monitoring report on Environment in the Port.

Dear Sir,

As per the conditions stipulated in Environmental Clearance letter from MOEF, Govt of India (No.10 - 42/2009 - IA – III, dated 22.09.2009) under coastal regulation zone notification 1991, General Condition No. 15 herewith we are submitting the report on Periodic Monitoring on Environment in the port area. The environmental attributes monitored during January 2015 to June 2015 through MoEF approved laboratory is enclosed. The environmental data measured/recorded on Air, Noise, Water and Sediment are well within the prescribed norms.

Thanking you.

Yours faithfully,


(Capt. Prasad Rebala)
Chief Operating Officer


(A. Jeyaraj)

SP KARAIKAL <609602>
ET980154569TN
Counter No:2, OP-Code:VAB
To: THE CHIEF CONSERVATOR OF FOREST
BANGALORE, PIN:560034
From: M. SEKARKILAVANIGORE, TR. PATTINAM
Wt:115grams,
Amt:46.00 , 05/08/2015 , 17:57



Enclosure: Periodic Monitoring report on Environment in the Port: Jan 2015 to June 2015.

CC: Puducherry Pollution Control Committee / Department of Science, Technology & Environment.

KARAIKAL PORT PRIVATE LIMITED

CIN: U45203PY2006PTC001945

Corp.Off : Chettinad Business Chamber, 3rd Floor, Dr Radhakrishnan Salai 5th street,
(Near AVM Rajeswari Marriage Hall) Mylapore Chennai 600 004
Tel : +91 44 4562 2000 Fax : +91 44 4562 2080

Regd. Off : Kheezhavanjoor Village, T.R. Pattinam, PB No. 33, Karaikal - 609 606
Tel : +04365 256600 (5lines), Fax : +04365 256603
www.karaikalport.com



A PERIODIC MONITORING REPORT ON ENVIRONMENT IN THE PORT

Period: January 2015 to June 2015



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KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

1. Back Ground

The Government of Pondicherry (GoP) sought participation of private sector in the development and operation of the Karaikal deep-water port project. Concession for the project was awarded to Marg Constructions Ltd (MCL) through the tendering process for the development of the port on a Built-Own-Transfer (BOT) basis for a period of 30 years and construction activities are going on in phased manner.

Karaikal is located at the fag end of the Cauvery basin at a distance of 150 km from Puducherry. Karaikal is surrounded by Cuddalore district on the North and Nagapattinam district on the South and Kumbakonam district on West. Karaikal is one of the important industrial hubs in Puducherry and houses several industries. Several Oil and Gas exploration activities are in progress in the region and Oil and Natural Gas Corporation (ONGC) has a base at Neravy. Karaikal Port is located south-east of Vanjiyurkuppam in Vanjore village, T.R.Pattinam Commune Panchayat, Karaikal Taluk, Union Territory of Pondicherry. The location of the port site identified is 11° 50' N and 79° 51' E.

2. Environmental Monitoring

The Environmental Clearance was accorded to Karaikal Port Private Limited from MOEF, Govt of India vide Letter No. 112/2006 IA-III, dated 06.05.2006 under Coastal Regulation Zone notification 1991, for the development of Karaikal Port on BOT basis. As per the conditions (General condition no: ii) of the MOEF clearance (No.112/2006 IA-III), an Environmental Monitoring Program is being carried out on Monthly basis, Since December 2007.

3. Environmental Monitoring Agency:

The Chennai Mettex Lab Private Ltd has been assigned as Environmental Monitoring Agency. The environmental attributes to be monitored during the construction phase of the project and technical details of the environmental monitoring comprising monitoring parameters, methodology, sampling locations and frequency of monitoring as stated in the EIA report are carried out and presented in the report.



KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

4. WATER QUALITY

The environmental attributes to be monitored during the construction phase will cover both the marine and terrestrial environments. The monitoring program for water quality is presented in Tables 1 and the results from Jan 2015 to Jun 2015 were presented from Table 2 to Table 6.

Table 1: Marine Water Quality Monitoring

1.	Objective of Monitoring	The objective of marine water quality monitoring is to list out change in water quality during construction phase of port and use the results in planning of respective operations.
2.	Parameters to be monitored	Physical Properties: pH, Conductivity, Salinity, Turbidity, Temperature, Chemical : DO, BOD, COD, Oil and Grease, Nutrients, Sulphates and Chlorides Heavy Metals :Fe, Zn, Mg, Mn, Cd, Cr and Hg Bacteriological: Coliform count Marine Biology :Phytoplankton and Zooplankton
3.	Sampling Methodology	Marine water will be collected using a bottom sampler (Niskin Sampler). On-site tests such as pH, DO, Temp, EC will be carried out immediately after the sample collection. The samples intended for chemical, heavy metals and bacteriological analysis will be suitably preserved with necessary reagents. The plankton samples should be collected using plankton net of diameter of 0.35 m, no. 25 mesh size 63 μ . The plankton net should be towed for 15 minutes at the sampling location for collection of samples for the estimation of phytoplankton and zooplankton.
4.	No. of locations	Three Locations (3) (i) Harbor Basin (ii) Breakwater area (iii)Port approach channel
5.	Frequency of Measurements	The samples will be collected on-a monthly basis one-week prior to commencement of construction at particular location and spread over for construction period of that work.
6.	Compliance	The tested samples will be compared with the primary water quality standards framed by Central Pollution Control Board and also with other relevant guidelines to assess the compliance during the entire phase of the construction activities.



KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

Table 2. Marine Water Quality of Karaikal Port

Location: Harbour basin

Parameters	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Temperature ($^{\circ}\text{C}$)	26.9	26.8	29.8	28	28.9	28.0
pH	8.21	7.45	7.95	8.10	7.85	7.68
Salinity (%)	3.54	3.38	3.26	4.22	4.88	4.75
TSS (mg/L)	6	4	3	14	11	6
DO (mg/L)	7.2	8.1	7.6	7.9	6.4	7.2
BOD (mg/L)	5	4	5	4	5	4
COD (mg/L)	29	26	28	24	33	26
Oil & Grease (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
NO ₂ (mg/L)	BDL	0.73	BDL	0.31	0.42	0.08
NO ₃ (mg/L)	1.84	2	1.8	1.1	3	1.4
NH ₄ (mg/L)	1.26	0.89	0.71	0.30	0.38	BDL
Total Nitrogen (mg/L)	BDL	BDL	BDL	BDL	BDL	2.2
Total Phosphate (mg/L)	BDL	BDL	BDL	BDL	BDL	0.1
Silicate (mg/L)	BDL	0.34	0.31	0.22	0.28	0.47
coliform (MPN/100ml)	90	110	80	50	70	46
Heavy metals						
Fe (mg/L)	BDL	BDL	BDL	BDL	BDL	0.36
Zn (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Mn (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cd (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cr (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Hg (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 3. Marine Water Quality of Karaikal Port

Location: Breakwater

Parameters	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Temperature ($^{\circ}\text{C}$)	26.9	26.9	29.9	28	28.9	28.0
pH	7.82	7.50	7.43	8.20	8.05	7.69
Salinity (%)	3.57	3.48	3.36	4.14	5.64	5.18
TSS (mg/L)	6	5	4	8	4	5
DO (mg/L)	7.4	7.8	6.6	6.8	6.9	7.9
BOD (mg/L)	4	5	3	6	5	5
COD (mg/L)	28	29	25	27	28	29
Oil & Grease (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
NO ₂ (mg/L)	BDL	0.83	BDL	0.48	0.71	0.078
NO ₃ (mg/L)	BDL	1.8	1.1	1.4	3.5	1.67
NH ₄ (mg/L)	1.74	0.78	0.65	0.35	0.22	BDL
Total Nitrogen (mg/L)	BDL	BDL	BDL	BDL	BDL	2.20
Total Phosphate (mg/L)	BDL	BDL	BDL	BDL	BDL	0.28
Silicate (mg/L)	BDL	0.31	0.34	0.20	0.27	0.52
coliform (MPN/100ml)	70	70	110	70	Ab	40
Heavy metals						
Fe (mg/L)	BDL	BDL	BDL	BDL	BDL	0.39
Zn (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Mn (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cd (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cr (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Hg (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL

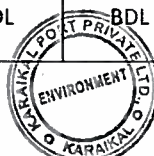


KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 4. Marine Water Quality of Karaikal Port

Location: Port Entrance channel

Parameters	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Temperature (⁰ c)	26.9	26.8	29.7	28	28.9	28.0
pH	8.01	7.25	7.10	8.30	7.8	7.67
Salinity (%)	3.29	3.40	3.31	4.2	7.74	5.18
TSS (mg/L)	14	5	4	12	8	9
DO (mg/L)	7.9	8.4	7.8	6.2	7.3	6.8
BOD (mg/L)	3	3	2	6	3	4
COD (mg/L)	21	22	16	32	19	25
Oil & Grease (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
NO ₂ (mg/L)	BDL	0.77	BDL	0.52	0.78	0.077
NO ₃ (mg/L)	1.95	2	1.61	2	4	1.7
NH ₄ (mg/L)	0.76	0.86	0.71	0.47	0.6	BDL
Total Nitrogen (mg/L)	BDL	BDL	BDL	BDL	BDL	2.0
Total Phosphate (mg/L)	BDL	BDL	BDL	BDL	BDL	0.20
Silicate (mg/L)	BDL	0.33	0.29	0.27	0.32	0.38
coliform (MPN/100ml)	70	50	90	40	Abs	24
Heavy metals						
Fe (mg/L)	BDL	BDL	BDL	BDL	BDL	0.34
Zn (mg/L)	BDL	0.18	BDL	BDL	BDL	BDL
Mn (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cd (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Cr (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL
Hg (mg/L)	BDL	BDL	BDL	BDL	BDL	BDL



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 5. Marine Water Quality of Karaikal Port

Parameters	Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Coliform count MPN/100ml	Harbour Basin	90	110	80	50	70	46
	Breakwaters Area	70	70	110	70	0	40
	Port Entrance channel	70	50	90	40	0	24
Phytoplankton							
Total cell count (No./L)	Harbour Basin	33,600	34,600	34,500	34,200	33,800	21,285
	Breakwaters Area	38,400	38,600	37,100	38,900	38,500	22,351
	Port Entrance channel	37,400	37,400	35,300	37,500	38,300	19,325
Total Genera (No.)	Harbour Basin	04	04	04	04	05	09
	Breakwaters Area	05	05	05	05	06	09
	Port Entrance channel	05	05	05	05	06	09
Zooplankton							
Population (Nos./m ³)	Harbour Basin	33,200	33,400	32,500	33,500	33,400	44,352
	Breakwaters Area	37,200	36,800	36,300	36,300	36,500	44,657
	Port Entrance channel	38,900	38,200	37,900	37,900	37,100	42,258
Faunal groups (No.)	Harbour Basin	06	05	05	05	06	10
	Breakwaters Area	06	06	06	06	06	10
	Port Entrance channel	07	07	07	06	06	10



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 6. Marine Water Quality of Karaikal Port

