karaikal port

ISO 9001
ISO 14001
ISO 45001
ISO 50001

KPP/ENV/MoEF&CC/EC-CRZ /2024/02 Date:29th April 2024

To
The Regional Officer, Integrated Regional Office (IRO),
Ministry of Environment, Forest & Climate Change (MoEF&CC),
1st Floor, Additional Office Block for GPOA, Shastri Bhawan, Haddows Road,
Nungambakkam, Chennai - 600006

Subject:
Submission of Compliance Report by end of 31st March 2024 – Regarding

Reference:
CRZ Clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited MoEF&CC EC letter No F. No. 11-35/2010-IA.III dated 25th Oct, 2010

Respected Sir

As per the conditions stipulated in Environmental & CRZ Clearance letter (F. No. 11-35/2010-IA.III dated 25th Oct, 2010), from Govt of India, Ministry of Environment, Forest and Climate Change IA.III Section (MOEF&CC, IA.III Section), herewith we are submitting the status of compliance reports including results of monitored data for the period of October 2023 to March 2024

Thanking you,
Yours faithfully,

(Muralidhar.B)
Authorized Signatory

Cc:

- **The Regional Director,** CPCB Regional Directorate/Project Office, Second Floor, No.77-A, South Avenue Road, Ambattur Industrial Estate, Ambattur Taluk, Thiruvallur District, Chennai 600 058

- **The Member Secretary,** Puducherry Pollution Control Committee (PPCC), Department of Science, Technology & Environment, 3rd Floor, PHB Building, Anna Nagar, Puducherry 605 005.

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Sl.No	Particulars	Remarks
I	Compliance report Oct to Mar 2024	Attached
	Annexures	
1	No Objection Certificate from PPCC	Attached
2	Oil Spill Contingency Plan Approval	Attached
3	DMP Relevant pages	Attached
4	STP Report for October to March 2024	Attached
5	CEA Approval & Green Certificate for DG	Attached
6	Air & Water Consent to operate from PPCC	Attached
7	Public Liability Insurance Policy	Attached
8	Advertisement for the CRZ Clearance issuance	Attached
9	Copy of Compliance report including monitored data	Attached
10	Annual Environmental Statement 2023-24	Attached
11	Present Status of the Project	Attached

-Sd-

(Muralidhar.B)

Authorized Signatory

KARAIKAL PORT PRIVATE LIMITED
KARAIKAL DISTRICT, PUDUCHERRY U.T

CRZ Clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited.

MoEF&CC EC letter No F. No. 11-35/2010-IA.III dated 25th Oct, 2010

Compliance Report for the Period of

October 2023 to March 2024

KARAIKAL PORT PRIVATE LIMITED – Six monthly CRZ Compliance Report For the period of October 2023 to March 2024

Subject: CRZ Clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited vide the MoEF&CC Letter of No F. No. 11-35/2010-IA.III dated 25th October, 2010.

1		Project Type River valley / Mining / Industry / Thermal / Nuclear / Other Specify	:	Infrastructure Project – Port Operations
2		Name of the project	:	CRZ clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL Jetty by M/s Karaikal Port Private Limited
3		Clearance letter(s) / OM No. and dated	:	MoEF&CC Letter of No F. No. 11-35/2010-IA.III dated 25th Oct, 2010.
4		Locations	:	
	a.	Taluk(s) District	:	Karaikal Taluk and District
	b.	State (s)	:	Puducherry
	c.	Latitudes / Longitudes	:	10° 50' N and 79° 51' E
5		Address of correspondence		
	a.	Address of concerned project Chief Engineer (with Pin Code & telephone /telex / fax numbers		Karaikal Port Pvt. Ltd., Keezhavanjore Village T.R.Pattinam 609606Karaikal+91-4365 256600 Fax: +91-4365 256603
	b.	Address of Executive Project Engineer/ Manager (with Pin Code/fax numbers)	:	Same as above.

KARAIKAL PORT PRIVATE LIMITED – Six monthly CRZ Compliance Report For the period of October 2023 to March 2024

Subject: CRZ clearance for permission to handle crude oil and petroleum products connecting Chidambaranar Oil Jetty at Nagore and KPPL Jetty by M/s Karaikal Port Private Limited vide the MoEF&CC letter of No F. No. 11-35/2010-IA.III dated 25th Oct, 2010.

Sl. No	MoEF&CC Specific Condition	Compliance Status
(I)	Consent for Establishment" shall be obtained from Puducherry Pollution Control Committee under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	**Complied.** No Objection Certificate from Pollution angle for the Port Development was issued by the PPCC. Copy of the same is attached at **Annexure 1**
(II)	Oil contingency plan shall be implemented.	**Complied.** As envisaged in the Oil contingency plan requisite equipment's procured and installed. The validity of Indian Coast Guard Approved OSCP is due. KPPL has applied for the renewal of the same. However, KPPL will have to submit a revised plan & Once the revised OSCP is approved by Indian Coast Guard, copy of the same will be submitted to Ministry. Updates are attached at **Annexure 2.**
(III)	Risk Assessment & Emergency Management Plan shall be prepared	**Complied.** Disaster/ Crisis Management Plan is in place. Port is maintaining the necessary preparedness to meet the Emergency/eventualities viz Fire Accidents, Cyclone warnings and unforeseen situations to tackle. Necessary updates are being carried out with emerging requirements. Copy of relevant pages in CMP are attached at **Annexure 3.**
(IV)	Construction shall be carried out strictly as per the provisions of CRZ Notification, 1991. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	**Complied.** Construction was carried out strictly as per the provisions of CRZ Notification.
(V)	There shall be no disposal of solid and liquid wastes in to the Coastal areas.	**Complied** There is no disposal of solid & liquid wastes in to the coastal areas. Prevention of pollution of

		the marine environment by ships from operational or other accidental causes, MARPOL is strictly adhered. Necessary waste management plan is in place.
(VI)	Sewage Treatment facility should be provided in accordance with the CRZ Notification. Treated sewage shall be reused for flushing of toilets and horticulture purposes.	**Complied.** Sewage Treatment Plant (STP) with a capacity of 25 KLD is installed for treatment of domestic sewage. The treated water is being reused for the Green Belt Development. Copy of STP water analysis report is attached at **Annexure 4**
(VII)	The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.	**Complied.** Waste Management Plan is in Place. Solid Waste is disposed as per the provision of Solid Waste (Management & Handling) Rules, 2016.
(VIII)	Installation and operation of DG set if any shall comply with the guidelines of CPCB.	**Complied.** Two DG sets (2*500KVA) installed having the specifications as per the guidelines of CPCB. Copy of CEA approval is attached at **Annexure 5**
(IX)	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance	**Noted.**
Sl.No	**MoEF&CC General Conditions**	**Compliance Status**
(I)	The construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration, meticulously conforming to the existing local and Central rules and regulations including the provisions of Coastal Regulation Zone Notification dated 19.02.1991 and the approved Coastal Zone Management Plan of Puducherry.	**Complied.** The construction of the structures has been carried out by M/s MARG Constructions Limited known for its core competence of marine infrastructure & industrial projects, Chennai a reputed EPC. Requisite approvals were obtained for said construction activity.
(II)	In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.	**Noted and agreed upon.**

(III)	This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.	**Noted and agreed upon.**
(IV)	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	**Noted and agreed upon.**
(V)	Full support should be extended to the officers of this Ministry's Regional Office at Bangalore and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes.	**Noted. Being complied.**
7	These stipulations would be enforced among others under the provisions of water (Prevention and 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 Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.	**Complied.** Port has obtained Air & water Consent to operate from Puducherry Pollution Control Committee with a validity upto 31.03.2026. Copy of the same is attached at **Annexure 6** Port has Public Liability Insurance Policy with a validity upto Sep 2024. Copy of the same is attached at **Annexure 7**
8	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.	**Complied.** Requisite Clearances obtained from the Competent Authorities by M/s. Karaikal Port Private Limited.

9	The project proponent should advertise in at least 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.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bangalore.	**Complied.** Karaikal Port has advertised the issuance of CRZ Clearance to handle Crude & other petroleum products in two local Newspapers viz The New Indian Express, Trichy Tamil Nadu edition & Dinamani Trichy Tamil Nadu edition on 05.11.2010 Copy of the same was submitted to the Ministry. The same is attached at **Annexure 8**
10	Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	**Noted**
11	Any appeal against this Environmental 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**
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZillaParishad/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.	**Complied.** Copy of the Clearance letter sent by the Project proponent to the said concerned Agencies. The clearance letter also uploaded in the website (www.karaikalport.com) of the company by Karaikal Port

13	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	**Complied.** Status are updated in the website on regular basis
14	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.** Compliance reports submitted regularly to the Integrated Regional Office of MoEF&CC at Chennai, CPCB Regional Directorate / Project Office at Chennai & PPCC at Puducherry. Copy of the same is attached at **Annexure 9.**
15	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.** The environmental Statement for each financial year ending 31stMarch in Form-V submitted regularly to PPCC, Puducherry and Integrated Regional Office of MoEF&CC at Chennai, Latest copy (ends Mar 2024) is attached at **Annexure 10.**

Present Status of Project: Project construction has been completed and operations have started. Copy of the same is attached at **Annexure 11**

(Muralidhar.B)
Authorized Signatory

Recd 23.06.11

GOVERNMENT OF PUDUCHERRY
DEPARTMENT OF SCIENCE, TECHNOLOGY AND ENVIRONMENT
PUDUCHERRY POLLUTION CONTROL COMMITTEE
3rd Floor, PHB Building, Anna Nagar
Puducherry – 605 005.
***

Phone : (0413) 2201256
Telefax : (0413) 2203494

NO OBJECTION CERTIFICATE FROM POLLUTION ANGLE

No.PPCC/NOC/KKL/JLA/2011/730 Puducherry, the 23 JUN 2011

Sub : PPCC – Issue of NOC to handle one million metric tonnes of crude oil and petroleum products connecting M/s. Karaikal Port (P) Ltd., Berth No.1 and M/s. Chidambaranar Oil Jetty at Nagore – Issued – Reg.

Ref : 116th Meeting of PPCC held on 16.06.2011.
***

With reference to the above, it is informed that the proposal for issue of No Objection Certificate (NOC) from Pollution Angle to handle crude oil and petroleum products was discussed in the 116th Meeting of Puducherry Pollution Control Committee held on 16.06.2011. The Puducherry Pollution Control Committee has no objection in according clearance to **Handle one million metric tonnes of Crude Oil and Petroleum Products per annum connecting M/s. Karaikal Port (P) Ltd., Berth No. 1 and M/s. Chidambaranar Oil Jetty thro' pipeline** subject to the **following conditions:**

1. As per the project proposal only pipeline shall be laid connecting M/s. Karaikal Port (P) Ltd., Berth No. 1 and M/s. Chidambaranar Oil Jetty, Nagore for unloading crude oil and petroleum products.

2. There shall be no storage of crude oil and petroleum products inside M/s. Karaikal Port (P) Ltd premises.

3. There shall be no construction activities and the applicant shall not undertake any expansion, modernization, diversification, change of location, construction, storage etc., without the prior approval / clearance from this authority.

4. Coast Guard approved Oil Spill Contingency Plan shall be strictly adhered.

5. All the measures adopted in Oil Spill Risk Assessment (OSRA) and Environment Management Plan (EMP) shall be strictly adhered.

6. Pollution response equipments shall be readily available to tackle any emergency.

7. All the conditions stipulated in the clearance issued by Ministry of Environment and Forests, Government of India vide F. No. 11-35/2010-IA.III dated 25.10.2010 shall be strictly adhered.

8. M/s. Karaikal Port (P) Ltd., shall comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any fire hazard to human beings, other living creatures, plants and properties while handling hazardous substances.

9. M/s. Karaikal Port (P) Ltd., shall have regular mock drills for all personnel to be involved in transportation of crude oil and petroleum products in the pipe line by updating technical skill from time to time so as to control actual leakage of hazardous materials in the quickest possible time.

10. M/s. Karaikal Port (P) Ltd., shall apply in Form – I to obtain authorization under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.

11. There shall be no emission or discharge of wastewater from the activities.

12. Noise level at the boundary shall not exceed 65 and 55 dB(A) during day and night time respectively.

13. The applicant shall take all possible measures to create pollution free surroundings.

14. The applicant shall apply to this Committee in prescribed form for Air and Water Consent Order (To Operate) thirty (30) days before the commencement of activities.

15. This No Objection Certificate (NOC) from Pollution Angle shall be exhibited in the office room and must be made available to the inspecting officers of this Committee.

For & on behalf of PPCC

(Dr. S. SUNDARAVADIVELU)
MEMBER SECRETARY
PUDUCHERRY POLLUTION CONTROL COMMITTEE

To
M/s. Karaikal Port Pvt. Ltd., Post Box No. 33, Karaikal – 609 602.