S.No	DESCRIPTION	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Sampling location : Harbour Basin							
1	Electrical Conductivity (µmhos/cm)	55920	67400	59500	54680	55480	58400
2	Turbidity NTU	< 0.9	0.9	0.7	1.8	1.4	5.34
3	Cl (mg/L)	21492	20538	19767	25584	24912	19239
4	SO ₄ (mg/L)	2684	2544	2704	2114	2559	3553
5	Na (mg/L)	12446	12248	12980	10844	10456	9814
6	Ca (mg/L)	628	470	420	875	610	465
7	Mg (mg/L)	1458	1264	1544	1516	1633	1252
8	K (mg/L)	367	340	330	279	272	422
Sampling location : Breakwaters Area							
1	Electrical Conductivity (µmhos/cm)	57430	67250	62100	55200	53640	58800
2	Turbidity NTU	< 1.2	0.6	0.4	1.2	0.9	5.71
3	Cl (mg/L)	21685	21117	20397	25113	24044	19476
4	SO ₄ (mg/L)	2438	2664	2464	2208	2464	3468
5	Na (mg/L)	12246	12606	12080	11224	11734	9873
6	Ca (mg/L)	614	490	577	604	673	466
7	Mg (mg/L)	1427	1227	1417	1491	1556	1252
8	K (mg/L)	344	344	310	285	270	420
Sampling location : Port Entrance channel							
1	Electrical Conductivity (µmhos/cm)	57800	67200	61000	54600	55300	58900
2	Turbidity NTU	< 0.8	0.8	0.6	1.6	1.2	5.54
3	Cl (mg/L)	19808	20635	20106	25311	24366	19476
4	SO ₄ (mg/L)	2744	2589	2340	2449	2276	3553
5	Na (mg/L)	13600	12480	11890	11880	11440	425
6	Ca (mg/L)	469	511	525	792	905	9780
7	Mg (mg/L)	1475	1264	1312	1427	1467	1252
8	K (mg/L)	332	342	325	305	289	426



5. SEDIMENT QUALITY

The environmental attributes to be monitored during the construction phase of the project and technical details of the environmental monitoring comprising monitoring parameters, methodology, sampling locations and frequency of monitoring as stated in the EIA report are presented in Table 7 and the results from Jan 2015 to Jun 2015 are presented in Table 8 to Table 10.

Table 7 : Sediment Quality Monitoring

1.	Objective of Monitoring	The objective of sediment quality monitoring is to list out changes in sediment quality during construction phase and use the results in planning of respective operations.
2.	Parameters to be monitored	Physico-Chemical Properties: pH, Organic matter, Nutrients and Oil and Grease Metal Analysis: Fe, Zn, Mg, Mn, Cd, Cr, Ni, Pb and Hg Benthic Communities: Macro and Micro flora and fauna
3.	Sampling Methodology	Marine sediment will be collected using a Peterson's Grab Sampler. The collected sediment will be segregated at site for analysis of physico-chemical parameters, heavy metals and benthic communities. The sediment sample for benthic communities will be subjected to sieving to record the macro benthos and then the samples will be preserved with Rose Bengal and Formalin Solution for further analysis of Benthic communities.
4.	No. of locations	Three Locations (3) 1.Harbor Basin 2.Breakwater area 3.Port approach channel
5.	Frequency of Measurements	The samples will be collected on a monthly basis commencing one week prior to commencement of construction at that location and spread over for construction period of that work.
6.	Compliance	At present, there are no standards for sediment quality in India. However, there will not be marked variations in the sediment quality during the entire construction phase.



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 8. Marine Sediment Quality of Karaikal Port

Nutrients	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Sampling location : Harbour basin						
pH @ 25°C (1:10 ratio)	8.10	6.46	7.88	6.23	7.78	7.71
NO ₂ (mg/kg)	4.5	0.24	0.57	0.49	0.42	11.6
NO ₃ (mg/kg)	55.6	58	47	66	75	98.0
NH ₃ (mg/kg)	8.3	8.21	7.78	6.7	5.6	4.6
Total Nitrogen %	25.7	32	30	56	49	47
Inorg Phosphate (mg/kg)	10.7	262	241	265	220	BDL
Phosphate (mg/kg)	4.5	262	241	265	220	11.7
SiO ₂ %	62.35	61.98	64.5	62.5	63.7	80.4
Sampling location : Breakwater						
pH @ 25°C (1:10 ratio)	8.25	6.34	7.97	6.46	7.6	7.7
NO ₂ (mg/kg)	5.6	0.44	0.39	0.51	0.41	12.4
NO ₃ (mg/kg)	33.7	75	71.1	132	116	73.0
NH ₃ (mg/kg)	8.3	11.4	9.68	3.3	2.7	4.7
Total Nitrogen %	20	29	25.6	99	82	95
Inorg Phosphate (mg/kg)	4.5	283	264	194	183	BDL
Phosphate (mg/kg)	1.9	283	264	194	183	9.1
SiO ₂ %	59.03	63.1	62.4	60.8	62.3	79.3
Sampling location : Port Entrance channel						
pH @ 25°C (1:10 ratio)	7.95	6.12	7.95	6.61	7.15	7.69
NO ₂ (mg/kg)	7.6	0.47	0.42	0.71	0.57	14.2
NO ₃ (mg/kg)	36.01	95	89	170	151	91.0
NH ₃ (mg/kg)	7.5	15	11.8	9.6	7.8	9.0
Total Nitrogen %	23.04	114	102	79	66	97
Inorg Phosphate (mg/kg)	10.2	262	235	209	179	BDL
Phosphate (mg/kg)	4.3	262	235	209	179	10.7
SiO ₂ %	63.2	62.4	61.3	63.3	61.7	80.5



KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

Table 9. Marine Sediment Quality (Heavy Metal Analysis)

S.No	DESCRIPTION	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
Sampling location : Harbour Basin							
1	Iron (Fe) %	1.84	2.98	2.91	2.44	2.65	2.2
2	Zinc (Zn) mg/Kg	BDL	61.7	56.4	91.1	81	26.0
3	Manganese, mg/Kg	490	410	421	608	570	1.2
4	Cadmium (Cd) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL
5	Chromium (Cr) mg/Kg	BDL	59.6	58.2	82.7	70.7	58.0
6	Mercury (Hg) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL
Sampling location : Breakwaters Area							
1	Iron (Fe) %	1.79	3.13	3.09	2.32	1.91	2.5
2	Zinc (Zn) mg/Kg	BDL	49.7	48.6	74	63	30.0
3	Manganese, mg/Kg	707	541	570	674	616	882
4	Cadmium (Cd) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL
5	Chromium (Cr) mg/Kg	BDL	64.7	61.3	78	57	64.0
6	Mercury (Hg) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL
Sampling location : Port Entrance Channel							
1	Iron (Fe) %	2.02	3.07	3.15	2.37	2.1	2.6
2	Zinc (Zn) mg/Kg	BDL	50.5	47.1	89.5	78.1	33.0
3	Manganese, mg/Kg	594	532	540	797	721	BDL
4	Cadmium (Cd) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL
5	Chromium (Cr) mg/Kg	BDL	63.7	59.1	83.2	72.6	70.0
6	Mercury (Hg) mg/Kg	BDL	BDL	BDL	BDL	BDL	BDL



KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

Table 10. Marine Sediment Quality of Karaikal Port

Benthic Communities	Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
MACROBENTHOS POPULATION (Nos./m²)							
Polychaetes, Bivalves, Gastropods & Crustaceans	Harbour Basin	70	80	60	85	95	95
	Breakwaters Area	90	95	80	80	85	80
	Port entrance channel	95	100	80	90	100	90
MEIOBENTHOS POPULATION (Nos./m²)							
Amphipods, Copepods, Foraminifera, Fish eggs & Gastropod veliger	Harbour Basin	650	700	550	650	750	1210
	Breakwaters Area	680	700	600	600	650	700
	Port entrance channel	720	900	750	800	900	900



6. AMBIENT AIR QUALITY

The environmental attributes to be monitored during the construction phase of the project and technical details of the environmental monitoring comprising monitoring parameters, methodology, sampling locations and frequency of monitoring as stated in the EIA report are presented in Table 11 and the results from Jan 2015 to Jun 2014 in Table 12.

Table 11: Ambient Air Quality Monitoring

1.	Objective	The ambient air quality monitoring will be carried out with an objective to plan the activities involved in construction phase in line with the ambient air quality status with an aim to protect adjoining communities from air pollution.
2.	Parameters to be monitored	Suspended Particulate Matter (SPM) Respirable Particulate Matter (RPM) Sulphur Dioxide (SO ₂) Oxides of Nitrogen (NO _x) Carbon Monoxide (CO)
3.	Sampling Methodology	The air quality monitoring will be conducted using Respirable Dust Samplers. CO will be collected by Peroxide tube method or by portable CO meter.
4.	No. of locations	Two Locations (i) Vanjurkuppam (ii) Vanjoor
5.	Frequency of Measurements	Once in a month for the entire construction period.
6.	Compliance	The monitoring results will be compared with the National Ambient Air Quality Standards.



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

Table 12. Ambient Air Quality Analysis

Sampling location: Vanjoor

Sl.No	Parameters	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
1	PM ₁₀ µg/m ³	52.4	50.2	55.6	62.9	59.1	20.3
2	PM _{2.5} µg/m ³	23.3	24.5	22.7	28.2	23.4	10.1
3	SO ₂ µg/m ³	6.5	5.9	6.1	6.6	7.2	20.9
4	NO ₂ µg/m ³	9.1	8.6	9.5	10.1	9.9	33.6
5	CO mg/m ³	BDL	BDL	BDL	BDL	BDL	BDL

Sampling location: Vanjoor Kuppam

Sl.No	Parameters	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15
1	PM ₁₀ µg/m ³	57.5	68.3	66.2	66.5	67.6	19.6
2	PM _{2.5} µg/m ³	29.4	31.6	30.3	27.2	34.5	10.0
3	SO ₂ µg/m ³	10.2	9.5	10.1	10.7	9.2	23.5
4	NO ₂ µg/m ³	15.3	14.8	15.9	13.6	12.1	43.2
5	CO mg/m ³	BDL	BDL	BDL	BDL	BDL	BDL



KARAIKAL PORT PRIVATE LIMITED - Jan to Jun 2015

7. NOISE LEVEL ANALYSIS

The technical details of the environmental monitoring comprising monitoring parameters, methodology, sampling locations and frequency of monitoring as stated in the EIA report are presented **Table 13** and the result from Jan 2015 to Jun 2015 in **Table 14**.

Table 13: Noise Level Monitoring

1.	Objective	The objective of noise level monitoring is to use check noise levels in the vicinity of the Project site against the background levels and plan the activities accordingly without affecting the communities surrounding the site.
2.	Parameters to be monitored	Hourly noise levels for 24 hours
3.	Sampling Methodology	The noise levels will be recorded using a portable hand-held noise level meter
4.	No. of locations	Two Locations (2) 1. Vanjurkuppam 2. Vanjoor
5.	Frequency of Measurements	Once in a month during construction period
6.	Compliance	The monitoring results will be compared with the National Ambient Noise Standards.



KARAIKAL PORT PRIVATE LIMITED – Jan to Jun 2015

Table 14. Measured Noise Levels

Sampling Locations: 1.Vanjoor 2. Vanjoor Kuppam

S. No	Time	Noise Level											
		Jan 15		Feb 15		Mar 15		Apr 15		May 15		Jun 15	
		1	2	1	2	1	2	1	2	1	2	1	2
1.	06.00 AM	44.7	44.9	47.3	48.1	48.9	50.5	45.7	50.3	49.7	49.8	60.1	56.8
2.	07.00	49.2	52.7	48.6	49.3	49.1	50.3	47.3	49.6	48.2	50.1	59.8	54.7
3.	08.00	49.6	52.9	49.3	49.4	49.3	50.1	47.8	51.7	48.9	52.6	57.6	54.3
4.	09.00	49.7	54.1	49.5	50.6	49.6	53.6	49.2	53.6	49.5	54.7	55.4	52.8
5.	10.00	50.4	53.8	50.1	51.7	49.5	53.7	49.8	55.1	51.3	54.9	56.8	56.8
6.	11.00	48.6	51.6	49.8	51.4	50.7	54.8	50.2	55.3	51.7	55.7	57.6	59.6
7.	12.00 PM	47.2	50.8	48.9	50.1	51.3	54.2	50.1	54.8	51.8	54.8	58.6	60.1
8.	01.00	47.8	51.9	49.2	49.2	51.2	53.9	49.7	54.6	52.2	54.3	54.2	60.2
9.	02.00	48.5	52.7	49.5	49.4	53.8	52.7	49.9	53.9	51.9	54.8	56.6	60.1
10.	03.00	48.2	51.6	50.6	50.7	53.2	53.2	50.6	54.2	51.4	52.9	57.8	56.8
11.	04.00	47.6	49.8	50.7	51.6	52.9	53.5	51.3	53.9	51.2	52.7	60.1	59.5
12.	05.00	47.3	52.5	49.8	52.2	52.7	53.8	51.5	54.2	50.8	53.4	60.2	56.4
13.	06.00	48.8	52.8	49.6	52.8	51.3	53.1	51.8	54.6	51.6	55.6	58.6	58.8
14.	07.00	49.2	51.6	49.7	50.1	51.4	51.9	50.4	52.8	51.1	53.9	57.6	57.6
15.	08.00	48.7	51.3	48.8	49.5	49.2	51.4	50.7	52.1	49.8	53.4	55.8	58.6
16.	09.00	47.2	52.4	46.2	49.3	48.6	51.7	50.3	51.9	49.6	52.7	56.4	55.8
17.	10.00	45.4	50.9	46.7	46.1	47.3	50.6	49.6	51.6	48.4	51.2	56.3	54.3
18.	11.00	43.8	47.3	45.2	46.3	46.5	49.3	47.3	49.3	48.6	50.6	54.2	52.1
19.	12.00 AM	43.7	48.2	43.8	44.2	46.8	49.6	47.1	49.8	48.2	50.3	52.1	50.8
20.	01.00	42.9	44.9	43.2	44.7	44.3	49.2	45.2	50.2	48.7	48.9	50.8	49.5
21.	02.00	41.5	44.3	42.8	43.2	45.7	46.7	44.8	50.4	47.6	48.2	50.1	49.8
22.	03.00	39.6	45.7	41.9	43.6	45.9	46.8	44.6	49.7	47.1	49.2	49.6	47.6
23.	04.00	39.2	42.8	41.7	42.7	46.8	49.2	43.1	49.2	46.8	47.3	48.4	48.8
24.	05.00	42.8	43.1	42.6	46.2	48.2	50.7	43.4	50.1	47.3	48.1	47.6	50.2



8. SAMPLING LOCATION

The figure below denotes the places where the sample has been taken for analysis.



Fig .1 Sampling Locations for Air, Noise, Water and Sediment



ANNEXURE- 1B

KPPL/ ENV/ MoEF&CC/2017/05

28.04.2017

To,

The Additional Principal Chief Conservator of Forests (C)

Ministry of Environment, Forests and Climate Change,

Regional Office (SEZ)

Chennai – 34

Sub: Certified Compliance Report (Latest) by the Regional Office, Chennai

Sir,

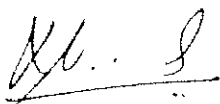
This is with respect to the requirement raised by the Expert Appraisal Committee, (Infra 2) MoEF&CC, for Infrastructure and CRZ projects while processing our Environment Clearance (EC) for Expansion (LNG Terminal) as quoted below

"Copy of certified compliance report (latest) issued by the Regional Office, Chennai/ Bangalore on the Environmental condition stipulated in the earlier EC issued by MoEF&CC".

We therefore request you to issue a 'Certified Compliance Report (Latest)' by your good office so as to take the EC processing for the expansion project forward.

Thanking you for your cooperation,

Yours sincerely,



(Capt Prasad Rebala)

Chief Operating Officer

Submitted on 1st May 17.
F2

CC: 1) Minutes of Meeting of EAC (Infra 2) 2 12th April 2017

2) Latest Monitoring Report
KARAİKAL PORT PRIVATE LIMITED
CIN: U45203PY2006PTC001945
Registered Office

Kheezhavanjoor Village, T.R. Pattinam, PB No. 33, Karaikal - 609 606. Tel. : +91 4365 256600 (5 Lines) Fax : +91 4365 256603

Corporate Office

Chettinad Business Chamber, 3rd Floor, Dr. Radhakrishnan Salai, 5th Street (Near AVM Rajeswari Marriage Hall)

Mylapore, Chennai 600 004. Tel. : +91 44 4562 2000 Fax : +91 44 4562 2082

ANNEXURE- 1C

Monitoring Report

Date of Monitoring: 6th and 7th January, 2016

Subject: Environmental and CRZ clearance for expansion of Karaikal Port (Phase II) by M/s. Karaikal Port Pvt. Ltd., Karaikal, Puducherry.

Reference: MoEF&CC's EC letter No. 10-42/2009-IA.III dated the 22nd September, 2009 & RO of the MoEF&CC at Chennai - F. No. EP/12.1/2/2015/PY.

S. No	Specific Conditions as contained in the Environmental and CRZ clearance	Compliance Status
(i)	The quality of river water of both the rivers shall be re-assessed and report shall be submitted to the Ministry within three months.	As reported the same is complied.
(ii)	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	As reported, complied.
(iii)	Washing from Auction Hall/Sewage shall be treated and the Treatment facility shall be provided in accordance with the Coastal Regulation Zone Notification, 1991. The disposal of treated water shall confirm the regulation of Puducherry Pollution Control Board.	As reported, the provision of Auction Hall is not required for the Project; and Sewage Treatment Plant with a capacity of 25 KLD installed for treatment of domestic sewage and treated water quality conforming to the regulation of PPCC.
(iv)	Putrefied and discarded parts of fishes shall be removed and disposed off in the approved landfill/used as manure/poultry feed.	As informed this condition does not pertain to this project.
(v)	Oil Spills if any shall be properly collected and disposed as per the Rules.	As reported till date there is no Oil Spill occurrence. Requisite equipment procured, and the contingency plan for containing the Oil Spill is in place.
(vi)	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	As reported and explained with pictographical illustration, in accordance with International norms requisite provisions are in place thereby following Navigation and traffic control guidelines. Through Department of Fisheries, Govt. of Puducherry awareness and Education are regularly imparted to the fishermen including the said traffic guidelines.
(vii)	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	As reported, complied.

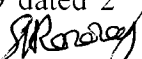
(viii)	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	As reported and observed the efforts made for green belt, complied. However, details of expenditure incurred so far and funds allocated for the last 3 years not provided.
(ix)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	As reported the funds earmarked for environment management plan for 2014-15 and 2015-16 is about Rs.65 lakh and Rs.150 lakh respectively.
S.No	General Conditions as contained in the Environmental and CRZ clearance	Compliance Status
(i)	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	As reported, complied.
(ii)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	As reported, digging activities were carried out to the extent of erecting pillars for operation of Coal Handling Mechanization Project by adopting advanced technological practices and therefore degradation of ground water quality is not envisaged.
(iii)	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a) No excavation or dumping on private property is carried out without written consent of the owner. (b) No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations. (c) Excavation work shall be done in close consultation with the Soil Conservation and Watershed Development Agencies working in the area, and (d) Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach into the ground water.	As reported, the Road construction involved to the extent of sideways from the existing roads already in place under this Phase of the Project. In view of this, these conditions are not applicable.
(iv)	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened, specific approvals from the competent authority shall be obtained in this regard.	As reported, construction material obtained from M/s Marg Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai; and the Project Authority never envisaged for requirement of new quarries in this regard.

(v)	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	As observed and reported, complied.
(vi)	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Agreed to comply.
(vii)	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Agree to comply.
(viii)	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted and Agreed upon.
(ix)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Noted and Agreed upon.
(x)	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	As reported, on 12 th June, 2009, the financial closure was achieved; and the project is a continuity of Phase I.
(xi)	Puducherry Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	As informed, the Puducherry Pollution Control Committee complied.
8	These stipulations would be enforced among others under the provisions of Water (Prevention & Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	As informed, being complied.
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives. Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and wildlife (Protection) Act, 1972 etc., shall be obtained as applicable by project proponents from the respective competent authorities.	As reported, requisite clearances obtained from the concerned competent authorities.

10	The project proponent shall advertise in at two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Puducherry Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.enfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	As reported, complied.
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundations Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Agreed upon.
12	Any appeal against the Environment Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted.
13	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	As reported, complied.
14	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Not uploaded on the website. As reported, the compliance report for January to June 2015 is merely water and ambient air quality reports only.

15	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) as reported by the PP. The same may be requested to submit same for record and reference of this office.
16	The environmental Statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	As reported, the environmental Statement for each financial year ending 31st March, 2015 in Form-V submitted to the then Ro at Bangalore. And copy to PPCC, Puducherry.

It has the approval of Additional PCCF (Central), RO of the MoEF & CC vide dy.No.529 dated 2nd May, 2016.


(Dr. S.V. Reddy)
Scientist 'F'
3rd May, 2016

ANNEXURE- 2

Marine Biodiversity Conservation & Management Plan for the Development of Bulk Liquid Berth for Handling LNG at Karaikal Port

Date: 5th May 2017

Prepared by



**Annamalai University
Faculty of Marine Sciences
Centre of Advanced Study in Marine Biology (CASMB)
Parangipettai - 608 502
Tamil Nadu**

Study Research Team

Marine Biodiversity Conservation & Management Plan for the Development of Bulk Liquid Berth for Handling LNG at Karaikal Port

Project Advisor

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Former Director & Dean, Faculty of Marine Sciences, Annamalai University

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Dr. G. Mahadevan

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Mr. V. Bharathidasan

Mr. P. Partha Sarathy

Prepared for

Karaikal Port Pvt. Ltd.

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Marine Diversity Conservation and Management Plan

1. INTRODUCTION

Karaikal Port Private Limited (KPPL) is an all-weather Port developed by MARG Group on Build, Operate and Transfer format under Public Private Partnership in terms of the concession awarded by the Government of Puducherry. It is located on the east coast of India in Karaikal within the Union Territory of Puducherry. The Port is in operation since 2009 and it handled over cumulatively 32 Million Tonnes of various cargoes including Liquid Petroleum till date. Presently KPPL is planning to set up a liquid cargo berth to handle LNG on the southern breakwater. The present survey was carried out to study the feasibility of development of Bulk liquid cargo berth for handling LNG adopting Floating Storage Regasification Unit (FSRU) /Floating Storage unit/LNGC with LNG vessel berthed alongside and connected to the shore by means of a jetty.