Annexure 2

Telefax: 04368-226500
Email : **cgs-kkl@indiancoastguard.nic.in**
Reply should be addressed to
The Commanding Officer

BHARATIYA TATRAKSHAK AVASTHAN KARAIKAL
ICGS Karaikal
No.64, Bharathi Nagar,
Karaikal – 609 604

731/7

16 Mar 2020

The Manager
(Marine Operations)
Karaikal Port Pvt Ltd
Kheezhavanjoor Village
TR Pattinam, PB No.33
Karaikal-609606

OIL SPILL CONTINGENCY PLAN – KARAIKAL PORT PVT LTD

1. Refer to CGRHQ(E) letter 7604 dated 02 Mar 17 and this station letter 704/6 dated 17 Apr 17.

2. The revised Oil Spill Contingency Plan (OSCP) of Karaikal Port Pvt Ltd had been approved by competent Coast Guard authority w.e.f 02 Mar 17 for a period of five years.

Thanking you,

Yours faithfully,

(Praveen Kumar)
Asst Commandant
Station Ops Officer
for Commanding Officer

Encl. As above

OSR EQUIPMENT – AVAILABLE WITH KARAIKAL PORT

Sl. No.	Description	Quantity
1.	Air Inflatable Boom	250 M
2.	Air filled Light Oil Boom	500 meters
3.	Rigid Boom	500 M
4.	Sorbent Boom	200 M
5.	Sorbent Pads	1000 Nos
6.	OSD	600 Ltrs
7.	Skimmer	2 - 30 TPH
8.	Boom reel	01
9.	Power Pack with accessories	02
10.	Anchors & accessories for booms	as per set
11.	Oil Spill Dispersant	500 liters
12.	Reusable Adsorbents	For up to 1000 ltr absorption

SAFETY / SHORELINE CLEANUP EQUIPMENTS AVAILABLE WITH KARAIKAL PORT

Sl. No.	Description	Quantity
1.	PCV hand gloves – small 14”	20
2.	PCV hand gloves – small 16”	20
3.	PCV hand gloves – small 18”	20
4.	Mops with handle	20
5.	Hand shovel with wooden handle	20
6.	Wheel Barrow	10
7.	Rake with handle	10
8.	Tarpaulin-standard size 30’ X 27’	4
9.	Gunny bags	50
10.	HDPE bags	50
11.	Safety Helmets	14
12.	Liquid Soap (in canes)	50 Ltrs
13.	Water Flask 20 Liters	02
14.	Saw Dust packed in gunny bags	100 Kgs
15.	Disposable Coveralls – Small	10
16.	Disposable Coveralls – Medium	20

17.	Disposable Coveralls – Large	20
18.	Disposable Coveralls – Extra Large	20
19.	Gum boot – Small	15
20.	Gum boot – Medium	15
21.	Gum boot – Large	15
22.	Plastic Buckets – 10 liters	15
23.	Plastic Buckets – 20 liters	15
24.	Plastic Mug – 1 liter	15
25.	Cotton Rag – in bags	100 Kg.
26.	Trolley	03
27.	Detergent Powder	25 Kg
28.	Work / Lift vests	06
29.	Disposable cups / glasses	200
30.	Plastic Chairs	6
31.	Folding Tables	2
32.	First Aid Kit	01 Set

karaikal port

ISO 9001
ISO 14001
ISO 50001
OHSAS 18001

KPPL/MAR/ICGS/2021-22/006 21-Feb-2022

To,
The Commanding Officer
ICGS Karaikal

Sub:- Renewal for Oil Spill Contingency Plan – Karaikal Port.

Dear Sir,

With reference to the letter no 704/6, dtd, 13th April 2017, our revised Oil Spill Contingency Plan was approved for a period of five years from 15th March 2017, which is due to expire on 14th March 2022.

We request you to kindly renew our OSCP for further period of 5 years.

With Best Regards,

Capt Vijay Nicodemus
Chief Operating Officer
Karaikal Port Pvt Ltd.

Received by
23/02/22

karaikal port

ISO 9001
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ISO 50001

KPPL/MAR/CG/2023-11

22nd Feb 2023

To
The Commanding Officer
Indian Coast Guard Station,
Karaikal.

Sub: - Approval of Oil Spill Contingency Plan – Karaikal Port.

Sir,

In continuation with our letter no: KPPL/MAR/CG/2023-08, dtd, 10th Feb 2022, we hereby, submit our updated Oil Spill Contingency Plan (Soft Copy) for your vetting and approval.

Thanking You,

Yours Sincerely,
For Karaikal Port Pvt Ltd,

Authorized Signatory,
Port Operations Center.

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
www.karaikalport.com

CRISIS MANAGEMENT PLAN

,

Description	Name	Designation	Signature
Prepared by	Suthagar R Ravi N	Associate Manager Assistant Manager	
Reviewed by	Capt Dharam Prakash	HOD - Marine	
Approved by	Mr. Jagdish Patel	CEO	

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(ii) Document Distribution List

This manual is distributed electronically to the departments as a PDF document through IMS portal. The updation of this manual, as and when it occurs will be updated in IMS portal.

Printouts are uncontrolled copies.

(iii) Amendment History

Sl.No	Document Name & Doc Ref No	Date of revision	Pages Revised	Revision details		Brief Description of revision	Approved by
				From	To		

(iv) Abbreviations

ED	-	Executive Director
IC	-	Incident Commander
IR	-	Industrial Relations
PA	-	Public Address System
UK	-	Uzhaikum Karangal
CMT	-	Crisis Management Team
CO2	-	Carbon Di-Oxide
DCP	-	Dry Chemical Powder
DMP	-	Disaster Management Plan
DSS	-	Dust Suppressive System
ECC	-	Emergency Control Centre
ERT	-	Emergency Response Team
F&S	-	Fire & Safety
G4S	-	Group 4 Security
H & M	-	Hull & Machinery
HOD	-	Head of the Department
IMO	-	International Maritime Organization
MCT	-	Marine Control Tower
MSS	-	Main Sub-Station
OSC	-	On Scene Commander
OSR	-	Oil Spill Recovery
P&I	-	Insurance Part
PMC	-	Port Medical Centre
POC	-	Port Operation Centre
PRO	-	Public Relations officer
RCC	-	Resource Control Centre
SOP	-	Standard Operating Procedures
UHF	-	Ultra High Frequency

VHF	-	Very High Frequency
CCTV	-	Closed-Circuit Television
CPCL	-	Chennai Petroleum Corporation Limited
DLEC	-	District Level Emergency Committee
ISPS	-	International Ship and Port Facility Security
OISD	-	Oil Industry Safety Directorate
ONGC	-	Oil & Natural Gas Corporation
OSCP	-	Oil Spill Contingency Plan
PFSO	-	Port Facility Security Officer
SCBA	-	Self Contained Breathing Apparatus

(v) Executive Summary: -

Crisis Management is an organization's process- and strategy-based approach for identifying and responding to a threat, an unanticipated event, or any negative disruption with the potential to harm people, property, or business processes.

1.0 INTORDUCTION: -

1.1 General Information

The commissioning of the Karaikal Port Private Limited (KPPL) in the State of Puducherry took place in April 2009 having been constructed for the import and export of general and bulk cargoes and other products such as edible oil and petroleum products. Access to the hinterland is provided by road and rail.

KPPL is situated at keezhavanjure village. Karaikal is about 14 Kms away from Karaikal city, Pondicherry.

Total area : 600 acres.

No of Employees : 400 Nos.

No of Contract Workers : 1000 Nos.

Working Hours:

General Shift : 09.30 Am To 06.00 PM

"A" Shift : 06.00 Am To 02.00 PM

"B" Shift : 02.00 Pm To 10.00 PM

"C" Shift : 10.00 Pm to 06.00 AM

1.2 Aim

This emergency response plan is created with an aim of providing and efficient management for any disaster with minimum possible impact to the human lives, society and the organization as a whole.

This plan is to outline the measures that must be put in place to deal with any emergency that may arise at the port area. These guidelines enable personnel to react promptly and effectively to an emergency incident with the KPPL Port Area at the Karaikal Port or to natural calamities such as earthquakes, cyclones or tsunamis.

KPPL aims to achieve this through systematic process, efficient training, mock drills and practicing the right full emergency procedures

The objective of the emergency planning is to minimize the effects of an emergency, particularly in respect of saving lives, valuable and maintaining smooth port operation.

In order to achieve the objectives, the emergency management policy therefore, will evolve three essential components as follows.

- Preparedness
- Execution
- Rehabilitation.

1.2.1 Preparedness:

- Crisis Management Team.
- Emergency Response Team
- Mock Drills Training & Practices.
- Inventory of human resources.
- Inventory of materials resources.
- Communication Systems.
- Medical arrangements.
- Preparation of contingency plans for anticipated emergencies.
- Identifying vulnerable areas.
- Co Ordination with external agencies.
- Transport facilities.

1.2.2 Execution

- Activating Crisis management & Emergency Response Team.
- Implementing Contingencies as per plan.
- Issuing updated warning.
- Provision Of medical assistances.
- Resource mobilization.
- Providing Administrative support.
- Organizing external assistances.
- Record activities.

1.2.3 Rehabilitation

- ❖ Restoring essential services.
- ❖ Providing Relief Centers.
- ❖ Engaging agencies on insurance, salvage & investigation.
- ❖ Victim relief and benefits.
- ❖ Construction of new centers (If needed).
- ❖ Identifying & clearing wastages.
- ❖ Record activities.

1.3 Applicability

This Disaster Management Plan applies to all Emergencies occurring in the port of Karaikal at any time of the day & night, it can be natural as well as human made causes.

1.3.1 Natural emergencies.

It is the consequence of the natural hazards which may affect human activities. Improper planning and contingencies, lack of emergency management may lead to losses, which may be financial, environmental or human. Various types of natural disaster, which may affect the port as follow.

- **Earthquake**
- **Tsunami**
- **Cyclone/Storm**
- **Flood**
- **Epidemic**

1.3.2 Human made Emergencies.

These are the events that occur due to accidental or negligence in mishandling of mankind or equipment. These are uncertain and unpredictable and need to deal with vigilance, preparedness and response. Anticipated emergencies to the site are as follows.

- **Fire.**
- **Oil / Chemical Spill.**
- **Vessel Collision/Mooring Failure.**
- **Civil Unrest/Mob/Terrorist Attack.**
- **Bomb threat / Sabotages.**

2.0 CRISIS MANAGEMENT PLAN

2.1 Emergency Classification

Classification of incidents is a guide to categorizing the emergencies that may arise at the port and actions that are to be put in place to deal with the incident. It is important to understand that these categories are not necessarily clear-cut and small incidents may quickly escalate into major ones.

Category 1: Incident

An emergency condition - possibly involving first aid injury or damage to the facility - which can be handled by local resources.

Category 2: Accident

An emergency condition involving serious injury or damage to one of the facilities, which can be handled effectively using resources available in the Port Area.

Category 3:Major Accident

An emergency condition - involving fatalities, serious injuries and/or major damage to the facilities beyond the resources available in the Port Area and requiring mutual aid from other facilities.

Category 4:Disaster & Natural Calamities

An emergency condition - escalate beyond the port and other immediate resources of mutual aid, thus requiring activation of the district disaster management plan involving the civil authorities. Natural Calamities are Emergency occurrences caused by natural phenomena, such as an earthquake, cyclone, Flood,Tsunami and Bomb or terrorist threat.

.**Up to Category 3, are considered as Emergencies & category 4 is considered as Disaster.**

2.2 Risk Assessment

Main risks as identified in the operational risk assessment of Karaikal Port

Risk	Category	Likely hood	Consequence	Mitigation	Precautions
Incident / Accident during Routine Operations	1/2/3	Med	Injury to personnel at times leading to loss of life, Property damage.	Safe working Practices. Standard Operating Procedures, Medical facilities.	Frequent awareness creation is a must.
Ship collision and grounding	2 / 3	Low	Damage to hull	Anchorage 9.0km from port. Pilotage/tugs, Buoyed channel, Navigational aids	One movement carried out at a time. Ensuring well maintained tugs are available for shipping movements. Traffic monitored by MCT.
Vessel striking while passing breakwaters	2	Low	Damage to vessel	Stern tug made fast prior entering breakwater. Appropriate speed. Channel marking, leading lights	Stop movements in case of inclement weather conditions.
Fire in coal yard	2	Med	Damage to cargo and installation.	Fixed Fire fighting system. Sprinkling of water frequently.	Constant cargo monitoring to be done.
Fire in admin block	2 / 3	Low	Damage to structure, loss of life& assets.	Fixed, Automated Fire fighting system and evacuation plan.	Periodical maintenance& training to be done. Refer **Annexure (IX)to (XI)**
Fire in warehouses	2 / 3	Low	Damage to structure, loss of life & assets.	Fixed, Fire fighting system and evacuation plan.	Periodical maintenance & training to be done. Refer **Annexure (XIII)to (XXII)**
Fire in Sub-Station /Other building structures	2 / 3	Low	Damage to structure, loss of life & assets.	Fixed & Portable Fire fighting system.	Periodical maintenance& training to be done. Refer Annexure **(XII) for MCT.**

Risk	Category	Likely hood	Consequence	Mitigation	Precautions
Fire on board vessel	2/3	Low/ med	Main risk to v/l. Possible spread of fire to shore.	Ship crew fight fire with ships facility. Shore Fire fighting facilities and tugs augment.	Remove vessel from berth depending on circumstances
Fire In Tank farm	2 / 3 / 4	Low	Damage to structure, Environmental pollution & loss on assets.	Fixed, Fire fighting system.	Periodical maintenance & continuous monitoring to be done.
Fire in mobile transport	2/3/4	Low	Damage to equipments, loss of life & assets.	First aid fire fighting equipments/ Mobile fire tender	Isolating affected transport& training
Oil spill from Vessel	2/3	Low	Water pollution and Possible Fire hazard of spilled oil / vapour.	Standard operating procedures. Checklist prior operation, Double hull construction, high level alarms. Constant monitoring	Oil spill cleaning equipment kept in readiness during liquid cargo operations.**Refer terminal hand book.** **Refer Annexure (XXV) For crude oil MSDS**
Vessel's Mooring failure at berth.	2	Low	Damage to vessels / Jetty	Weather monitored round the clock. Tugs assisting at such times.	Can occur during storm conditions. Vessel put out to sea on approach of cyclone. Follow the safe mooring practices.
Bomb / Terrorist Threat	4	Low	Damage to Installation, Fire, Injury / loss of life	Pass system, Security check at gate. Security Plan. Boundary wall,	Refer Port Facility Security Plan. (ISPS) Bomb threat checklist enclosed as

				CCTV. Access control.	**Annexure (VI)**
Risk	**Category**	**Likely hood**	**Consequence**	**Mitigation**	**Precautions**
Sabotage / Civil Disturbance / Riots.	3 / 4	Low to Med	Damage to Property. Loss of business hrs/ Fire. Injury / loss of life	Port security. Police station inside port premises. Access control	Refer Port Facility security Plan (ISPS)
Major gas release at the Chemplast sanmar jetty / Plant	2/3/4 depends on vol. of release	Low	Gas cloud reaching port. High risk of fire and explosion	Emergency Preparedness. Shut down of port facilities and evacuation of personnel.	Training to personnel .MSDS enclosed as **Annexure (XXIV) (Separate sheet).**
Cyclone	2 to 4 depends on damage	Low to Med	Damage to Property. Risk for vessels in port. Cargo loss	Emergency preparedness. Early warning from Meteorological centre.	Training on evacuation. **ReferAnnexure (VII)**
Flood	2 to 4 depends on damage	Low	Damage to Property. Loss of Life	Emergency Preparedness. Early Warning from Meteorological Centre	Training on Evacuation **Refer Annexure (VII)**
Tsunami	2 to 4 depends on damage	Low	Damage to Property. Loss of life, Risk for vessels in port	Emergency Preparedness. Early warning from Tsunami warning centre.	Training on evacuation
Earth Quake	2 to 4 depends on damage	Low	Damage to Property. Loss of life.	Emergency Preparedness. Nominate Assembly points clear of buildings.	Training on evacuation **ReferAnnexure (VIII)**
Epidemic Breakout	Depends on severity.	Low	Possible loss of life. Permanent disability	Emergency medical preparedness. Medical aid centre in port. Awareness of medical	Training on prevention methods/ periodical inspection by medical team

				facilities & nearby hospitals.	

2.3 Port Facilities for Crisis Management

Resources available to assist in dealing with an emergency incident are detailed below.

2.3.1 Emergency Management at Port

A Systematic approach needed at management level to assess the potential a dangerous situation, to identify the probable risk areas which may get affected, to formulate the strategies to deal any such crisis and to work out mechanism of emergency management operations.

The organizational structure refers to command and control the structure of the port management sub-divided into two division for an effective emergency management plan.

- Crisis Management Team (CMT)
- Emergency Response Team (ERT) **Refer Annexure (XXIII)**

2.3.2 Crisis Management Team

The Head of Port shall appoint a **Crisis Management Team (CMT)** consisting of officers from each operating department. He shall also ensure that an effective means of interaction with the Head Office in Chennai is in place. The CMT shall also include the sub-contractors when applicable. The latest configuration of Crisis Management Team is always enclosed as **Annexure (I)** of this document. The configuration of Crisis Management Team is also posted in the Muster areas, Emergency Control Rooms, Canteen, Medical Centre & other relevant places. POC to communicate with external parties for resources/ information.

Crisis Management Team consist of –

Port Head and All Departmental HOD's

- They will maintain the ultimate control and authority for the Emergency Management
- They will design strategy plan to protect the assets control the media, preserve the evidences, reputation and insurance claim.
- They will keep a track record on all the decision made prior and during the emergencies.
- They will organize rehabilitation measures on operational continuity.

2.3.3 Emergency Response Team Consist of

- Fire Fighting & Safety Personnel
- Security team
- Medical team

- ❖
- ❖ HR & Admin Team
- ❖ Facility Management Team and
- ❖ Other Trained Resources.

In case of emergency the Emergency Response Team will

- ❖ Assume Local Control
- ❖ Implement the Operation Plan
- ❖ Liaise with Emergency Control Centre and seek support
- ❖ Evaluate Risk &Establish Control
- ❖ Establish a communication structure
- ❖ Ensuring the premises Security & Safety
- ❖ Liaise with external emergency services through Crisis Management Team.

External

- ❖ Local Fire Station (Karaikal)
- ❖ Local Police Station(TR-Pattinam)
- ❖ Nearest hospitals
- ❖ District Fire Officer (Karai& Nagai)
- ❖ Divisional Fire Officer (Karai & Nagai)
- ❖ District Police Head Quarters.
- ❖ District Collector (Karai & Nagai)
- ❖ Coast Guards (Karai)
- ❖ Costal Police
- ❖ TR-Pattinam (O&M) (Junior Engineer or Executive Engineer)
- ❖ Local Civic Bodies
- ❖ M/s. Chemplast Sanmar Limited. (Polagam).
- ❖ M/s. Chennai Petroleum Corporation India Limited. (Panangudi).
- ❖ Any other regulatory agencies (as required)

2.3.4 Emergency Services

To simplify easier access on all emergencies in Port, a Control Centre being established at Fire &Safety Department-Contact No: **+91 9500094245.** It's a unique number for all types of emergencies, acts like "108" (externally).

Through this number the required Medical, Security, Fire Safety and other Emergency Supports can be ascertained.

When an emergency activated the Fire & Safety team will act as per Primary Alarm Checklist appended as **Annexure (II).**

The flow chat of Emergency Services is being attached in the form of **Annexure. (III)& (III) (A)**

Emergency contact details both internal and external agencies is being attached in the form of **Annexure III (B).**

2.3.5 Fire Fighting & Preventive Systems. (list of firefighting equipment's attached in the form of Annexure (IV)

- Mobile Fire Tender,
- Floating Crafts
- Hydrant Systems to cover entire port
- Sprinkler System to appropriate closed areas.
- Sprinkler System to coal yards.
- Fire Pumps.
- Fire Alarm
- Smoke Detectors.
- Heat Detectors
- Tower Monitors & Ground Monitors.
- Terminal Fire Pump House for Foam Operations.
- Jumbo Water Curtain Lane.
- Portable Fire extinguishers.
- Manual Call Points
- PA Systems
- Floor wise evacuation plan

Fire Water Tanks

- Main Fire Water Pump house 600 & 300 kilo Litters.
- Admin Building Pump House 100 Kilo Litters.
- Terminals pump House (OISD) Infinity (Source from Sea).
- Jetty Pump House Infinity (Source from Sea).

2.3.6 Pollution Control & Preventive Systems.

- Oil Spill Recovery Equipment's.
- Floating crafts
- DSS 200
- DSS 150 (Mobile Unit)
- Air Monitoring Systems.

- Ground Monitors
- Sprinklers
- Hydrants*
- Sewage Treatment Plant.
- Storm Water Treatment System.
- Green Belt System.

* Fire protection/dust suppression in the coal yard is by means of a sprinkler system at each corner and in the centre a tower mounted system provides a 360 degree water spray.

2.3.7 Medical Facilities

- Port Medical Centre.
- Ambulance

2.3.8 Communication

An effective system of communications shall be put in place. This shall primarily be on the designated UHF marine channel and set up between the Command Centre, Port Operation Centre (POC),On Scene Commander and other communicable departments. Telephone and emergency hotlines shall also be installed as a secondary means of communication.

2.3.9 Available Communication and Alerting Systems at Port

- Siren
- EPABX Systems
- Mobile Phones
- Walkie-Talkies*
- VHF: Channel no-16 (For alerting ship & crafts)
- UHF: Internal communication
- Portable PA System

2.3.10 Available Human Resources

- Trained fire fighters
- Security Personnel
- Swimmers/Divers for Flood
- Doctor and Medical Stewards

- First aid trained personnel
- Maintenance Staffs
- ERT Members
- IMO trained personnel
- Vehicle retrieval team
- House Keeping Personal
- Administrative Staffs

2.3.11 Available Other Resources

- PPE's
- Fire Fighting & Rescue Equipment's (As per annexure IV)
- CCTV.
- Sniffer Dog
- Support Craft*

*- Two tugs are available to provide support in the event of a fire; at least one is capable of providing ire fighting capability. These tugs shall provide assistance in the towage of vessels in emergency situations. In addition, a mooring boat & a pilot launch are available for dealing with emergencies.

2.4 Roles & Responsibilities

In any Emergency that cannot be dealt with by using immediate resources, and one that involves activation of the emergency response plan, the Emergency Command System shall be put in place. The roles and responsibilities of key personnel are shown below for KPPL / ALPHA personnel and those of the subcontracted operators.

Head of Port (Incident Commander)

The Head of Port shall proceed to the Emergency Control Centre (ECC) and assume the role of Incident Commander (IC). He shall direct the activities of those involved with the incident and co-ordinate with external parties & head office for any additional resources that maybe required. In case both the primary and secondary emergency control centers are operational, **Head of Port will be the Primary Incident commander & Head of Marine will be the Secondary Incident Commander**.

On Scene Commanders (OSC)

In the event of an emergency, the Department Heads shall act as the On Scene Commander (OSC) in their respective areas of activity. They can be assisted by their next in command and shift managers/supervisors. The OSC shall continually update the IC regarding the progress of actions taken.

- **Head – Cargo Operations:** Responsible for all cargo storage yards, supporting facilities and the man power involved. He should exercise control at **assembly point no.1**.(Abeam ware house no.3)
- **Head – Marine Operations**: Responsible for all marine infrastructures and ships/ human assets calling at KPPL. He should exercise control at **assembly point no.2** (Berth No.1)
- **Head – Railways:** Responsible for all rail racks calling at the port's railway siding. He will exercise control at **assembly point no.3**. (Railway yard)
- **Head – HR &Admin:** Responsible for all HR & Administrative support and related areas. He will exercise control at **assembly point no.4** (Admin Building).
- **Head – Project:** Responsible for all mobile transports, lifting appliances and transporters. To lead the vehicle retrieval team in effective manner. He will exercise control at **assembly point no.5.**
- **Head – Mechanization:** Responsible for all project works/workers including civil and electrical works. He should exercise control at **assembly point no.6.** (Nearer to Truck Loading System)
- **Head – Mechanical:** Responsible for all Electrical infrastructures, man power and related equipments. He will exercise control at **assembly point no. 7.** (Abeam Substation).

⇗ **GM - Engineering:** Responsible for all cargo Operations at North Coal Yard, Iron Ore Plot, Ammalines yard, North Breakwater. He will exercise control at **assembly point no. 8.** (North Coal yard Weigh Bridge).

Head Fire and Safety

The Fire and Safety Controller on being informed of an emergency shall immediately proceed to the site and report to the respective OSC. He shall take control of the Fire Fighting and Rescue measures as may be necessary. He will ensure the availability of adequate resources for firefighting& rescue. He will organize the necessary external fire fighting and rescue services from neighboring industries as well as nearby government fire fighting agencies. He will assist the fire & safety requirements of the Incident Commander.

Safety Officer

He will be closely monitored in the safety aspect in the site, while others are concentrating on the crisis management. He will also mobilize the resources and safety appliances from neighboring industries. He will arrange for round the clock safety co-ordination.

Personal Protective Equipments:

The Fire & Safety department will handle personnel protective equipments. He is responsible in arranging the required number and right type of appliances to be used to protect the personnel who are involved in emergency job in co-ordination to the safety officer.

Port Facilities Security Officer (PFSO)

The PFSO shall ensure that necessary security measures are implemented. The PFSO will co-ordinate with the Head of Security wherever necessary.

Head - Security

He is responsible for effective means of security to control access/exit and the assets protection of the site in case of emergencies. He should establish effective control over vehicular/ mob movements and initiate the search & rescue in coordination with Fire & Rescue team. He is responsible for entire peripheral secured environment. He should assist all security related requirements of the Incident commander.

ERT Members

ERT members will play variant roles as follow-

- Team Leader

- Muster Manager
- Search and Rescue Team
- Announcer and
- Fire fighting

Note: Training imparted to ERT members on their respective roles and practiced in regular intervals.