The project was accorded CRZ recommendation by Pondicherry Coastal Zone Management Authority (PCZMA) and application for Environmental/CRZ clearance is submitted to Ministry of Environment, Forests and Climate Change (MoEF&CC). Project was considered by respective Expert Appraisal Committee (EAC) in its 15th meeting held on 12- 14th April, 2017. In the subsequent minutes of the meeting, the committee has recommended the following:

“The project proponents were advised to prepare a detailed biodiversity impact assessment report and management plan through the NIO's or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro and macro and mega flora and fauna including benthos, plankton, turtles,

birds etc. as also the productivity. The data collection and impacts assessment shall be as per standard survey methods.”

Indomer and Karaikal Port approached **Centre for Advanced Studies in Marine Biology (CASMB), Annamalai University**, the reputed Academic and Research Institute, to prepare the ***marine diversity conservation management plan*** as suggested by EAC, MoEF&CC. This report was then prepared by collecting both primary and secondary data pertaining to the project region i.e., within 15 km radius as per the guidance given by the Committee.

2. PROJECT LOCATION

The Karaikal Port is located along the east coast of India at about 9 km south of Karaikal town, under the Union Territory of Puducherry (Lat. 10°50'00"N Long. 79°57'23"E). The total land allotted to develop the port area is about 600 acres. The coastal stretch comprises very low and narrow beaches. The port location is abutted by Vettar River on the south side and Puravadaianar River on the north side. The port provides a vital sea link for the rich hinterland thus holding the key for accelerated growth of the entire region. The hinterland connectivity to port has been provided by connecting the port with NH45A and NH 67.

The coastal biodiversity of Karaikal at the project site area and the adjacent estuaries/back waters were monitored in terms of biodiversity potential. The project location falls under the Coromandel coast which behave fairly differently compared to the adjacent Bengal region while beyond Vizaq is largely influenced by heavy fresh water influx viz., Gangetic – Brahmaputra complex and the tail end of the Coromandal coast has distinct ecosystem endowed with coral reefs, sea grasses and mangroves (which includes the Palk Bay and Gulf of Mannar beyond Point Calimere). The Coromandal coast in general is fairly stable and predominantly influenced by north east monsoon. The stable period included premonsoon, postmonsoon and summer periods, when the plankton, benthos and fishes, maintain good diversity. Fortunately the Karaikal area is being periodically monitored by our Centre under MoES – COMAPS (Coastal Ocean Monitoring and Prediction System), Govt. of India and in general this area has been identified as less disturbed in Tamilnadu compared to the Chennai and Tuticorin harbor areas. Thus, the present survey made by both primary and secondary data essentially covers all the biological indices during stable period viz., summer.

The abundance and diversity of various groups of organisms in the Open Ocean, near-shore and the estuaries have been described in the following sections. The information provided is the culmination of secondary data available with our center as well the primary data collected by INDOMER and by CAS, Annamalai University during the present season.

Field Survey Gallery



Figure 1 : Sediment and water sample collection and analysis by CAS

3. BIOLOGICAL PARAMETERS

Phytoplankton: With respect to phytoplankton, the density indicated that the area is productive and the values varied from 360 to 480mg C/m³/day in harbour basin. The values ranged from 360 to 600mgC/m³/day in coastal waters. It appears that the northern zone is slightly higher in productivity. The Phytoplankton diversity fluctuated from 33 to 39 species in the harbour basin and the phytoplankton diversity ranged from 35 to 42 species in coastal waters. Bacillariophyceae (Diatoms) formed the major group followed by Dinophyceae (Dinoflagellates) and Cyanophyceae (blue-green algae). Phytoplankton population analyzed at various stations showed that their numerical abundance varied from 34638 cells/l to 68939 cells/l. The coastal waters phytoplankton population varied from 7166 cells/l to 31643 cells/l. Gandhiyappan *et al.* (2001) reported the most dominant species found in this region are *Pseudonitzschia* sp. (49.04%), *Pleurosigma normanii* (3.91%), *Thalassiothrix frauenfeldii* (3.52%) and *Thalassionema nitzschioides* (2.84%) among Pennales, *Rhizosolenia alata* (8.58%) and *Coscinodiscus radiates* (2.22%) among Centrales (Prasath and HidayathuUakhan, 2005).

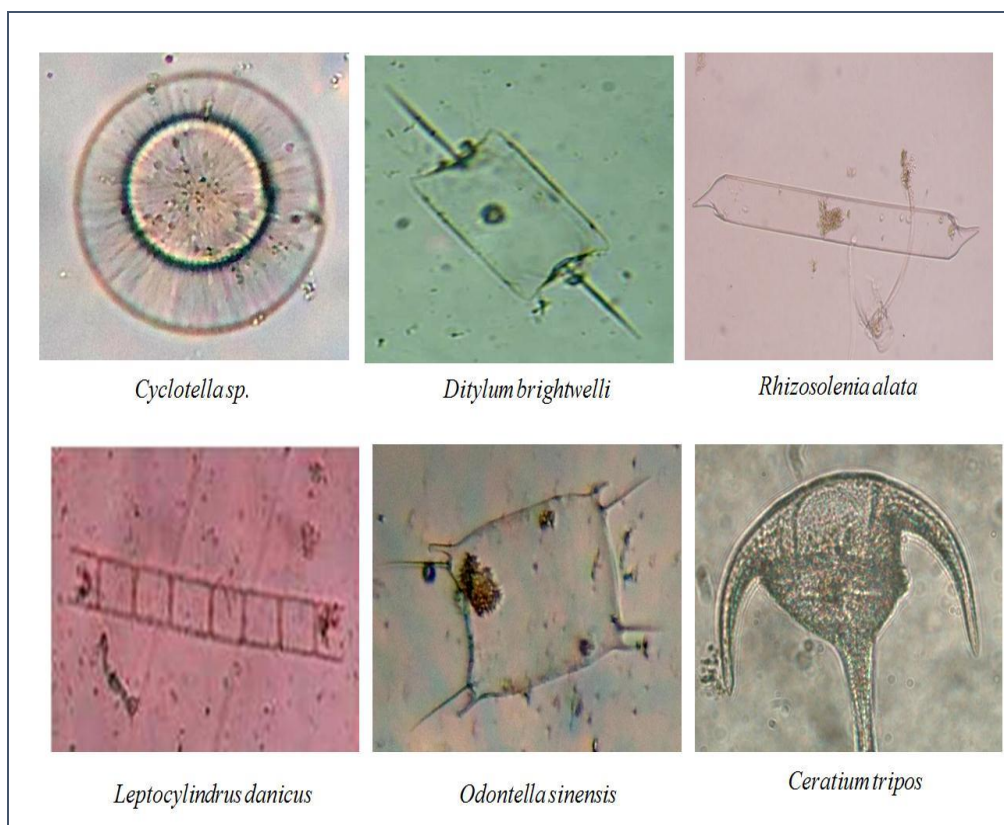


Figure 2: Common Phytoplankton species recorded from the Karaikal coastal water

Zooplankton: As regards zooplankton, the species diversity fluctuated from 27 to 30 at inside harbor basin. Coastal waters zooplankton species diversity varied from 26 to 36. The zooplankton data indicated a high standing stock in the area of observation. Zooplankton population analysis at various stations showed that their numerical abundance varied from 71740 cells/100 m³ to 104436 cells/100 m³ at inside harbour basin and the zooplankton population from coastal waters ranged between 80346 cells/100 m³ to 243789 cells/100 m³. The percentage occurrence of various groups also varied from place to place. The zooplankton biomass varied from 30.1 ml/100m³ to 71.8 ml/100m³ at inside harbour basin and the coastal waters varied from 31.1 ml/100m³ to 67.7 ml/100m³. Zooplankton population in this region was mostly dominated by the following species. *Evadne* species (44.16%) among cladocerans and copepods represented by *Temora turbinata* (14.52%), *Acartia erythraea* (7.35%), *Paracalanus parvus* (4.25%), *Acrocalanus gracilis* (2.87%) and *Eucalanus attenuatus* (2.17%). In general, *Tintinnopsis* sp., among tintinnids, *Sagitta* sp., Bivale veliger larvae, *Acartia erythraea*, *Acrocalanus gracilis*, *Eucalanus attenuates*, *Paracalanus parvus*, *Temora turbinata*, *Copepod nauplii*, *Corycaeus danae*, *Evadne* sp., *Mysid* larvae, *Lucifer* sp., *Oikopleura* larvae and Fish eggs to be found at all stations (Prasad, 2003; Vardharajan *et al.*, 2013).

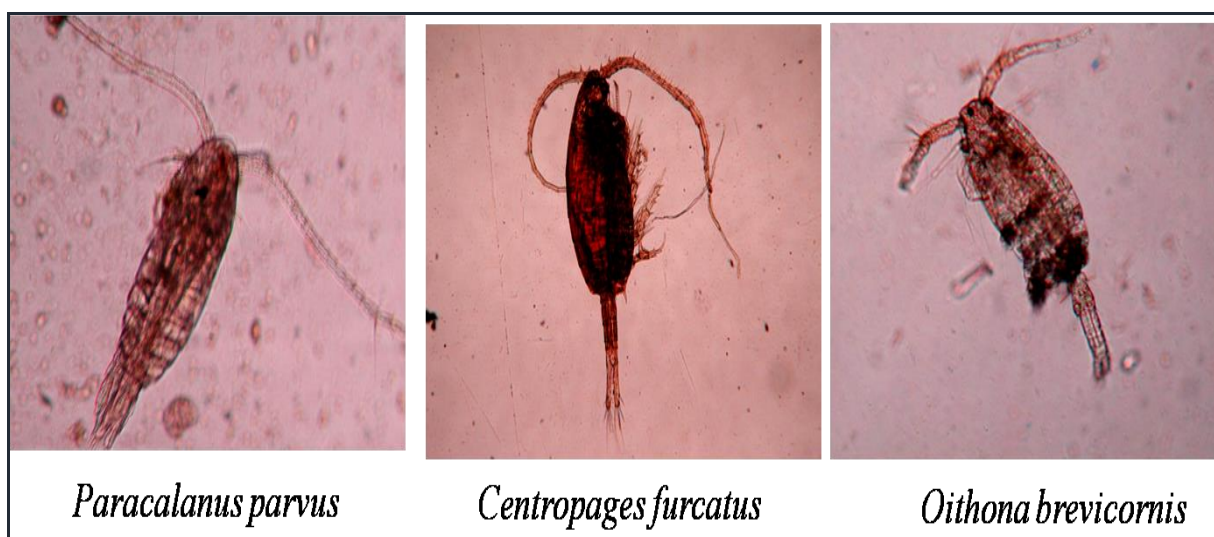


Figure 3: Common Zooplankton species recorded from the Karaikal coastal water

Subtidal benthos: The sediment characteristics of the study area showed very fine sand followed by silt & clay and medium sand. The numerical abundance of the benthic fauna varied from 120 nos./m² at stn. S2 to 350 nos./m² at inside harbor basin and coastal waters the benthic fauna ranged from 130 nos./m² to 660 nos./m². The faunal population mainly consists of Polychaetes followed by Amphipods, Bivalves, Gastropoda and Mysids. *Amphiouxis* sp (Chandrasekar *et al.*, 2012).

Intertidal benthos: The existence of fauna appeared to be low in all the stations. The numerical abundance of the inter tidal benthic fauna varied from 90 to 360 nos./m². Amphipods were the dominant group followed by Polychaetes and *Emerita* sp. Gastropods and bivalves were also recorded during the survey. In general, the subtidal benthic population was about 3 to 4 times more than intertidal benthic population. Polychaete was the dominant group found at the subtidal region. Polychaetes were collected from almost all the subtidal benthic region with the maximum of 590 nos./m² to 80 nos./m². Crustaceans dominated by amphipods were the second abundant group in the subtidal and intertidal benthic population followed by molluscan groups and cumacea. However, mysids and cumacea were completely absent at the intertidal region. The molluscan forms recorded at the subtidal region were mostly at all stations (Sivaleela and Venkataraman 2012).

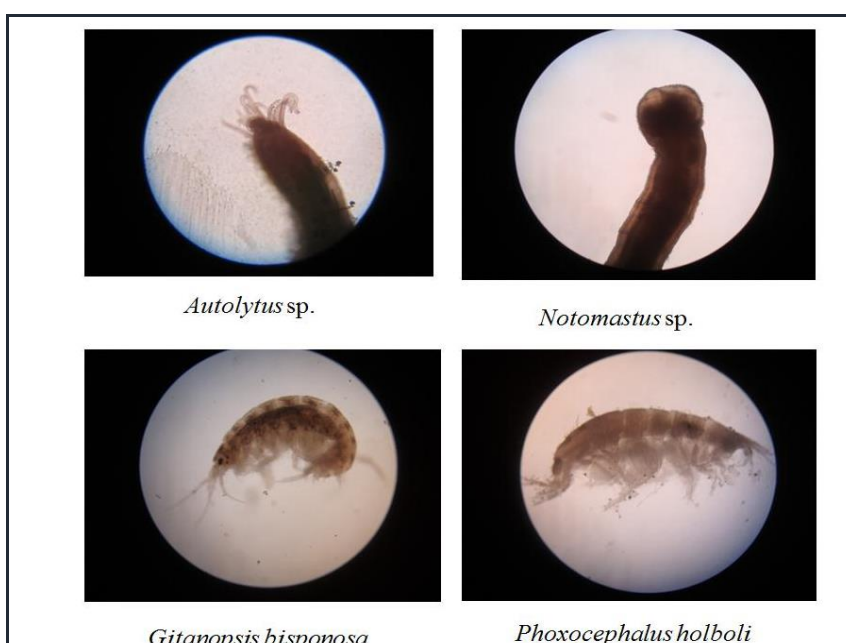


Figure 4: Common macro-benthos species recorded from the Karaikal coastal water



Celana radiata



Ficus ficoides



Telescopium Telescopium



Rapanabulbosa



Nassarius stolatus



Cerithiacea cingulate



Rapanarapiformis



Nertica maura



Turritella duplicata



Nertica albicilla



Anadara rhombea



Triachyardium asiaticum



Meritrix casta



Meritrix meritrix



Paphia malabarica

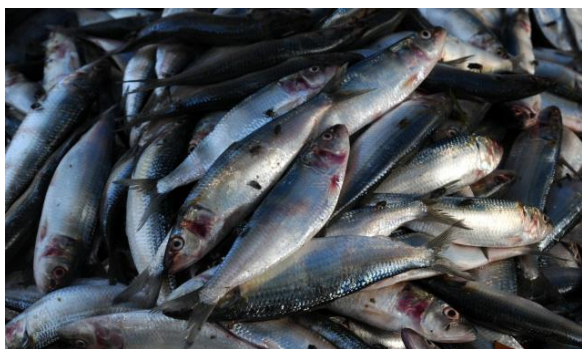


Saccostrea sp.

Figure 5: Common Molluscan species recorded from the Karaikal coastal water

4. FISHERIES RESOURCES

Karaikal has a total number of 10 fishing villages along the 20 km long coastline. The fishery data of Karaikal indicate that the yearly fish landings are not constant and fluctuate widely. A variety of fishing crafts, like mechanized boats, wooden vallams, FRP vallams, woodencatamarans, FRP catamarans, are used in this region. About 251 mechanized boats, 389 FRP catamarans, 26 Wooden catamaran with OBM, 1 FRP catamaran without OBM and 45 wooden catamarans without OBM and non-mechanized boats are engaged in fishing activities during day and night. Among the fishing gears, Gill nets, Trawl nets, Seine nets, Tangle nets, Hook nets, Bag nets, Lift nets etc. are primarily used for fishing by the local fishing communities. However, trawl nets and gill nets are the most popular gears among the local fisherfolk. The dominant species of the Karaikal region are fishes such as sharks, skates, oil sardines, lesser sardines, *Thrissocles*, *Perches*, *Caranx*, *Chirocentrus*, anchovies, silver bellies, seerfish, eels, ribbon fish, clupeides, *Sphyraena* sp., mullets, *Leiognathus*, mackerels, tunnies, Pomfrets, sciaenids, Trichiuridae, crabs (*Portunus sanguinolentus*) and penaeid prawns represented by *Penaeus monodon*, *P. indicus*, *Metapenaeus monoceros* and *M. dobsoni*. (Mishra and Krishnan 2003; Rajasegar and Sendhilkumar 2009).



Oil sardine *Sardinella longiceps*



Indian mackerel *Rastrelliger kanagurta*



Whitebait



Lactarius lactarius



Ribbonfish



Halfbeaks



Barracuda



Wolfherring



Carangids



Nemipterus sp.



Tunas

Figure 6: Few commercially important fish species of Karaikal coast

5. TURTLE

During the period of survey, no stranded or dead turtles (Olive Rидleys) were noticed on the Karaikal coast. However, earlier surveys conducted by others (Bupathy *et al.*, 2006) indicate that the average turtle mortality of Nagapattinam coast, of which Karaikal forms a part, is only 3/km over a period of one year (mainly January – April period).

6. CORALS

No coral communities were noticed in the project site. Sub-tidal samplings conducted at 10 locations spread over 150 km² also did not yield any clue for the presence of corals (Ramesh *et al.*, 2011).

7. MANGROVES

There is no well-established mangrove vegetation in the project area. However, small patches of short shrubs of mangrove plants (*Avicennia* sp.) were noticed along the banks of the Vettar mouth. The presence of mangroves was found very much limited in the vicinity of the Karaikal port (Ramesh *et al.*, 2011).



Avicennia sp.

Figure 7: A view of mangrove forests in Karaikal

8. COASTAL VEGETATION

Salt marsh plants like *Prosopis juliflora*, *Sesuvium* sp., *Casuarina litorea*, *Ipomea pes-caprae*, *Spinifex littoreus*, and *Calotropis* sp. were found to be sparsely distributed along the coastline.

In this context, the locations of Palk Bay and GoM are far away from the project area and located at 50 and 100 km respectively. They are enriched with seagrass and its associated ecosystems mangroves and corals. The proposed activity is no way connected to this ecologically sensitive ecosystem. Fortunately as listed above, there are no mangrove, corals and sea grass beds in the project location (Sambandan and Dhatchanamoorthy, 2012).

9. IMPACT, MITIGATION, CONSERVATION AND MANAGEMENT PLAN

The potential impacts on the marine environment due to the development of LNG Terminal have been identified considering the nature and extent of the activities associated with the project implementation and operation and presented in detail in the (C) EIA reports. To mitigate likely environmental impacts during construction and operation phases due to landside and marine side activities, suitable mitigation measures are incorporated as a part of planning process. The Marine Diversity management and conservation Plan along with specific mitigation measures are provided below viz.

- i) Water quality maintenance,
- ii) Stocking and maintenance of LNG terminal
- iii) Measures to maintain the beaches/sand dunes and other marine fauna

This calls for a continuous monitoring of the coastal and marine environment in terms of water quality and marine bio-resources by engaging a reputed institution. The monitoring should cover both during construction and operation phases.

9.1. Mitigation Measures during Construction Phase

9.1.1. Capital Dredging and Disposal of Dredged Material

The material trenched will be side cast and put back after the pipeline is laid in the trench. As the material which is going to be trenched will be put back in to same area/environment, there will not be any additional effect on marine environment with respect to addition of toxic metals concentration that already present in the trenching area.

a) Construction of Seawater Intake/Marine Outfall System

Due to construction/laying of outfall pipelines, there will be temporary disturbance to the seabed along the outfall alignment. The exposed portions of the pipelines can become a new habitat for marine organisms. Construction of outfall structure will be carried out in such a manner, which will have minimum impact on marine ecology by providing suitable screens and other devices so as to minimise the entrainment and impeachment to the marine organisms including larvae and young ones.

b) Marine Water Quality

No discharge from the equipment or work boats shall be allowed into marine waters. The construction activity will be confined within the project site and the impact will cease upon completion of construction.

c) Marine ecology

The periodic dredging in the project site is to be monitored closely and the impacts caused should be kept minimal by stopping the dredging activity and allowing the sediments to settle down. The dredging is purely for keeping the approach canal for adequate moment of vessels and thus there won't be any major impact on the marine environment.

d) Mangroves

There is no mangrove in the project vicinity. However the project site is sandwiched by two estuaries is a potential area for developing mangroves involving expert organisation and this will serve as major mitigation measure and once mangrove is developed it will serve as breeding and feeding grounds for many fin fishes and shell fishes. The Muthupet mangrove is located at 45 km, which is afforested mangrove and predominantly with *Avicenna* sp and in recent years the forest department has introduced the other mangrove species as well. A success story is also available in the Vellar estuary and a nursery was also developed for ILFS at Parangipettai.

9.1.2. Mitigation Measures during Operation Phase

Marine Water Quality and Ecology

a) Due to LNG (Cargo) Spills during Handling:

Spills are not anticipated to occur during normal operations, as the cargo LNG will be handled by specialised loading arms (Marine Transfer Arms). In the event of accidental spills of LNG during transfer from / to the ships the LNG will be evaporated in the atmosphere and leaves insignificant impact on the marine water quality, sediment quality and ecology. LNG spill and gas detection system will be provided.

Mitigation Measures

- LNG spill containment facilities shall be provided.
- LNGC visiting the offshore terminal will comply with MARPOL convention and avoid discharges into the harbour basin
- Oil spill control equipment such as booms / barriers will be provided for containment and skimmers will be provided for recovery.

b) Ballast Water Management

- Ships shall conduct ballast water exchange at least 200 nautical miles from the nearest land and in water at least 200 m in depth prior to calling at a port.
- Ships shall carry out ballast water exchange with an efficiency of at least 95% volumetric exchange.
- Master and crew of the vessel shall be familiar with the essential shipboard procedures relating to ballast water.
- Each ship shall have on board a ballast water record book which may be an electronic recording system. Port officers may inspect the ballast water record book and ask for relevant copies of record book.