Admin responsibilities

Transport:

Admin department will depute and executive to co-ordinate the transportation requirement of any sort of emergencies. He should plan for additional man power for round the clock coverage of the transport requirement. He will ensure that enough transport vehicles are available for meeting any contingencies at the disposal of incident commander /on scene commander.Transport arrangements to be made available at the earliest.

Food & beverages:

Admin department shall arrange adequate drinking water, beverage, snacks and food for the people who are on emergency duty as well as the sheltered.

Shelters

In case of any evacuation admin department to identify and provide adequate shelters in terms of marriage hall, School & education institutions and any others shelters which can chatter normal civic requirement of the employees as well as labours at port.

HR Responsibilities

- HR manager will directly report to on scene commander.
- He is responsible for muster roll during any emergencies and evacuation.
- He is responsible in transporting the affected people to appropriate hospitals and medical institutes as advised by medical officer of port medical centre.
- He looks after the welfare of affected persons.
- The proper records to be maintained on the affected person with their local and permanent address.
- Proper information will be given to close relatives of the affected employees.
- He should mobilize additional man power in case of any emergency requirement.
- He will ensure round the clock HR coverage at emergency control centre

Marine Operator – (Outsourced activity)

The Marine Operator is the prime party in dealing with a marine related incident at the port and controls &provides the personnel to operate marine equipment. Though the following services are provided by the Marine operator, during emergencies, their personnel shall be under the direction of the OSC.

- Tugs & other Marine crafts and their operation
- Pilots
- Marine Contract Manager

Radio Officer

The Radio Officer is the main communication contact and activates the initial callout procedure. Thereafter he shall relay messages and instructions as directed by the OSC or IC. He shall keep a detailed log of all activity and radio communications.

Pilot(s)

The Port Pilots on duty when informed of an emergency shall proceed immediately to the site and assist in dealing with the situation. If it is required to remove the vessel they shall board vessels as necessary and when directed assist the Master in making arrangements for removal of the vessel from the port.

Marine Manager –M/s Marine Operator

The Marine Manager - M/s Marine Operatoron being informed of an emergency shall proceed immediately to the Marine Control room and there assist the IC in dealing with the emergency. He shall co-ordinate the activities of the marine craft & his personnel.

Cargo Operator – (Stewards outsourced Activity)

The Cargo Operator is the prime party in dealing with a cargo related incident at the port and controls & provides the personnel to operate cargo related equipment, loading/ discharging etc. Currently M/s PSTS Log stics Pvt. Ltd. is the Cargo Operator in the port. Though the following services are provided by the Cargo operator, during emergencies, their personnel shall be under the direction of the OSC.

- Drivers & Labours
- Cargo Manager and Supervisors.

Drivers &Labors

Shall standby to assist in any emergency & will be guided by the OSC (Cargo).

Cargo Manager - PSTS

The Cargo Manager - PSTS on being informed of an emergency shall proceed immediately to the Marine Control Room and there assist the IC in dealing with the emergency. He shall co-ordinate the activities of his personnel who will be directly under the OSC.

3.0 Implementation Framework

3.1 Emergency Control Centre (ECC)

The Emergency Control Centre of the port shall act as the nucleus during the all phases of emergency management from where all instructions will emanate and all information will flow in. The following are the Emergency Control Centers nominated:

1. **Administration Building – Ground Floor Conference Hall,**

During emergencies related to SOP 1, 2, 3 & 4 POC may act as the Emergency Control Centre rest of the above can be made operational depending on the nature & place of the emergency.

In Emergency Control Centre search & rescue boxes will be available which will contain the follows.

1) 1" Map of shows port & its adjacent places.
2) Grid map of the port.
3) Drafts & Plans of existing buildings in port.
4) Emergency contact details (Local as well as district level)
5) Flash lights-4 Nos
6) Life jackets -4 Nos
7) DMP hard copy
8) Reflective jackets -04 Nos
9) Gumboots -4 Pair
10) Hardhats-4 Nos
11) Field chairs-4 Nos
12) Rain coat-4 Nos
13) 180 size tent -2 Nos (Includes pecks, hammer & lanyards).
14) Walkie-talkies-2 Nos (Can be procured through Marine Control)
15) Night vision binoculars-01
16) Generator (5KV) -(Can be procured through electrical dept)
17) Adequate rations which included biscuits, dry fruits and chock lets
18) Landline /Mobile & Fax
19) Laptop & Printer

These kits will be maintained by admin department and in case of emergency, admin HOD will ensure all these kits are available at ECC. Periodic checks on these emergency kits availability and expiry will be carried out by admin HOD, at least once in three months. If any short coming should be updated at once to the head port operations immediately. The kits can be kept in iron boxes dully marked as in "IN CASE OF EMERGENCY", under lock & key.

3.2 Resource Control Wing (Chennai)

When an emergency has escalated to a significant level and requires the resources of Head Office & External parties, Resource Control Wing will be established at corporate office Chennai. Executive Director shall take control over the Resource Control Wing and provides the resource requirements in conjunction with the Incident Commander (IC) who is normally the head of the port. The Executive Director may, if necessary advice / assist the Incident Commander on dealing with emergencies. Communication with Government of Pondicherry, Media & other external agencies will be handled from the Resource Control Centre.

3.3 Emergency Organization Chart

3.4 Assembly Areas (Muster Points)

The following areas are designated for the assembly of personnel in case of emergencies:

- ❖ Assembly Point No-01 -Covering Ware houses -01, 02, 03, 06, 07, 08, 09 & 10 and personnel working in weighbridge 1, 2, & 03.
- ❖ Assembly Point No-02- All berth users, MCT, Container Yard, South Break Water users and Tank Farm Personnel.
- ❖ Assembly Point No-03- All railway employees, PSTS work shop, customs gate facilitators and railway users (Loaders & Transporters).
- ❖ Assembly Point No-04 - All admin building employees, Securities, Admin related o t sourced employees & visitors.
- ❖ Assembly Point No-05- Man tipper area users, private tipper / equipments operators, deployment cell employees & labours at labour shed -01.
- ❖ Assembly Point No-06- DSS & Ro pump Operators, , Conveyor & and truck unloader, 110Kva MRSS Staffs, DS-200 Operators.WLS ,TLS ,SS-1,TT-5
- ❖ Assembly Point No-07- Labour canteen users, Warehouse no-04 & 05, labour shed -02 & 03, substation and commercial department personnel.
- ❖ Assembly Point -08 - Nort Coal yard,Iron Ore yard,north Break Water ,Berth-4,SS-2, TT-1 to 4

* Fuel station & any other personnel working at outside the port premises will join at respective departmental assembly points.

** Assembly points marked in GRID map is attached as **Annexure (V)**

3.5 Emergency Alarm Systems

In the event of any emergency involving the port's facilities the emergency alarm shall be sounded. The alarm shall be raised based on the severity of the emergency.This is a siren emitting:

EMERGENCY ALARM

WAILING SOUND

(05 MINUTES)

CANCELLING AN EMERGENCY

CONTIN OUS CONSTANT SOUND

(03 MINUTES)

3.6 GRID MAP

For easy topographical understanding and simplifying the position reporting the port has a Grid map as referential. Check **Annexure (V)** as attached with this document.

3.7 Emergency Recording

In the event of a minor incident the Radio Officer shall keep a full written log of all VHF communications and activity. Senior personnel involved in an incident are to maintain personal written logs, as applicable and relevant to the incident. In a category 3 or 4 Emergencies, an emergency logbook shall also be kept at the Emergency Control Centre.

3.8 Dissemination of Information and Media Management

Release of information and dealing with the media is part of the DMP plan and no information shall be issued except when in compliance with procedures. Control of communiqués, press conferences and other means for release of information, shall be handled by the Resource Control Centre (Chennai) in conjunction with the ED.

3.9 Training

All and selective personnel in the port area shall be fully conversant with the safety procedures and trained in numerous training methods as follows.

- Basic fire safety and rescue
- Basic life safety and first aid
- Emergency Response Training
- Advanced fire safety training
- Walkie-Talkie (communication Training)
- Mock Drills
- Mechanical & electrical safety and
- Safety induction to all Port users.

Emergency Response Team's Training

Emergency Response Team at port will go through the following training schedules.

- Fire fighting
- Medical Emergency
- Bomb or other security threats
- Flood Risk Management
- Oil Spill Response
- Other Disasters.

Drills & Exercises

Drills &Exercises shall be conducted as per schedule, which shall include realistic scenarios for the above mentioned emergencies. The drill & exercises record to be maintained by Fire & Safety Department.

3.10 Mutual Aid

A mutual aid system is in place with the companies operating at present in Karaikal. In the event of a major incident at category 3 level and above the management shall call upon other companies in the area to render assistance within their resources and make them available as required. Similarly KPPL shall reciprocate with its own equipment and personnel in the event of an incident at another facility in the area and when called upon. There are agreements signed in lieu of memorandum of understanding between KPPL and CPCL/Chemplast Sanmar on sharing resources during emergencies and peace time as well.

3.11 Companies Operating in Karaikal

COMPANY	RESOURCES		
	Fire fighting	Medical	Marine Craft
KPPL (Karaikal) Ltd.	Port facilities	Port Medical Centre	2 Tugs each BP 45 Tons Mooring Launch/Pilot Boat
Chemplast Sanmar	Fire Engine	Limited medical facilities	2 Tugs* (*Only on availability)
CPCL	Fire Engines	Medical Clinic	
ONGC	Fire Engines	Medical Clinic	None

3.12 Civil Response

Organization	Location	Resources
Director Of Port	Puducherry	Co-ordination
Coast Guard	Puducherry	Category 2 and above response
Police	TR Pattinam	Inspector of police in charge
Collectorate	Karaikal	Co-ordination
Primary Health Centre	TR Pattinam	Basic Medical Aid
General Hospital	Karaikal	Full Medical facilities (506 Bedding capacities).
General Hospital	Nagapattinam	Full Medical facilities (445 Bedding capacities).
Meteorological Officer	Chennai & Karaikal	Forecasts
Tsunami Alert	Hyderabad	Early Warning System

3.13 District Level Emergency Committee (DLEC)

In the event of a major emergency, particularly in catastrophic events, KPPL shall join the DLEC. Members of which are shown below.

District Collector	: Chairman
Medical Superintendent	: Government Hospital Karaikal
Fire Officer	: Karaikal
Superintendent of Police	: Karaikal
Inspector of Factories	: Karaikal
Director of Port	: Puducherry
ED	: KPPL
Head of Port	: KPPL
Members	: Other facilities in area

3.14 Communication with External Resources

Relevant Contact details of above resources / companies / personnel are enclosed as **Annexure (III) (B)** to this document. The contact numbers are updated every month & being a dynamic document is not controlled. The updated copy is enclosed to this Plan as well as posted in Muster Stations, Emergency Control rooms, Canteen, Medical Centre & other relevant areas.

3.15 Emergency scenarios and the response

Category 1 Incidents

This is likely to be a minor incident, which can be dealt immediately by personnel at the port using available equipment. However any incident must be treated as being potentially serious and full follow-up measures must be undertaken. A category 1 incident, if uncontrolled, can develop into a category 2 or above accident. Reaction time is very crucial in any incident/accident and this should always be borne in mind. Likely scenarios are minor fires, an operational injury requiring first aid etc..

Category 2 & 3 Accidents/Major Accidents

These incidents are almost similar in nature, except that in Category 2, the situation is controlled with our existing port infrastructure & in the case of Category 3; we have to resort to the external assistance. The incidents are broadly identified into the following:

1. Vessel grounding / hitting breakwater.
2. Vessel collision
3. Mooring failure in port
4. Fire in port or vessel
5. Structural Collapse
6. Fatal Accidents
7. Civil unrest
8. Oil Spill

Category 4 –Disasters

Emergencies as follows which need external agencies support and guidance falls in this category.

9. Cyclone/Storm
10. Tsunami
11. Flood
12. Earthquake
13. Bomb blast
14. Terrorist attack
15. Civil unrest
16. Major fire

17. Gas leakages mergency response for each of the above is mentioned below. In all these cases, after the incident /accident is successfully tackled, an incident/accident report form should be filled up and forwarded to Incident commander to help him analyze & take preventive action to avoid recurrence.

4.0 Standard Operating Procedures (SOP)

Scope

This SOP is for evacuating both the human beings as well as the material asset of the port, intended to provide the essential guidelines to employees for safe, efficient and, expeditious evacuation.

Need for Evacuation

The need for evacuation can arise due to anyone or more of the following.

- Natural Disasters
- Manmade Disasters
- On Management Requirements.

Either actual or simulated, the procedure to be followed or actions taken will be the same as specified in succeeding paragraphs.

The measures to be taken and decisions dependupon the intensity of the emergency.

It can be minor, major or serious. The responsibility on decision lies with the Incident Commander, Head Port, in his absence Head -Marine.

The emergency may take place during normal working hrs, Shift Hrs or on operational hrs. Actions list in this SOP have all the contingencies, taken in to consideration of the personnel present in certain situation.

Emergency Reporting

- The Emergency could come to notice as a result of one or more of the following reason and response action will be as followed.
- The magnitude of emergency may be so large like earthquake or an explosion, that every one becomes aware of it instantly.
- Emergency which is noticed by one or more employees or port users and invariably intimated to Port Fire & Safety department.
- The person informing Fire & Safety department about the emergency will give the location, time and brief description of the emergency.