10. WATER QUALITY MAINTENANCE AND PROTECTION TO MARINE ORGANISMS

- Turbidity levels will be maintained as to the baseline data by continuous monitoring and proper care by way of stopping the activities whenever there is increase in turbidity by way of land sliding/bottom turbulence so avoid any impact either to water quality or to marine organisms
- Discharge of waste into the sea will be prohibited
- Oil Spill, if any, will be monitored and suitable control measures will be adopted
- Ensure that slop tanks will be provided to barges/ workboats for collection of liquid/ solid waste
- Marine environmental monitoring as per environmental monitoring programme
- Dredge Management Programme shall include measures to avoid entrapment of macro marine fauna.
- Care should be taken to prevent the contaminated runoff from the construction site to the nearby natural streams, if any
- Optimized utilization of the water
- Wastewater and sewage generated shall be treated in septic tanks with soak pits without draining into the marine environment
- The land (Shipyard Cum Port including LNG Terminal (mostly inter tidal) to be reclaimed with dredged material will be separated from adjoining land by creating containment bund
- Discharge of treated wastewater as per marine discharge standards
- Ships will be prohibited from discharging wastewater, bilge, oil wastes, etc. into the near-shore as well as harbour waters by adopting International Convention for the Prevention of Pollution from Ships (MARPOL) 1974/1978, Consolidated Edition, IMO, 1991, including 1992 amendments to Annex 1 and 2002 amendments
- Ships shall conduct ballast water exchange at least 200 nautical miles from the nearest land and in water at least 200 m in depth prior to calling at a Shipyard Cum Captive jetties including LNG Terminal.
- As a mitigation measure for Oil spill, if any, contingency plan will be kept ready for implementation
- Floating, marking buoys, Signboards will be displayed to educating the seafarers about the orientation of approach channel
- Acoustic Barriers and Enclosures and the conveyor galleries will be covered.

- Regular Interactions shall be initiated with the fishing community and conflicts, if any with fishing community shall be amicably resolved in all cases.
- Shoreline Protection Techniques such as Sand by passing if any will be carried.

STOCKING AND MAINTENANCE OF LNG TERMINAL

- Scientific and regulated stacking of LNG
- Greenbelt Development
- Use of low sulphur fuel
- Fuel requirement of the major industries such as power plants are proposed to be transported through Covered conveyors and pipeline (Gas) from nearby proposed captive jetty facility and hence vehicular traffic is reduced.
- Use of tarpaulin covers and speed regulations for vehicles engaged in transportation
- Closed circuit vacuum blasting at shipyard
- Use of Water Based Paints to minimise VoC Emissions at shipyard
- Painting of ships' hulls will be carried out using airless spray painting at shipyard
- Blast and Paint Cells will be provided with Fume extraction and dilution system at shipyard.
- Eco friendly Regasification Technology

MEASURES TO MAINTAIN THE BEACHES/SAND DUNES AND TO PROMOTE TURTLE NESTING

- The fixture will be mounted as low as possible to minimize light trespass and the lowest amount of light needed for the task shall be used.
- Long wavelength lights will be used wherever possible. Low pressure sodium (LPS) lights are considered more desirable than HPS sources. Short wavelength (blue) and broad spectrum sources such as metal halide, mercury vapour, fluorescent or halogen lights will be avoided.
- Amber filters on HPS lights will be used if HPS lights use cannot be avoided,
- White lights that emit ultraviolet light will not be used.
- Strong blue or green spectral elements (eg. mercury vapour lights) will be limited as far as possible.
- Lights will be directed downward and will be shielded to avoid overhead glow on cloudy nights
- To mitigate the erosion related issues, sand by passing / Beach nourishment is considered as one way to mitigate erosion. The classical mitigation measures such as shore walls, groynes, etc is

completely avoided since it may prohibit access of sea turtles to nearby nesting beaches.

- Awareness programmes for local fisher population, company labourers and employees shall be undertaken to highlight sea turtle conservation. Awareness regarding fisheries related issues is also necessary among fishing community. Incidental capture of turtles in shrimp trawls and gill nets account for more deaths than all other human activities combined. In addition to the trawl entanglement, sea turtles have been killed after becoming entangled in other types of fishing gear, such as, gill nets, long lines (hook and line), and lobster or crab pot lines. Creation of awareness among villagers and fishermen shall be undertaken as part of conservation measures.

11. ALTERNATIVE AND ADDITIONAL LIVELIHOOD OPTIONS

11.1. Ornamental fishes

Technologies are available nowadays from the CMFRI, Mandapam as well Centre of Advanced Study in Marine Biology, Annamalai University for promotion of culture of marine ornamental fishes such as Clowns, Damsels, ornamental shrimps etc., The proponent can establish a marine ornamental fish village by creating a common facility for the supply of filtered disease free sea water as well the other facilities in the fishermen groups for practising the culture of ornamental fishes including breeding, rearing and development of saleable adult fishes. This will provide ample opportunity for the fisherwomen to have additional livelihood options in addition to routine fishing and other related activities

11.2. Seaweed culture

The Red seaweed *Eucheuma cottoni* (*Kappaphycus alvarezii*) has the promise to culture in the shallow coastal waters including creeks and estuaries as demonstrated in the Tamilnadu coast can also be undertaken as livelihood options. This can be carried out both by rope culture and bamboo raft culture. The technologies are already perfected by the CASMB, AU and they may offer adequate training for this purpose.

11.3. Mud crab fattening

Water crab or post moult crab represents a stage in crab's life cycle. During the catch the fishers used to get water crabs every day which fetches cheaper rates as it contains more of water than flesh. This reduces the profit of the fishers. Instead, in the present intervention, the post-moult or water crabs caught by the fishers would be kept in captivity (cage/pen) for a short period of 20- 30 days until they 'flesh out' or normal crabs. Since the fattening period is less, the crabs can be fed with dry and trash fish which is available in the same location. Multiple market and buy pack arrangement will be made with crab collector, buyers and exporters, so that the regular raw material flow will be facilitated.

11.4. Sea cage culture of finfish

Aquaculture practices offer best economic returns to the fish farmers and help to reduce fishing pressure from the wild. In Karaikal coast, fish culture is not popular and therefore there is lot of scope for aquaculture of finfish, lobster in the area. The government may encourage the aquaculture practices of finfish especially seabass, *Lates calcarifer* and Cobia (*Rachycentron canadum*) in the area. Seabass and cobia have great demand in the international and domestic markets. Sea cage culture of these finfishes will bring in rapid changes in terms of fish production and economic activity of fishermen in the area. Training has to be imparted to the fisher-folk for the finfish culture.

11.5. Sea cage fattening of lobster

The small lobsters caught during the lobster collection can be grown in sea cages in the area for fattening to marketable size. The Central Marine Fisheries Research Institute (CMFRI), Kochi has successfully demonstrated sea cage culture of lobsters in several fishing villages on participatory sea cage farming including Kanyakumari fishers.

11.6. Rope/ Raft culture of mussel

They naturally attach to any substrate. Rope and raft culture techniques have been perfected in India. The yield through rope and raft culture will be many folds. Rope culture of mussel is widely adopted in Northern Kerala. The mussel grows to 80-100 mm size within 6 months of culture period and it is estimated that around 2 lakhs mussels can be harvested from 400 m². The commercial mussel culture practices can be encouraged in the coastal area.

It is also proposed the Proponent should employ TEAM OF MARINE BIOLOGISTS on a permanent basis both for monitoring as well as to initiate the alternate and additional livelihood options.

12. SUMMARY AND CONCLUSION

The results of the Primary surveys indicated that the physico-chemical and biological parameters did not vary much except a few parameters which showed only marginal variations. The surface water temperature, salinity, pH, TSS and turbidity were within the permissible level as suggested by Dept. of Oceanography, SOEST, Hawaii (2012). The variation noticed between the stations was only marginal and it might be due to seasonal changes, geographical location and sampling time. The range of ecologically sensitive chemical parameters such as Oxygen, BOD, nutrients was also at the optimal concentration corresponding to the seasonal variation as suggested by Khadanga, 2012. Similarly, the level of Petroleum Hydrocarbon, Heavy metals (Sediment, water and fauna) were also within the permissible limit as per the limits suggested by USA Environmental Protection Agency, 2009. The microbial population showed general trend in water and sediment samples during this survey.

With regard to biological entities, the phytoplankton species belonging to three groups namely diatoms, dinoflagellates, and blue greens were recorded. Of these, diatoms were found to be the dominant group in various stations. Dinoflagellates formed next group and blue green algae came last in the order in all the stations. 3 groups of macro zooplankton namely, calanoids, cyclopoids, and harpacticoids and 2 groups of micro zooplankton namely, spirotricha and larval forms and “others” groups of zooplankton were recorded. Of the above said groups, calanoida were found to be the dominant group because calanoida is the largest group than the other mentioned groups. Larval forms came as next dominant group. Cyclopoida came next followed by spirotricha and harpacticoida. While other group showed only meager contributions in the collection.

Among the macro benthic organisms, the polychaetes topped the list. Crustaceans were found to be the next dominant group in the order of abundance and followed by Gastropods and bivalves of the total benthic organisms collected. The four groups of meio-benthic organisms namely foraminiferans, nematodes, harpacticoids and ostracods were

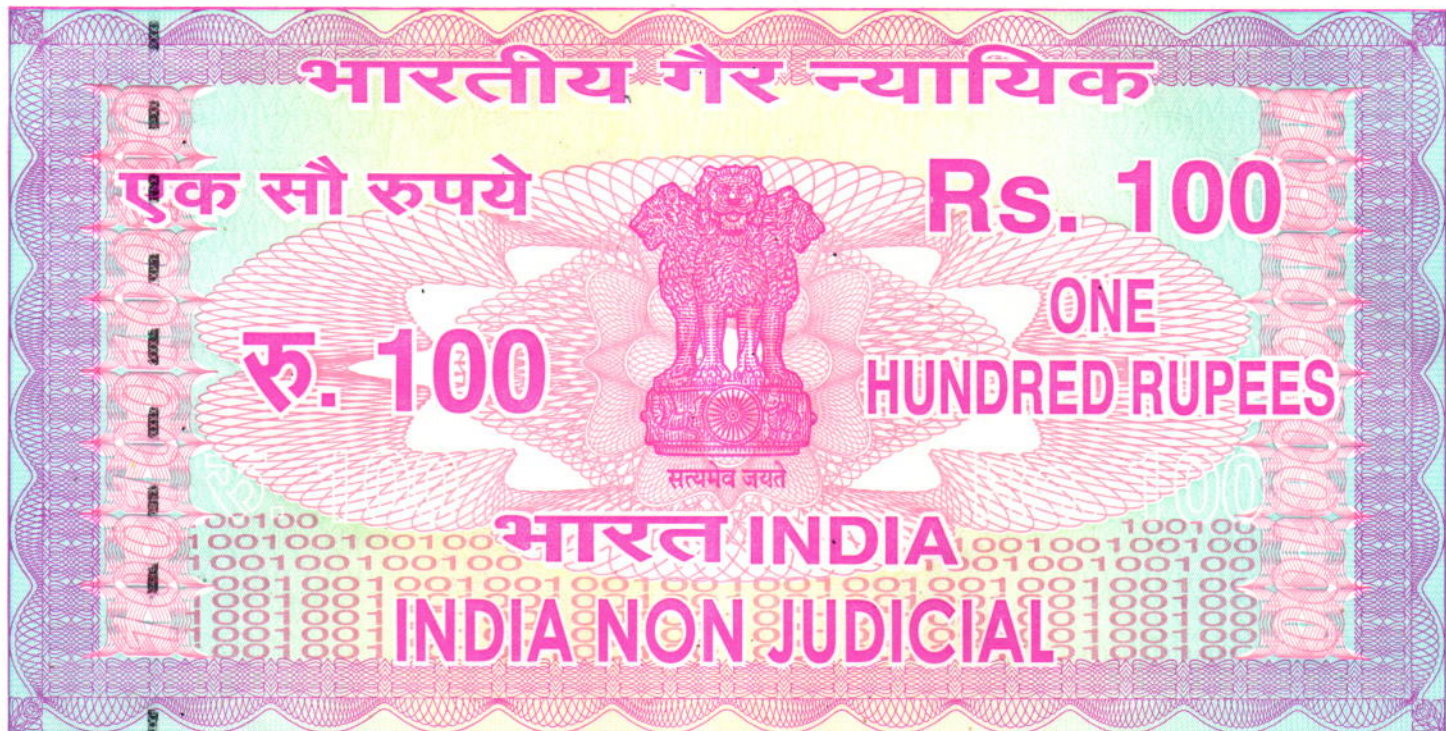
recorded. Of these, foraminiferans were dominant. Ostracods were found to be the next dominant group in the order of abundance and followed by Nematodes and harpacticoids.

As per the directions of MoEF&CC, attempt was made to collect secondary data on the various sensitive marine biological resources of the project site area. Unfortunately both during comprehensive survey period as well the secondary data does not reflect the existence of any critical flora and fauna.

Ecologically sensitive areas like Biosphere Reserves, National Parks, Wildlife Sanctuaries and other protected areas (PA) were not found within 15 km radius of the project site. However, Point Calimre, a Wildlife sanctuary is located beyond 77 km distance from the project site and Muthupetai mangrove forest is located 45 km distance from the project site, which is rich in marine bio-recourses.

Moreover, the proposed site is located at Karaikal coast where the Govt. of Pondicherry identified as the ideal zone for developing industries in view of the strategic location with minimal

ANNEXURE- 3



39.05/2017
TAMILNADU
Karaikal Port Private Ltd
8.6.17

BL 988536
A. Rouf Basha, B.A..
STAMP VENDOR LIC No: 8/B3/97
NEW No: 17, OLD No: 9,
P.P.V. KOIL STREET, MYLAPORE,
CHENNAI-600 004. Ph: 24982427

AFFIDAVIT OF UNDERTAKING

We Karaikal Port Private Limited, having Corporate Office at No. 39, P. S. Sivasamy Salai, First Street, Mylapore, Chennai – 600 004 and Registered Office at Kheezhavanjoore Village, T. R. Pattinam, P.B. No. 33, Karaikal - 609606, duly incorporated under the Companies Act 1956, solemnly affirm and state as under:

I, GRK Reddy, s/o Late Mr. G. Raghava Reddy, I am one of the Director of the Company and Authorized to Sign, Swear, Affirm, affidavits, declarations, on behalf of the Company do hereby Swear as follows -

I, Affirm and state that, our Company intend to Develop Bulk Liquid Berth for handling LNG at Karaikal Port, Kheezhavanjoor Village. T.R. Pattinam, P.B. No.33, Karaikal – 609 606, Puducherry U.T. by Constructing the proposed LNG terminal which would be up to 5 MMTPA (Million Tonne per Annum) with appropriate operational flexibility up to maximum 6 MMTPA.



For KARAIKAL PORT PRIVATE LTD
A. Rouf Basha
Director

In regard to the above LNG Terminal, I Affirm and state, undertake and that, no construction activity has commenced at the Karaikal Port site and Project Proponent. I / We undertake that the construction works will be commenced only after obtaining all necessary clearances from Statutory Authorities as necessary.

SOLEMNLY AFFIRMED at Chennai on this 29th day of April 2017.

For KARAIKAL PORT PRIVATE LTD

C. Deenaday
SIGNATURE OF AFFIANT **Director**

C. Deenaday
BEFORE ME (Notary)

Witness :

1. *Sachin Nagdive*
Sachin Nagdive
GM-LNG.
2. *V. Suresh*
V. SURESH
DGM - IT



M.P. Mohandass
29.04.2017
M.P. MOHANDASS, B.A., B.L.,
ADVOCATE & NOTARY
No. 14, II Street Extension
Parameshwari Nagar,
Adyar, Chennai-600 020.

ANNEXURE- 4

MINUTES OF THE 15TH MEETING OF EXPERT APPRAISAL COMMITTEE (INFRA-2) FOR PROJECTS RELATED TO ALL SHIP BREAKING YARD INCLUDING SHIP BREAKING UNIT, AIRPORT, COMMON HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES, PORTS AND HARBOURS, AERIAL ROPEWAYS, CETPs, COMMON MUNICIPAL SOLID WASTE MANAGEMENT FACILITY, BUILDING/CONSTRUCTION PROJECT, TOWNSHIPS AND AREA DEVELOPMENT PROJECTS HELD ON 12-14 APRIL, 2017 in MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, INDIRA PARYAVARAN BHAWAN, NEW DELHI – 3

Day 1: Wednesday, 12th April, 2017

15.1. Opening Remarks of the Chairman.

15.2. Confirmation of the Minutes of the 14th Meeting of the EAC held on 13-15 February, 2017 at New Delhi.

15.3 Consideration of Proposals

15.3.1	Expansion of Redi Port by M/s. Redi Port Ltd. – Environmental and CRZ Clearance [11-15/2010-IA-III; IA/MH/MIS/38095/2010] (i) ToR was granted on 12.05.2010. Further, proposal was considered by the EAC in its meeting held on 20-23 November, 2013 and the EAC noted that the details of land purportedly allotted by the Government of Maharashtra for the port were not available and land was not yet in the possession of the proponent. The EAC decided that the proposal shall be considered once the land comes under possession of the proponent. The EAC advised the Project proponent to superimpose the layout map with port boundary on the Google map along with State boundary and nearby creek system. The Map should show the river and the existing port and the layout of the proposed port superimposed on the same map. Now PP has submitted the superimposed layout map. (ii) Maharashtra Coastal Zone Management Authority vide letter no CRZ 2012/CR148/TC4 dated 24th October, 2013 has recommended the project to MoEF&CC. (iii) An all weather multipurpose port is proposed to be developed in an area of 98 ha. out of which, 64.22 ha of land is planned to be reclaimed. Remaining 33.78 ha is a Government land. Around 33.78 ha forest land is involved in this project. Forest clearance is under process (iv) Existing jetty is handling 1 MTPA cargo i.e. Iron ore. The expansion of Redi Port is proposed towards 2.0 km south of the existing port. Dredging quantity will be 3.36 MCM and Reclamation quantity will be 5.5 MCM. (v) It was noted that Ministry vide letter dated 17.10.2013 has lifted the moratorium for consideration of proposal from Ratnagiri and Sindhudurg Districts, Maharashtra except talukas namely Khed, Chiplun, Sangameshwar, Lanja and Rajapur. Proposed project is falling in the taluka Vengurla. (vi) Public hearing was conducted by SPCB, Maharashtra on 12.09.2011. Proposal was considered by the EAC (Infra-2) in its 12th meeting held on 26-28 December, 2016 wherein the Committee sought following additional information: (i) Status of stage – I forest clearance. (ii) Tabular statement indicating details of (a) existing facilities as per existing EC obtained; (b) proposed additional facilities; (c) total capacity after expansion to be provided. (iii) Copy of existing environmental clearance to be submitted. (iv) Dispersion modelling for the dumping of the additional dredge materials shall be carried out. The study report shall be incorporated. Coordinate of dumping ground. (v) Details of the air pollution control measures to be undertaken for the Dry bulk cargo handling
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	waste collection and disposal system is much easy and convenient in practice. Each individual hotels and other proposed activity will be informed about collection time and will be collected from each activity at their door step. Collected solid waste will be dumped and disposed in consultation with government officials at land fill site (x) Hazardous waste was only used oil and batteries from DG set which will replace with new one/sold to authorized dealers. (xi) Total 294.69 acres (32%) of the area covering the Greenbelt/Land scaping and public parks. (xii) Rooftop rainwater of buildings will be collected in RWH tanks of total 434 MLD capacities for harvesting after filtration. (xiii) The total power requirement during construction phase is 2500kVA and will be met from DG set and total power requirement during operation phase is 45000 kVA (45 MW)and will be met from Odisha Power Generation Corporation (OPGC). (xiv) Single storey covered parking is permitted in plot area and within the side setbacks. Up to 30% of the total parking provided on the ground can be covered with four sides or two sides sloping roof. The maximum size of one unit shall be 15m x 30m. One parking unit will accommodate maximum 20 cars. The details of Parking given in EIA report. (xv) No forest land involved in Proposed Project Site. (xvi) ESZ: Nalaban Sanctuary is 54.6 Km – WSW, Chandaka-Dampara Sanctuary is 64.8 Km NNW, Nandan Kanan Sanctuary is 69.4 Km – N from the project site. (xvii) SEAC, Odisha meeting held during 17th, 18th and 19th October, 2012 and suggested to project proponent for submission of additional information/ documents. The same point wise replies incorporated in the EIA report. (xviii) Employment Potential: 3000 expected employment (xix) Benefits of the project: The rich tourism potential of Orissa can be used as an effective medium to promote overall growth and generate employment in the state. (xx) There is court case pending against the project. During deliberation the Committee was informed that as per the provisions contained in the EIA Notification, 2006, the proposal does require the Terms of Reference (ToR) for preparation of EIA-EMP Report. Further, as per sub para (i) (b) of para 4 of the CRZ Notification No. S.O. 19(E) dated 06.01.2011, for those projects which are listed under this notification and also attract the EIA Notification 2006 (S.O. 1533(E), dated 14.9.2006), for such projects clearance under EIA Notification only shall be required subject to being recommended by the concerned State or Union Territory Coastal Zone Management Authority. However, it was noted that the project was not granted ToR either by SEIAA or MoEF&CC. Also no standard ToR was generated, which is essential to take the proposal forward. The statutory requirement having not been made, the proposal was deferred.
15.3.15	Development of Bulk Liquid Berth for handling LNG at Karaikal Port, Puducherry by M/s Karaikal Port Private Ltd - Further consideration for Environmental and CRZ Clearance - [F.No.11-41/2013-IA-III] The project proponent has presented the project and informed the following: (i) The project authorities and their consultant (Indomer Coastal Hydraulics (P) Ltd.) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Draft Terms of Reference (TOR) awarded during the 127th Meeting of the Expert Appraisal Committee (Infrastructure) held during 29th October 2013 for preparation of EIA-EMP report. All the projects related to Ports and Harbour i.e. ≥ 5 million TPA of cargo handling capacity (excluding fishing harbours) are listed at 7 (e) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level. (ii) M/s Karaikal Port Private Ltd. has proposed for development of Bulk Liquid Berth for handling LNG at Karaikal Port, Puducherry. At present the port is capable of handling 21.5 MTPA of various cargoes like Coal, General Cargoes, Containers, Crude oil, Edible oil, Project cargoes etc. The details of the existing facilities are as given below:

- (a) Two breakwaters one on the north side and another on the south side.
 - (b) Five operational berths (2 cape size and 2 Panamax size berths and 1 OSV).
 - (c) Approach channel with a dredged depth of (-) 16.5 m CD and Berths with a dredged depth of (-) 15.5 m CD.
 - (d) Open cargo storage area of about 6,50,000 m².
 - (e) Covered area for cargo storage about 63,000 m² (Warehouses).
 - (f) Three numbers of dedicated railways siding within port premises and connected to main railway line between Nagore and Karaikal.
 - (g) Internal roads and Road connectivity to NH 45A & NH 67.
 - (h) Adequate tugs, mooring boats and navigational aids.
 - (i) Adequate Fire fighting capabilities.
 - (j) Adequate Pollution Control & Monitoring systems
 - (k) Proposed Bulk liquid berth for handling LNG.
- (iii) The present proposal involves the development of Bulk Liquid Berth for handling LNG through Floating Storage Regasification Unit (FSRU)/Floating storage unit (FSU) with LNG vessel berthed alongside and connected to the shore by means of an approach jetty. Cost of project is Rs. 2610 Crore.
- (iv) The design capacity of the proposed LNG terminal will be up to 5 MMTPA (Million Tonne per Annum) with appropriate operational flexibility up to maximum 6 MMTPA. The proposed LNG terminal project will consist of the combination or only of FSUs/FSRUs/Onshore development of following facilities.
- (v) It is proposed to maintain a depth of (-) 19.0 m CD alongside of the berth. LNG upto 5 MMTPA can be handled at this berth facility. Provision of Buffer LNG storage tanks within the port also comes under the proposed project. The LNG line from the port will be directly connected to the GAIL network which is within 4 km proximity of the port. For the development of LNG Terminal at Karaikal Port, the site was selected at the southern side of the port, after considering three locations within the port, i.e. Southern side of the port, Northern side of the port and Outer harbour. A terminal option analysis. Following facilities will be developed:
- (vi) **Breakwaters:** There are two breakwaters, one on the northern side and the other on the southern side. The proposed Liquid berth for handling will be setup along the south breakwater.
- (vii) **Berths:** A Bulk Liquid Berth will be developed for handling LNG through FSRU/FSU with LNG vessel berthed alongside and connected to the shore by means of an approach jetty. Turning circle: The diameter of the turning circle from the present 500 m and the depth of (-) 15.5 m CD will be increased to 600 m and (-) 19.0 m CD for the development of bulk liquid berth.
- (viii) **Approach channel:** For the proposed LNG terminal requirement the length of the approach channel will be 11000 m, the inner and outer channel will be dredged to a depth of (-) 19.0 m CD and (-) 19.8 m CD respectively. The width of the approach channel will be 260 m.
- (ix) Power generation for the FSU includes three 22-MW gas turbines with SCR for the control of NO_x emissions and waste heat recovery units (WHRUs); this system will come as part of the FSU.
- (x) It is reported that the water is well oxygenated, nutrient rich and biologically productive at primary and secondary levels. The sub-tidal benthic fauna is moderately rich in diversity and numbers compare to the Inter tidal benthic fauna. The marine flora and fauna also indicate the existence of diverse population. The area is rich in both pelagic and demersal fisheries. The presence of mangroves at open beach is absent and they are sparsely present inside the river mouth. The study on various oceanographic parameters and the information on adjacent region indicate that the coastal water relatively clean and moderately productive.
- (xi) The flare stack will comprise five flares and one spare flare. The stack will be a steel structure and stand upto a maximum 100 m height. The average rate of seawater intake into and discharge from this system based on annual water usage would be approximately 14,900 m³/day; the majority of the seawater would be used in the ballast system. To fulfil the present water requirement of about 100 KLD is being sourced from the existing RO plant while the development has permission for Desalination plant of capacity 300 KLD; the capacity will be enhanced over a period in stages to 2 MLD. New STP of 50 KLD will be provided to treat the additional sewage. Waste will be generated during operation phase due to additional ships coming into harbour (100 kg/d). The Channel will be deepen to (-) 19.8 m and the amount of dredge

generated will be about $14 \times 10^6 \text{ m}^3$ of which $13.0 \times 10^6 \text{ m}^3$ will be dumped at approved dumping site, while the balance $1.0 \times 10^6 \text{ m}^3$ will be used for reclamation/beach nourishment. The berth area would be dredged up to (-) 15.5 m. The dredging quantity is estimated as $14 \times 10^6 \text{ m}^3$. Out of which, $1.0 \times 10^6 \text{ m}^3$ is proposed for the backup area and the rest will be disposed off in the MoEFCC designated disposal point in the deep sea. The dumping sites approved by MoEF vide letter No.10-2/2006-IA-III dtd. 15.10.08 are Lat. $10^\circ 52.8' \text{ N}$ Long. $80^\circ 0.5' \text{ E}$, Lat. $10^\circ 50.4' \text{ N}$ Long. $80^\circ 0.5' \text{ E}$ and Lat. $10^\circ 48.0' \text{ N}$ Long. $80^\circ 0.5' \text{ E}$. and shall be used as per the conditions specified in the letter.

(xii) The total volume of return cooling water that would be discharged into the sea is $6500 \text{ m}^3/\text{hour}$ with 8° C and it will be mixed with $6500 \text{ m}^3/\text{hour}$ of seawater with ambient temperature. The resultant water will have a temperature of 18° C . The outfall diffuser will have the multi ports of 300 nos. x 150 mm diameter placed along the south breakwater for a distance of 450 m. All the ports will be oriented 45° to the horizontal.

(xiii) **SCZMA Recommendations:** Puducherry Coastal Zone Management Authority vide letter no. 448/DSTE/PCZMA/NOC/SCI/2016/519 dated 3.10.2016 has recommended the proposal for MoEF&CC for consideration of CRZ clearance. It is also reported that as per CRZ map duly demarcation of HTL CRZ Boundary etc. prepare by the Institute of Remote Sensing, Anna University, the proposed activities falls within CRZ – III and CRZ IV Categories.

The project was earlier considered by the EAC in its 12th meeting held on 26-28 December, 2016 wherein the Committee sought following additional information:

- (a) Copy of certified compliance report issued by the Regional Office, Chennai/Bangalore on the environmental condition stipulated in the existing EC.
- (b) As per EIA report, cargo handling capacity of the existing Port is mentioned as 21.5 TPA and some place it is mentioned as 32 MTPA. Pl. clarify.
- (c) The project proponents were advised to prepare a detailed biodiversity impact assessment report and management plan through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standard survey methods.
- (d) Prediction of ground level concentration for the emissions from turbine/boiler of FSRU Ship.
- (e) A management plan to control temperature differences between intake water, and discharge shall be submitted along with possible impacts and managed strictly.
- (f) The impact assessment shall also study the impact on the/ of the dumping ground through dredging disposals.

Now, PP vide letter dated 6.2.2017 has submitted additional Information. Copy of additional Information is available on the website.

The Committee deliberated upon the issues raised during the last meeting. The Committee found additional information inadequate. The certified compliance report provided is old (site inspection was done on 6 & 7, January, 2016 by Regional Office Chennai). Committee also noted that the detailed biodiversity impact assessment report and management plan submitted is very sketchy and details as suggested by the EAC during last meeting has not been addressed satisfactorily in the report. The entire spectrum of the marine biota has not been estimated for base level and impacts and is mostly restricted to coast line and the development (Port) area. This is especially important because the project acknowledges that dredging may initially result in the removal of the animals from the excavation site. A blanketing and smothering impact has been estimated. The project proponents have been advised to submit the complete details as sought. The project consultants desired to seek references for any such studies that may help to do the survey. The Committee assured that reference would be forwarded. The following references were suggested to the committee which could be used by the project proponents to understand and be sensitive

to the need for the marine biodiversity impact assessment as per standard procedures and the richness of marine biodiversity.

- a. Standard survey methods for Key Habitats and key species in the Red Sea and Gulf of Aden. PERSGA Technical series No. 10 June 2004 (Implemented under GEF by UNEP, UNDP and the World Bank).
- b. Chapter III-Some studies on Biodiversity of Central West Coast of India. II-Chapter3.pdf-shodhganga.
- c. Tsunami Project-Forests and wildlife Department, Government of Puducherry. "Rehabilitation of livelihood of coastal communities in Tsunami affected areas of Puducherry through forestry.
- d. Coastal zones of India, ISRO Ahmedabad 2017.
- e. India National Report on the status of Development Potential of the Coastal and marine environment of the East Coast of India and its Living Resources November 2003.

After detailed deliberations, Committee sought following additional information:

- (a) Copy of certified compliance report (latest) issued by the Regional Office, Chennai/Bangalore on the environmental condition stipulated in the earlier EC issued by MoEF&CC.
- (b) The project proponents were advised to prepare a detailed biodiversity impact assessment report and management plan through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standard survey methods.
- (c) Notarized affidavit of undertaking stating, no construction activity has commenced at the site and Project Proponent undertakes that the construction works will be commenced only after obtaining all necessary clearances from statutory authorities.

The proposal was deferred till the desired information is submitted. The above information shall be provided with the uploading of minutes on the website.

15.3.16 'Extension of Hope Town Wharf' at Harbour (Andaman & Nicobar Islands) by Andaman Lakshadweep Harbour Works - Further consideration for Environmental and CRZ Clearance - [F.No.11-34/2015-IA-III]

The project authorities and their consultant (Environmental System Consultants & Ambiente Lab Solutions Private Limited) gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of Reference (ToR) awarded during the 153rd Meeting of the Expert Appraisal Committee (Infrastructure) held during 18th-20th November, 2015 for preparation of EIA-EMP report. All the projects related to Ports and Harbour i.e. >5 million TPA of cargo handling capacity (excluding fishing harbours) are listed at 7(e) of schedule of EIA Notification, 2006 covered under category 'A' and appraised at central level.

The project proponent has informed the following:

- (i) M/s Andaman Lakshadweep Harbour Works has proposed for Extension of Hope Town Wharf' at Port Blair Harbour (Andaman & Nicobar Islands). The LPG tankers are being berthed at Hope Town Wharf for unloading bulk LPG from Vessel and direct to the LPG Bottling Plant for bottling and distributing to local needs. The Hope Town Wharf is located in the northern parts of Port Blair Harbour, opposite to Chatham Island. A Wharf of 100 x 30 m was constructed during eighties to cater the Vessels of about 10 m draft and later the Wharf was further extended to another 40 m (size 40 m x 20.50 m). Thus, Hope Town Wharf is having a berthing face of 140 m. The alongside depth is about 10 m so as to cater the Mainland going Vessels, large Cargo Vessels and Oil Tankers. The infrastructures such as Port