- The person on the duty at Fire & Safety department will immediately get the approval either from HOD fire safety or the next in hierarchy to initiate primary alarm or evacuation procedures.

Rising an Alarm

The need to raise general or local alarm will be decided by Head Port/Head marine. The alarm can be raised in the following manner.

- Emergency Siren
- Public addressing system.
- Manual alert. *Normally can be avoided since human voice is not likely audible in any emergency like situation.
- Hand Siren may be operated by Fire & Safety department as and when required.

Action Team Mobilization

- In normal working hours during emergency Head Port in his absence Head -marine will take over as Incident Commander. He will pass the Emergency / Evacuation instructions to the Fire & Safety department.

- All HOD's and the emergency services like Fire & Safety , Security &Port Medical Facilities through the relay message from Fire & Safety will report to Incident Commander.
- The zone wise on scene commanders shall assume their respective roles as per the laid down procedure and will report to Incident Commander.
- The Emergency Response Team of the respective zones will report to their respective on scene commander.

- In case of Bomb threat or other security threats may be routed through security department instead of Fire & Safety department.
- Simultaneously all off shore emergencies will be channelized through POC.

Immediate Action & Evacuation

When the decision has been taken to either evacuate the entire port or part of it the following actions will be taken immediately through emergency control centre.

- Inform the local police station, fire station and hospitals.
- Inform to any other local body deemed a necessity
- Disable all the elevators.
- Switch off the electric mains
- Strict control at the exits to enable effective enforcements of the rescue teams.

- Try to control the cause of the emergency, not to take risk on lives.
- Interact with the neighboring units in any mutual aid plan is being rehearsed.
- Other than the designated emergency response team and emergency services team, rest all to be evacuated.
- Decision to be taken to displace tankers and other potential hazardous vehicle to safer area.
- Proper head counts to be taken and tally with the attendance of the day (HR functionary).
- Decision will be taken to evacuate even the ERT team and the emergency services team in case the situation goes beyond the control.

General guidelines to the Employees/ Contractors

- Do not panic and create panic situation.
- Do not crowd the areas
- Do not engage phones and other communication channels unnecessarily.
- Guide the visitors, guests and women to reach the safe assembly point.
- Do not spread rumors.
- Act as per guidelines provided and practiced.
- Do not enter/run in the area where the emergency team is being engaged.
- Assemble at nearest assembly point.

SOP 1 - Vessel grounding / hitting breakwater etc

Objective:

1) The main objective of the procedure to handle the vessel grounding /hitting break water scenario in effective manner.
2) To identify and laid down procedures to the co-coordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution and ensure workers safety in port vicinity.

Actors:

- Incident Commander (Head (Marine)
- POC
- Marine Operator
- Coastguard /Marine police.
- Fire & Safety
- Port Medical Centre
- Security
- Public Relations Officer
- Cargo Team (If need arises).

Procedure:-

- Raise Alarm if necessary / Inform Head of Port.
- Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- Marine craft including tugs / boats etc. to be kept standby.
- Mark vessel's position in chart.
- Monitor the weather / tide conditions on hourly basis.
- Co-ordinate with coastguard or any other related external agencies on facilities /other requirements.
- Advice vessel to Assess preliminary damage - sound her tanks, extent & point of grounding, possibility of cargo damage / oil spill etc. In case of oil spill, follow response procedure for oil pollution.
- Log all communications.
- Initiate re-floating attempts after careful analysis and after advising vessel to close all watertight compartments.
- For re-floating, assistance can be sought from other tugs operating in nearby ports of Nagapattinam & Chemplast jetty.
- Assess any damage to port structure / buoys etc. and issue Liability notice to vessel.
- Ensure vessel calls H & M / P& I surveyors and assessment done prior commencing cargo discharge. Extent of cargo damage to be clearly indicated by P & I.
- Prior vessel sailing, ensure that she is seaworthy and owners have indemnified / provided guarantee to the port against damages.

SOP 2 - Vessel Collision

Objective:

1) The main objective of the procedure to handle the vessels collision scenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution and ensure workers safety in port vicinity.

Actors:

- Incident Commander (HeadMarine)
- POC
- Marine Operator
- ERT Team (IMO Level 01 Trained peoples)
- Fire & Safety
- Port Medical Centre
- Security
- Coastguard /Marine police.
- Public Relations Officer

Procedure:-

- Raise Alarm if necessary
- Inform Head of port and Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- Warn other traffic in Vicinity.
- Marine craft including tugs / boats etc. to be kept standby.
- Mark vessel's position in chart.
- Monitor the weather / tide conditions on hourly basis.
- Advice vessels to assess preliminary damage after ensuring that they are safely anchored - sound tanks, extent & point of collision, possibility of cargo damage / oil spill etc. In case of oil spill, follow response procedure for oil pollution.
- Log all communications.
- If there is a danger of vessel sinking, consider grounding her outside the channel.
- Any fire to be dealt with as per response plan for fire.
- Assess any damage to port structure / buoys etc. and issue Liability notice to vessel if any damage noticed.
- Ensure vessel calls H & M / P& I surveyors and assessment done prior commencing cargo discharge. Extent of cargo damage to be clearly indicated by P & I and notified to receivers / shippers.

Prior vessel sailing, ensure that she is seaworthy and owners have indemnified / provided guarantee to the port against damages

SOP 3 - Vessel Mooring Failure

Objective:

1) The main objective of the procedure to handle the vessel mooring failure scenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution and ensure workers safety in port vicinity.

Actors:

- Incident Commander (Head Marine)
- POC
- Marine Operator
- ERT Team
- Fire & Safety
- Port Medical Centre
- Security
- Coastguard /Marine police.
- Public Relations Officer

Procedure

This can occur in sudden squalls, Tsunami or other conditions when vessel's mooring parts due to sudden strain on the mooring lines. Adequate warning, if available should be given to the vessel on squall / cyclone / Tsunami if & when available. Mooring crew (ashore & onboard) to be mobilised immediately if mooring failure is imminent and strengthening of mooring to be resorted to. If there is adequate warning of cyclone / Tsunami, the best action is to sail the vessel out of port. If, in spite of these precautions, vessel parts her lines, following action to be taken:

- Marine craft including tugs / boats, mooring crew, Pilot to be kept standby for assisting in re-mooring.
- Raise Alarm & stop cargo / bunkering operations.
- Inform Head of Port and Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- On scene commander (HOD Marine) to assume charge at the jetty.
- Warn other vessels in Vicinity and ask them to prepare engines.
- Provide continued weather/ Tide conditions data to the operational team.
- Log all communications and
- Use all possible resources to prevent damage to vessels or port property.
- In case any damage occurs to the port property, assess the damage and issue Liability notice to vessel.
- Prior vessel sailing, ensure that she is seaworthy and owners have indemnified / provid d guarantee to the port against damages – if applicable.

SOP 4 - Fire at vessel or other areas

Objective:

- The main objective of the procedure to handle vessel or other area's fire scenario in effective manner.
- To identify and laid down procedures to the coordinator related to this emergencies.
- To determine in sorting out the stage where external support to be rendered.
- To ensure minimum/zero disturbances to the operational requirement of the port.
- To avoid /minimize any sort of pollution and ensure workers safety in port vicinity

Actors:

- Incident Commander (HeadMarine)
- Fire & Rescue Team
- Port Medical Centre
- Marine Operator
- ERT Team
- Security
- Mechanical & Electrical Team.
- Coastguard (If need arises).
- Public Relations Officer

Standard Operating Procedure (SOP) for fire at vessel:

- Raise Alarm & stop all operations.
- Inform Head of Port.
- Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- On Scene Commander to assume charge at the scene of fire.
- Remove flammable material from nearby areas as far as possible. In case of fire in a ship, towing the ship out of the port can be considered to prevent spread of fire to other areas of port.
- Isolate Electrical supply in affected area.
- Cordon off the area and remove unauthorized persons from the scene.
- Approach fire from upwind area where possible.
- Water / Foam as appropriate to be used after ensuring electrical isolation in case of cargo / vessel fire.
- Switchboard / Control room fires to be extinguished using CO2, DCP or other suitable extinguishers.(DO NOT USE WATER / FOAM)
- Boundary cooling, Sprinkling system, fire curtains can be used effectively to tackle fire.
- Fire tender, Tugs, Fire extinguishers can be used to access areas where coverage of fire main is found wanting.
- Additional fire fighting resources from Nagapattinam / Karaikal port & Town can be sought if necessary.

Medical facilities to be ready at hand to treat personnel affected.

SOP 5 - Oil Spill in Port

Objective:

1) The main objective of the procedure to handle the oil pollution scenario in effective manner.
2) To identify and laid down procedures to the co-coordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution to the environment.

Actors:

- Incident Commander (Head Marine)
- POC
- Marine Operator
- ERT Team (IMO Level 01& 02 Trained Peoples)
- Fire & Safety
- Security
- Coastguard /Marine police.
- Public Relations Officer

In all cases of oil handling operations, pollution control equipment should be kept readily available near the area of operation & should be easily deployable.

Standard Operating Procedure (SOP) for Oil pollution:

- Raise Alarm & stop all cargo / bunkering operations.
- Inform Head of Port.
- Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- On Scene Commander to assume charge at the scene of pollution.
- Cordon off area & remove unauthorized persons.
- Inform CPCL & KPPL Tank farm to isolate all valves.
- On shore fire fighting equipments and fire fighters to be kept in standby.
- Marine crafts (tugs / Boats) to be kept on standby.
- OSR equipments to be kept in standby at jetty
- Spill removing and additional arrangements to be arranged **(Refer Oil spill Contingency Plan: Appendix-7)**
- Additional resources like booms, skimmers, power pack etc. can also be initiated from Nagapattinam & Chemplast jetties.
- Admin and operation team to be arranged necessary man power, excavating equipments and storage facilities.
- Provide continued weather/ Tide conditions, current and wind direction data's to the spill control team.

- Deploy the spill control booms appropriately to contain the spread of oil.
- Pollution from a vessel in anchorage needs careful monitoring of wind & tidal conditions to assess the flow of oil – Refer Oil spill Contingency Plan.
- Remember that evaporating hydrocarbons can ignite if exposed to a source of fire. Hence isolate all sources of fire within at least 500mtrs of spill.
- Use of foam blanket over a pool of oil can be considered to contain evaporation of lighter elements.
- Containment, diversion, use of chemicals can be considered to prevent pollution from hitting the shore / beaches.

If pollution cannot be contained, inform Coast Guard. Use the appropriate reporting format as contained in the **Oil spill contingency plan**.

SOP 6 - Bomb or Terrorist Threat

Objective:

1) The main objective of the procedure to handle Bomb threat and terrorist attack scenario in effective manner.
2) To initiate and assist appropriate external support
3) To identify and laid down procedures as per ISPS code related to this emergencies.
4) To ensure minimum/zero disturbances to the operational requirement of the port.
5) To ensure workers safety.

Actors:

- Incident Commander -DGM(Security) / PFSO
- POC
- ERT Team
- Fire & Safety
- Local police/Marine police/ Coastguard /Navy.
- Public Relations Officer
- Bomb disposal team

If such a threat is received by phone call (which normally is the case), try to engage the person in conversation without panic & obtain as much information as possible as to the location, size of bomb, possible extent of damage etc. Most of the informers like to talk / boast about their knowledge & this should be exploited. In any case, following actions to be taken until the bomb squad clears the area:

Standard Operating Procedure (SOP) for Bomb or Terrorist threat:

- Raise Alarm.
- Inform Head of Port / PFSO / Dy. PFSO / Bomb Squad / Police.
- Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- Respective On Scene Commander to assume charge at the Threatened area.
- Cordon off the area if known & remove unauthorized personnel. Otherwise assemble all personnel.
- Remove all flammable / explosive material from the suspected area. Refer Port Facility Security Plan.
- Don't touch a suspect box or cylindrical object; there is the possibility of sliding contacts, mercury switches, or balanced pendulum fusing systems.
- Don't cut a string or any other object attached to suspected package; there is the possibility of pressure release devices.
- Don't shake or jar suspect object; a bottle on its side may cause certain hypergolic chemicals to mix, causing a mechanical explosion or violent reaction.

- Don't become careless and overconfident, but complete the search as rapidly as possible.
- Keep in mind that more than one object may be planted.
- Don't allow two-way radio transmission in the near vicinity of suspected object. Static Electricity can cause electric fuse caps to explode.
- Security camera can be used for surveillance of other areas & personnel.
- PA system to be used extensively along with security personnel in crowd control.
- Decision can be taken on evacuating all unnecessary personnel from Port.
- Unberth ships from port

SOP 7 - Major gas release from neighbor Plant

Objective:

1) The main objective of the procedure to handle the poisonous gas release from neighbor industries in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander
- Head (Marine)
- POC
- Marine Operator
- ERT Team
- Fire & Safety
- Security
- Public Relations Officer

M/s Chemplast Sanmar, situated adjacent to our port (NNW of the port) has an Ethylene storage capacity of about 7000 MT stored in a atmospheric tank. Ethylene is highly flammable. If any gas release takes place in their tank, the vapour cloud can hang over the port. The exposure limit for Ethylene is 200ppm. It is advised to evacuate about 800mtrs in case of leaks considering the wind direction and amount of discharge.

Standard Operating Procedure (SOP) for Major Gas release by Chemplast Sanmar:

- Raise Alarm. Use PA system to warn personnel of leak.
- Stop all operation in the portand Inform Head of Port.
- Muster the Crisis Management Team.
- Incident Commander to take charge of Emergency control room and inform HO.
- Shut off all windows & ventilators that have intake from outside.
- Evacuate all personnel from railway Siding & coal yard (northern part of port).
- Monitor the direction and speed of wind and pass those details to the on- scene commander.
- Eliminate all potential ignition sources from railway yard, northern coal yard and MSS.
- Communicate continuously with M/s Chemplast Sanmar and assess the situation.
- Fire main, Fire tender, Ambulance to be in a state of readiness.Remember ethylene can cause eye irritation, coma and persist effect. Fire fighters advised to wear heat resistant suit with SCBA.
- Warn vessels in port of the leak and advice them to resort to closed ventilation.
- Refer MSDS of Ethylene (Annexure I)

Standby to assist M/s Chemplast Sanmar to control the situation.

SOP 8 - Civil disturbance /Riots

Objective:

1) The main objective of the procedure to handle the civil disturbance/riots scenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander Head Security (DGM) / PFSO
- POC
- ERT Team.
- Fire & Safety
- Local police/ Coastguard / Marine police.
- Public Relations Officer

Standard Operating Procedure (SOP) for Civil Disturbance / Riots:

- Raise Alarm if necessary
- Inform Head of Port.
- Close down the port entrance & arrest access to port.
- Incident Commander to take charge of Emergency control room and inform HO
- Muster Crisis Management Team
- Inform the local police / Collector & seek additional help.
- Reinforce the security at the gate. Entry can be controlled by barricading with empty containers or trucks/ tippers closely parked.
- Rig up fire hoses (Fire tender) at gate - to ward off unnecessary elements if required.
- Use PA system extensively to control the mob.
- Lights can also be used to effectively control the mob.
- Monitor movements with security camera from Emergency control room.
- Inform all employees / contractors of the situation at port.
- Refer Port Facility Security Plan.

SOP 9 - Cyclone

Objective:

1) The main objective of the procedure is to handle the cyclone in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergency.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander
- Head (Marine)
- POC
- Marine Operator
- ERT Team
- Fire & Safety
- Security
- Admin & HR team
- Public Relations Officer
- Any External agencies, if required

Adequate meteorological warning facilities are available for cyclones. In spite of that, cyclone create enough havoc. Closely monitoring the movement of cyclone is the key for action plan.

Standard Operating Procedure (SOP) for Cyclone:

- Raise Alarm and all operations
- Inform Head of Port.
- Raise appropriate cyclone signal at MCT.
- To monitor regular update on cyclone track.
- Use PA system to warn personnel to assemble at respective assembly point.
- Prepare to stop operations and put out vessels to sea, if necessary.
- Reinforce moorings of smaller crafts / dredgers in port.
- Batten down cranes, buildings and warehouses, if necessary.
- Securing Ship-unloaders and stacker cum reclaimers to parking position and applying storm anchoring system
- Check foundations of all civil structures & tall erections like High mast towers.
- Fill up fuel in Bunk, tugs, ambulance, fire tender etc. & keep them ready.
- Admin manager shall arrange transport facility for evacuation if necessary.
- Clear out drainages since cyclones are associated with lots of rain.

- Incident Commander to take charge of Emergency control room and inform HO

- Muster Crisis Management Team, if deemed necessary.
- Monitor the scouring of Vettar River as it can damage the compound wall.
- Electrocution due to high voltage lines snapping is a common problem. Check efficiency of all Circuit breakers.
- Provide continued weather/ Tide conditions and wind direction data's to on scene commander.
- On consultation with on scene commander the power supply can be cut-off.
- Labors and other weaker area people shall be shifted to safe location (If necessary)
- Establish communication with nearby ports & civic authorities.
- Other staffs standby to assist.

SOP 10 - Tsunami

Objective:

1) The main objective of the procedure to handle the Tsunami scenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander
- Head (Marine)
- POC
- Marine Operator
- ERT Team
- Fire & Safety
- Security
- Admin & HR team
- Facilities team
- Coastguard /Marine police.
- Public Relations Officer

Caused due to an earthquake in the sea & often arrives without much warning. Imminent indication is sudden increasingof water level in port. Though warning centers are available, we cannot be always sure of early warning. Compared to nearby low areas, port is at + 4.0 meters level and hence it is comparatively safer.

Standard Operating Procedure (SOP) for Tsunami:

- Raise Alarm.
- Stop all operations.
- Inform Head of Port.
- Muster the Crisis Management Team.
- Evacuate people from waterfront & move them outside port.
- Incident Commander to take charge of Emergency control room and inform HO.
- Secondary Emergency control room can be established if necessary through mobile caravan/ bus.
- Pilots on standby to take out the vessels from port.
- Warn vessels & all marine crafts in port and ask them to prepare engines. If time permits, they can be put out to sea. Otherwise, they should call stations & attend to moorings.

- Cutter suction Dredgers to reinforce moorings where possible.
- Batten down warehouses / buildings / crane (MHC) lower the boom where possible.
- Securing Ship-unloaders and stacker cum reclaimers to parking position and applying storm anchoring system
- Move all equipments and others machinery from water front to safer area.
- Communicate with nearby ports & district authorities.
- Standby to assist maintaining safe distance.

SOP 11–Flood

Objective

The Main Objective of this SOP is to make sure that appropriate and effective response measures are taken during flood emergency to minimize the loss of life and property.

- Declaration of Flood Disaster
- Flood Forecasting and Warning
- Trigger Mechanism
- Response Mechanism of the concerned departments along with the roles and responsibilities

Actors

- Incident Commander
- Head (Marine)
- POC
- PMC
- ERT Team
- Admin & HR team
- Fire & Safety
- Security
- Respective Hospital Authorities
- Public Relations Officer

Standard Operating Procedures for Flood Risk Management

- Observe the warning from the Meteorological and District Administration
- Prior to flood ensure the River Mouth Is clear from the silt of Pravadaiyanar River in North Direction
- Clear out drainages for easy flow of water since Flood associated with lots of rain.
- Keep adequate Sand Bags in ready condition for placement to control the Flood
- Ensure adequate transportation facilities for employee evacuation
- Identify Emergency Response Team to manage the flood situations
- Inform Head of Port and raise Alarm in case of Flood
- To monitor regular update on Flood Condition in Pravadaiyan River and Vettar River through POC
- Use PA system to warn personnel to assemble at respective assembly point.
- Prepare to stop operations, if necessary.
- Observe the water flow in the River Bridge located nearby Port to ensure smooth vehicle movement. Keep close coordination with District Administration.
- Ensure No personal movement along the compound wall.
- Fill up fuel in Bunk, tugs, ambulance, fire tender etc. & keep them ready.

- Admin manager shall arrange transport facility for evacuation if necessary.
- Incident Commander to take charge of Emergency control room and inform HO
- Muster Crisis Management Team, if deemed necessary.
- Monitor the scouring of Vettar River as it can damage the compound wall.
- Electrocution due to high voltage lines snapping is a common problem. Check efficiency of all Circuit breakers.
- Securing Ship-unloaders and stacker cum reclaimers to parking position and applying storm anchoring system
- Provide continued weather/ Tide conditions and wind direction data's to on scene commander.
- On consultation with on scene commander the power supply can be cut-off.
- Labors and other vulnerable area people shall be shifted to safe location (If necessary)
- Establish communication with nearby ports & civic authorities.
- Other staffs& ERT standby to assist in case of Flood Risk poses serious threat.

SOP 12- Earth-Quake

Objective:

1) The main objective of the procedure to handle the earthquake scenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any sort of pollution in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander
- Head (Marine)
- POC
- Marine Operator
- ERT Team
- Fire & Safety
- Security
- Admin & HR team
- Facilities team
- Coastguard /Marine police.
- Public Relations Officer

Standard Operating Procedure (SOP) for Earth Quake:

- Raise Alarm.
- Stop all operations.
- Inform Head of Port.
- Muster the Crisis Management Team.
- Evacuate people from high raise buildings, ware houses, jetty sides & move them to open areas.
- Incident Commander to take charge of Emergency control room (Preferably the secondary emergency control centre as prescribed with adequate communication and net work facilities) and inform HO.
- Warn vessels in port and ask them to prepare engines and standby for putting out to sea if necessary.
- Batten down all cranes
- Securing Ship-unloaders and stacker cum reclaimers to parking position and applying storm anchoring
- Shutdown electric power
- Keep ready for use, the emergency kits like helmets, whistle, torch lights, transistor and dry foods (admin role).
- Small Marine craft including tugs / boats can be put out to sea, if necessary.
- Establish communication with nearby ports & district authority.
- Fire tenders / Ambulance to be ready.

SOP 13 - Epidemic breakout

Objective:

1) The main objective of the procedure to handle the Epidemic Breakoutscenario in effective manner.
2) To identify and laid down procedures to the co-ordinator related to this emergencies.
3) To ensure minimum/zero disturbances to the operational requirement of the port.
4) To avoid /minimize any spread out of disease in port vicinity.
5) To ensure workers safety.

Actors:

- Incident Commander
- Head (Marine)
- POC
- PMC
- ERT Team
- Admin & HR team
- Fire & Safety
- Security
- Respective hospital authorities
- Public Relations Officer

Since in house shelters are provided to work force inside port vicinity, the emergency of any sort of epidemic breakout cannot be ruled out in Karaikal port. In case of such eventuality the following actions can be taken.

Standard Operating Procedure (SOP) for Epidemic Breakout:

- Muster crisis management team, if necessary.
- Incident Commander to take charge of Emergency control room, if necessary and inform HO.
- Warn all personnel of the epidemic breakout.
- Establish communication with district authorities & nearby hospitals.

  Standby to assist.

5.0 Rehabilitation

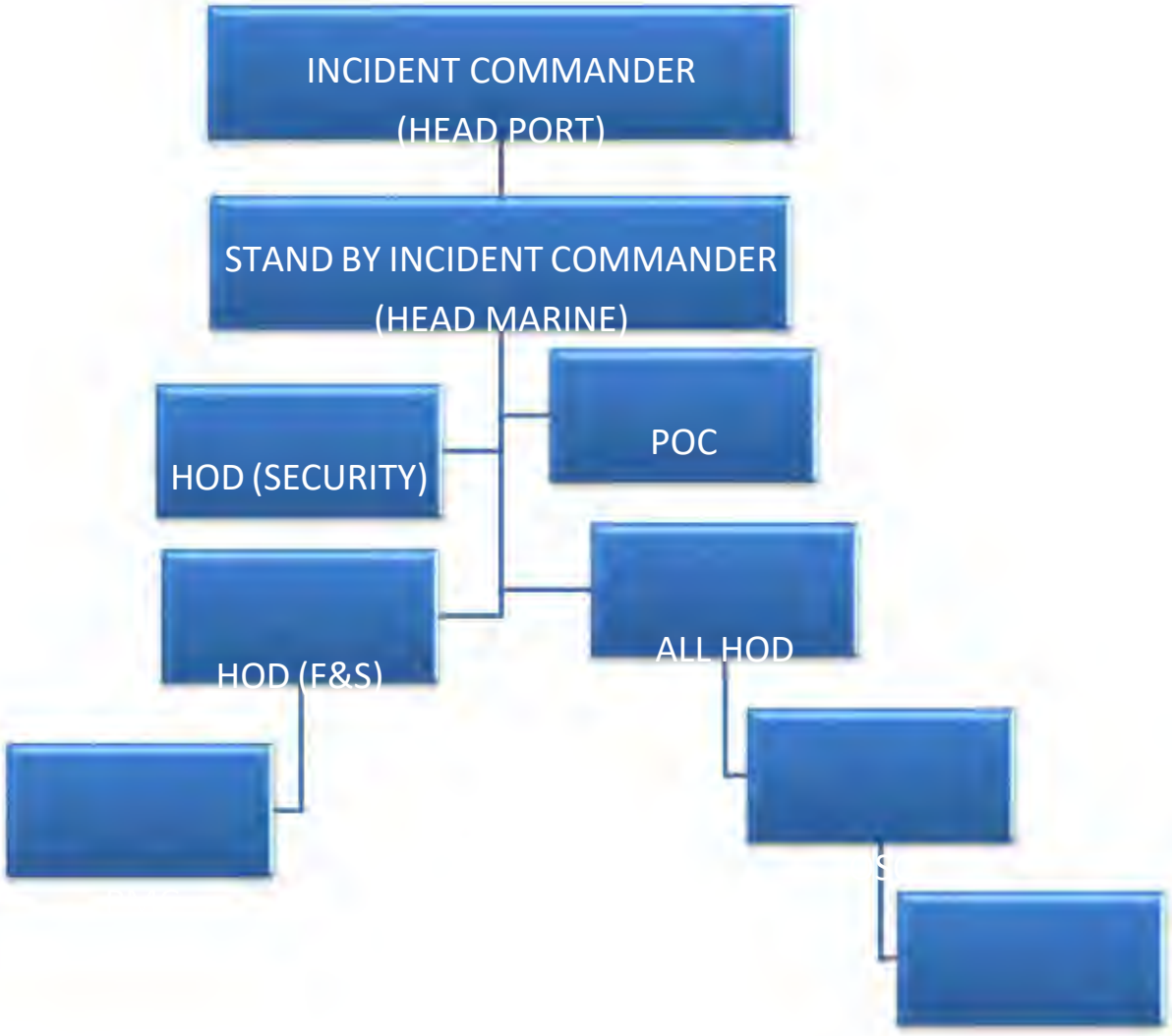
Following any major emergency the main priority shall be to restore the facilities to a safe condition and allow resumption of normal operation in a timely manner. Both human assets and company assets need resurrection in able manner. It is extremely important that a Disaster Management plan culminates in an effective Recovery plan to enable the earliest commencement of business. However, it has to be borne in mind that it is not possible to forecast its magnitude, the effect and consequence of the disaster and, therefore, lay down clear recovery plans. In some instances, recovery plans will be subject to the clearances by the civic agencies and the emergency services before which any entries will be restricted or may not be possible. Factors to be considered are:

- Establish a rehabilitation centre
- Establish communication, if disrupted.
- Correct immediate electrical hazards and secure all the electro mechanical equipments.
- Carry out essential services, on priority.
- Situational needs of human as well as material assets for rehabilitation to be identified.
- Establishing documentary and other evidences
- Stabilization of the facilities.
- Co-ordination with the authorities as required.
- Full investigation and reporting of the incident
- Housekeeping in clearing the debris/contaminated water content caused by fire fighting, hazardous wastes, segregation and disposal as per WMP.

6.0 Annexure

Annexure (I)

Crisis Management Team



Annexure (II)

Emergency Alarm Check list

Date: ……/……/20…… Time: ……Hrs. **S.No……**

Emergency details

4.1.1 Type of Emergency :

4.1.2 Place (Land Mark) :

4.1.3 Reported By :

4.1.4 Remarks (In any) :

Section/ Designation	W/Talkie	Mobile	Name	Time
Port Medical Centre	☐	☐		
Security Section	☐			
Admin /PRO	☐	☐		
Manager Fire & Safety /DGM	☐			
Head marine /Head Port(SMS)	☐	☐		
Concerned Dept Head	☐	☐		
POC	☐			

Observation If any:

Raised by

Name :

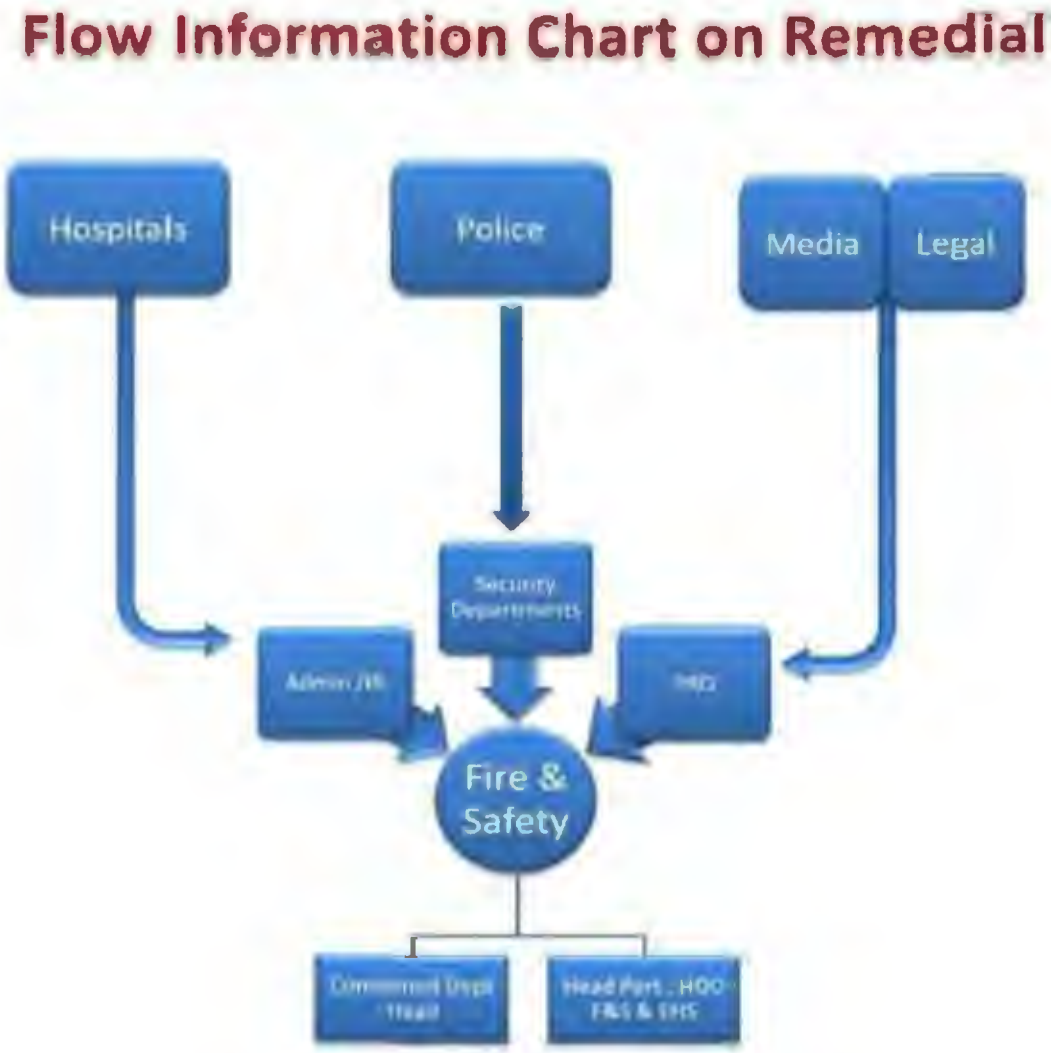
Signature : **Designation:**

Annexure (III)

Port Emergency Communication System

Annexure (III) (A)

Port Emergency Communication System



Annexure (III) (B)

Emergency Contact Numbers

INTERNAL CONTACT No

FIRE & SAFETY OFFICE	04365 256614 / 95000 94245
MEDICAL CENTRE	04365 256534 / 95001 21771
PORT SECURITY OFFICE	04365 256617 /9566680077
PORT OPERATION CENTRE – 24 X 7 HRS	04365 256612 / 95660 00700
CARGO OPERATION – 24 X 7 HRS	96770 52433 / 9566159588
MECHNICAL – 24 X 7 HRS	95001 25252
ELECTERICAL - 24 X 7 HRS	95001 25244
RAILWAY -24 X 7 HRS	95000 93414
HEAD SECURITY	9566160736
PFSO	9100113421
DY.PFSO	8925812749
HEAD FIRE & SAFETY	7339222530

***HOSPITALS* / CASUALTY**

VINAKYAGA MISSION	04368 222593
G.H KARAIKAL	04368 222450
ANSARI HOSPITAL – NGT	04365 224349

POLICE STATIONS

COASTALPOLICE	04368 224750
KARAIKAL POLICE	04368 222437/222402
T.R.PATTINAM P.S	04368 233014/233480

FIRE STATIONS

KARAIKAL	*0436 230101/227112*	NAGAPATTINAM	*04365 242101/221101*
ONGC – NERAVY	*0436 238890*		
ONGC – NARIMANAM	*0436 235167*		

COAST GUARD

KARAIKAL	*0436 226500*
PUDUCHERRY	*04132 602498*
CHENNAI	*044 23460403*

INDIAN NAVY

NAGAPATTINAM	*04365242534*

BOMB SQUAD *(*To be contacted through Karaikal police station)

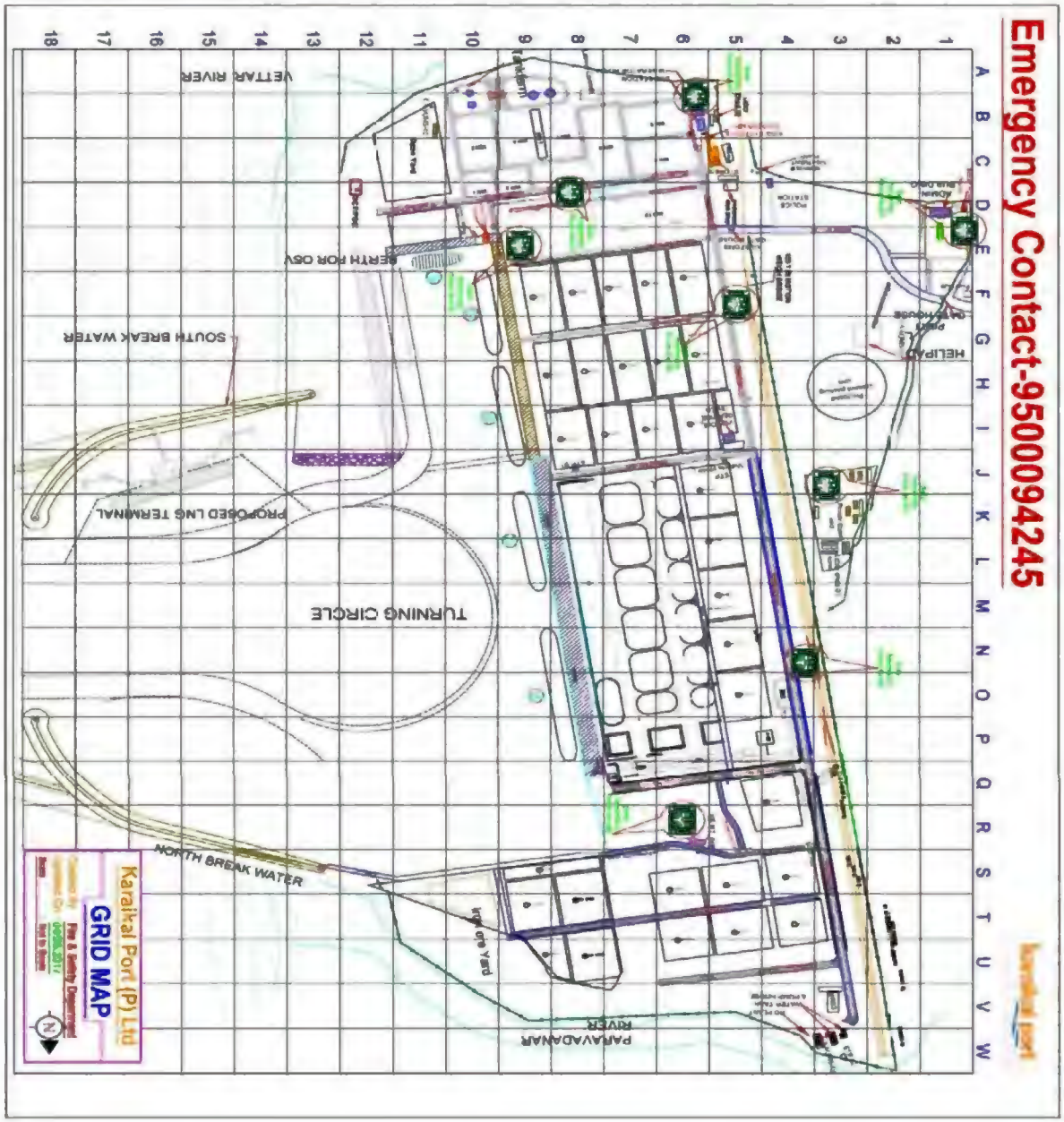
KARAIKAL POLICE	*0436 222437/222402*

Annexure (IV)

List of Fire Fighting Equipments

S. No	Descriptions	Qty
1.	Multi PurposeFire Tender	01
2.	Fire Hydrant (Single Headed)	118
3.	Fire Hydrant (Dual Headed)	16
4.	Tower monitor	02
5.	Ground monitor	05
6.	Jumbo Curtain	02
7.	Manual Sprinklers	15
8.	Fire Hose Reel	07
9.	Sand Bucket	74
10.	Portable Fire Extinguisher (CO2,DCP & Foam)	270
11.	Fire pump House	03
12.	Fire water gel blanket	10 Kg
13.	SCBA	03
14.	Fire Entry Suit	03
15.	Fire Proximity Suit	05
16.	Tug	02

Annexure (V) Grid Map & Assembly Points



Annexure (VI)

Bomb Threat Check List

Bomb Threat Call Procedures

Most bomb threats are received by phone. Bomb threats are serious until proven otherwise. Act quickly, but remain calm and obtain information with the checklist on the reverse of this card

If a bomb threat is received by phone:

- ❖ Remain calm. Keep the caller on the line for as long as possible. DO NOT HANG UP, even if the caller does.
- ❖ Listen carefully. Be polite and show interest.
- ❖ Try to keep the caller talking to learn more information.
- ❖ If possible, write a note to a colleague to call the authorities or, as soon as the caller hangs up, immediately notify them yourself.
- ❖ If your phone has a display, copy the number and/or letters on the window display.

Immediately upon termination of the call, do not hang up, but from a different phone, contact FPS immediately with information and await instructions

Signs of a suspicious package:

No return address, Poorly handwritten, Excessive postage, Misspelled words, Stains Incorrect titles Strange odor, Foreign postage, Strange sounds, Restrictive notes and Unexpected delivery.

DO NOT:

- o Use two-way radios or cellular phone; radio signals have the potential to detonate a bomb.
- o Wait for police arrival. Evacuate the building and evaluate the threat.
- o Touch or move a suspicious package.
- o Discuss with other staf

Receiver Information

Name	:
Designation	:
Contact no	:

Bomb Threat Check List

Date: **Time:**

EXACT WORDS OF THE CALLER----------

Question to ask.

- ❖ When the bomb going to explode?.....
- ❖ Where is the bomb?.....
- ❖ What does it look like?.....
- ❖ What kind of bomb is it?.....
- ❖ What will cause it to explode?.....
- ❖ Did you place the bomb ?.....
- ❖ Where did you place?.....
- ❖ Where are you calling from?.....
- ❖ What is your Name & address? ....

.....

Information about caller

□ Calm	□ Angry	□ Deep
□ Slow	□ Rapid	□ Excited
□ Loud	□ Laughing	□ Soft
□ Normal	□ Distinct	□ Familiar
□ Intoxicated	□ Clearing throat	□ Deep breathing
□ Cracking voice	□ Raspy	□ Accent

Background Noise

□ Street noises	□ Factory machinery
□ Crockery	□ Animal noises
□ Voices	□ Clear
□ PA system	□ Static
□ Music	□ House noises
□ Motor noises	□ Office machinery
□ Public phone	□ Local call
□ STD call	□ Aircraft

A) If voice is familiar, whom did it sound like?	
B) Were there any background noises?	
C) Person receiving call?	

Signature : **Time:**

Annexure (VII)

Flood Prone Areas

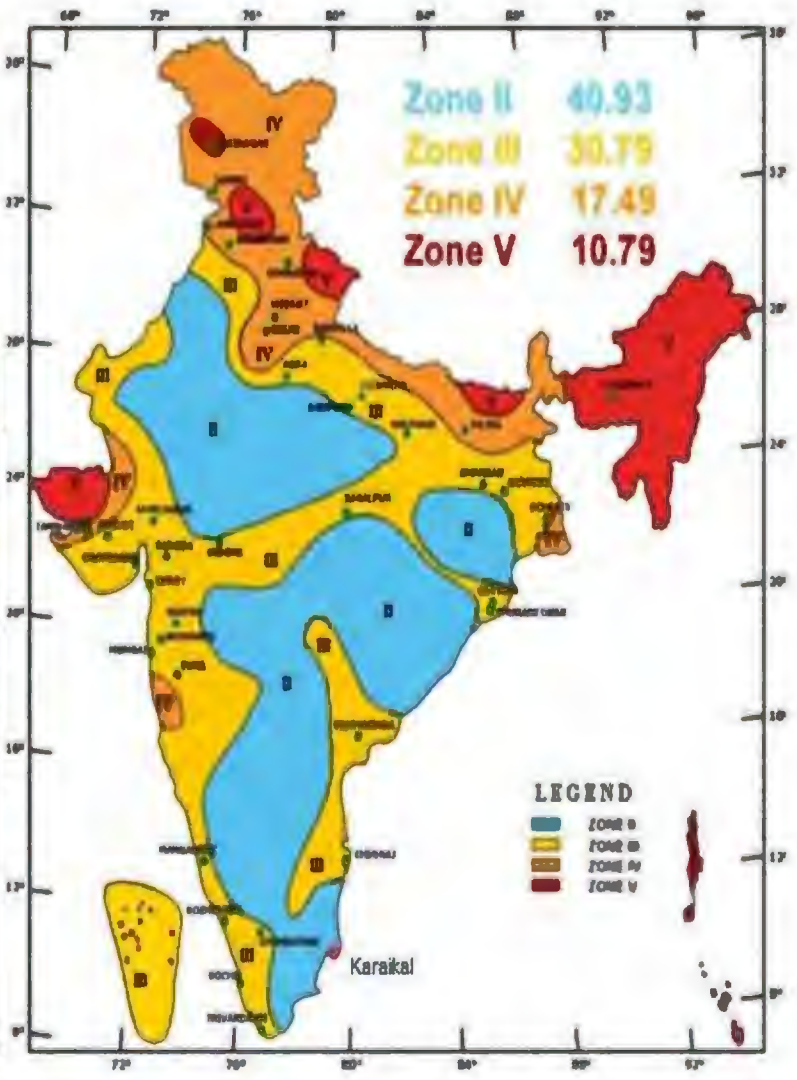
Annexure (VII)

India's Earth Quake Prone Areas

Seismic Zone Map of India: -2002

About 59 percent of the land area of India is liable to seismic hazard damage

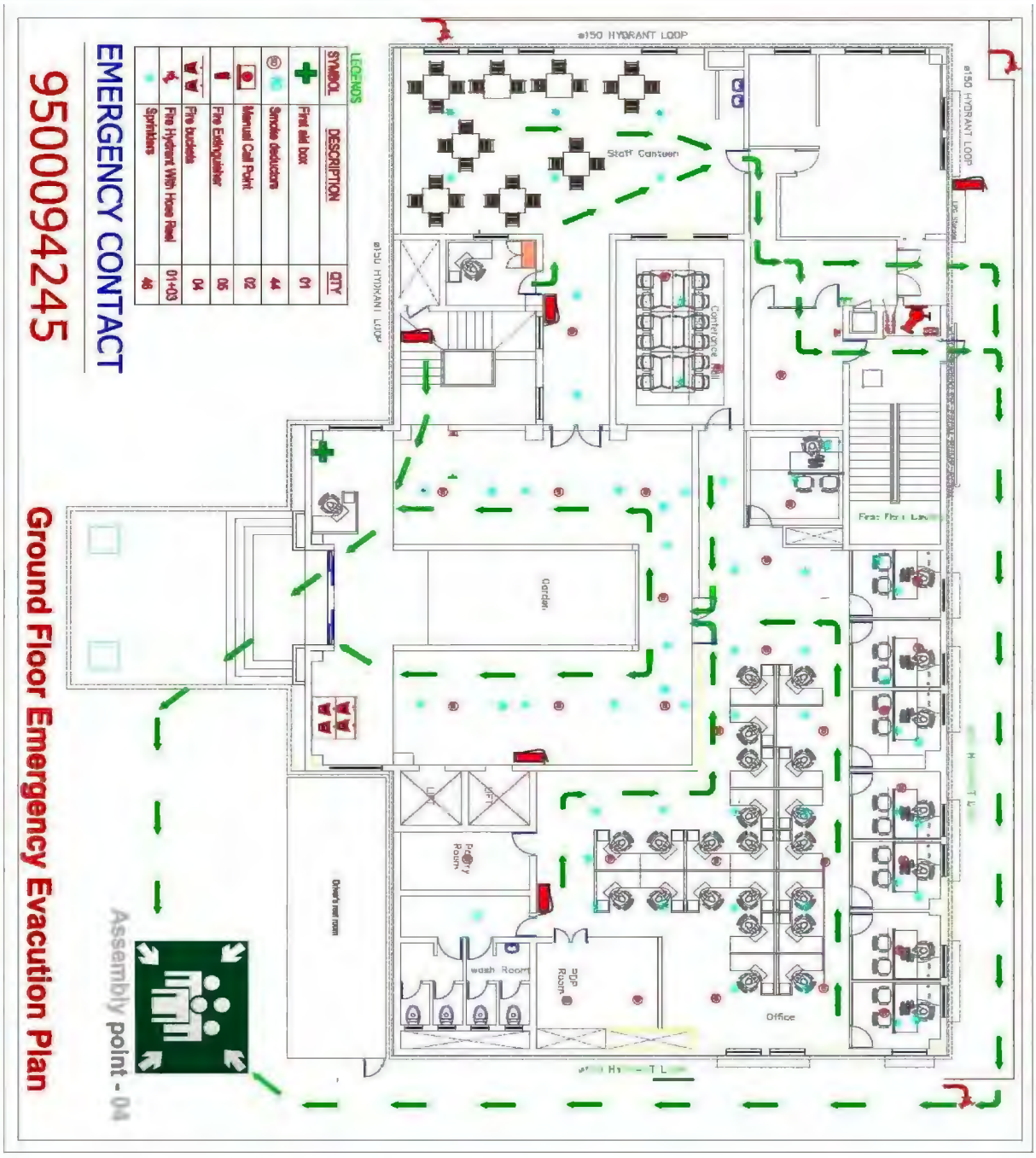
Zone	Intensity
Zone V	Very High Risk Zone Area liable to shaking Intensity IX (and above)
Zone IV	High Risk Zone Intensity VIII
Zone III	Moderate Risk Zone Intensity VII
Zone II	Low Risk Zone VI (and lower)



Seismic zonation and intensity map of India

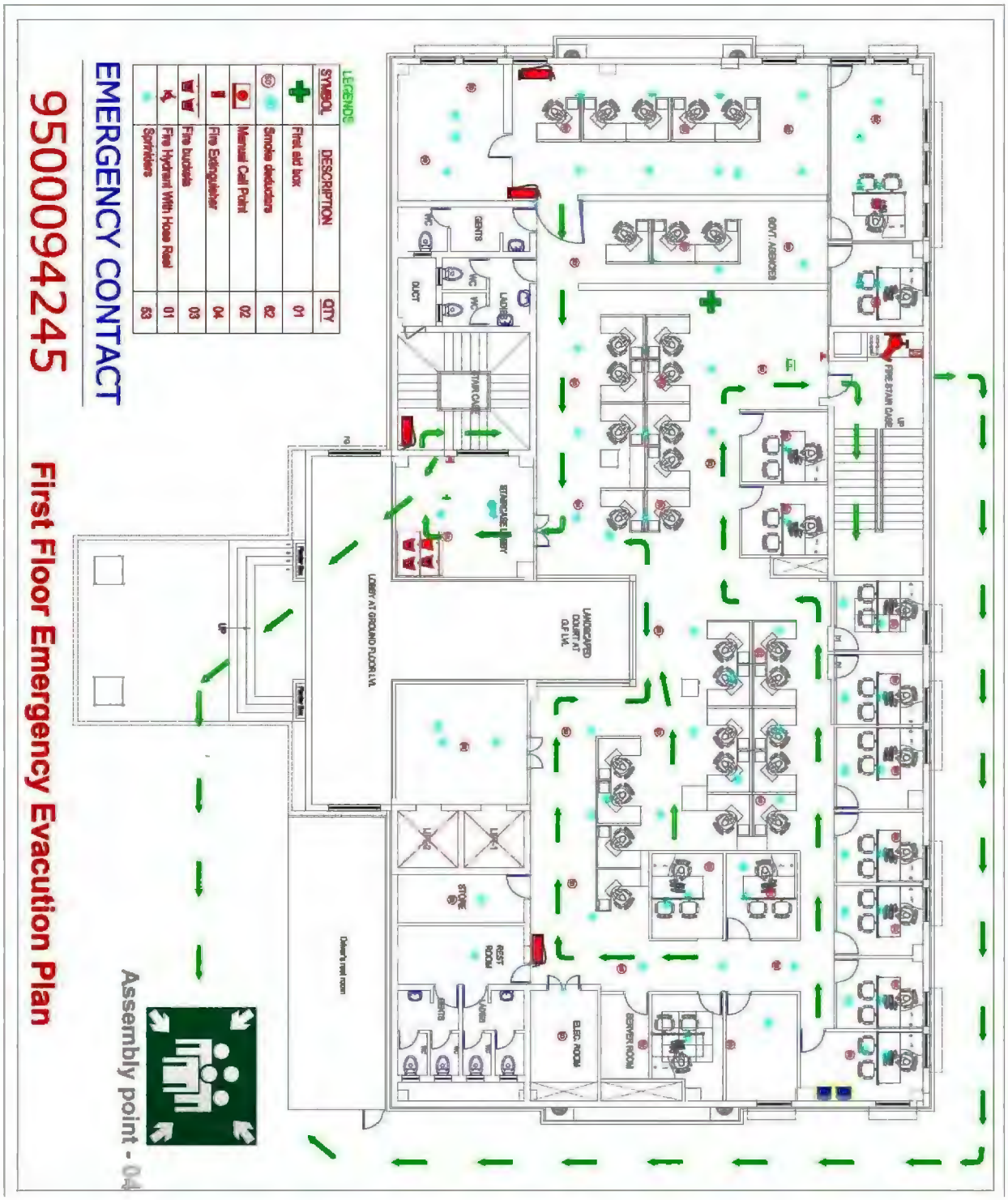
Annexure (IX)

Admin Ground Floor Evacuation Plan



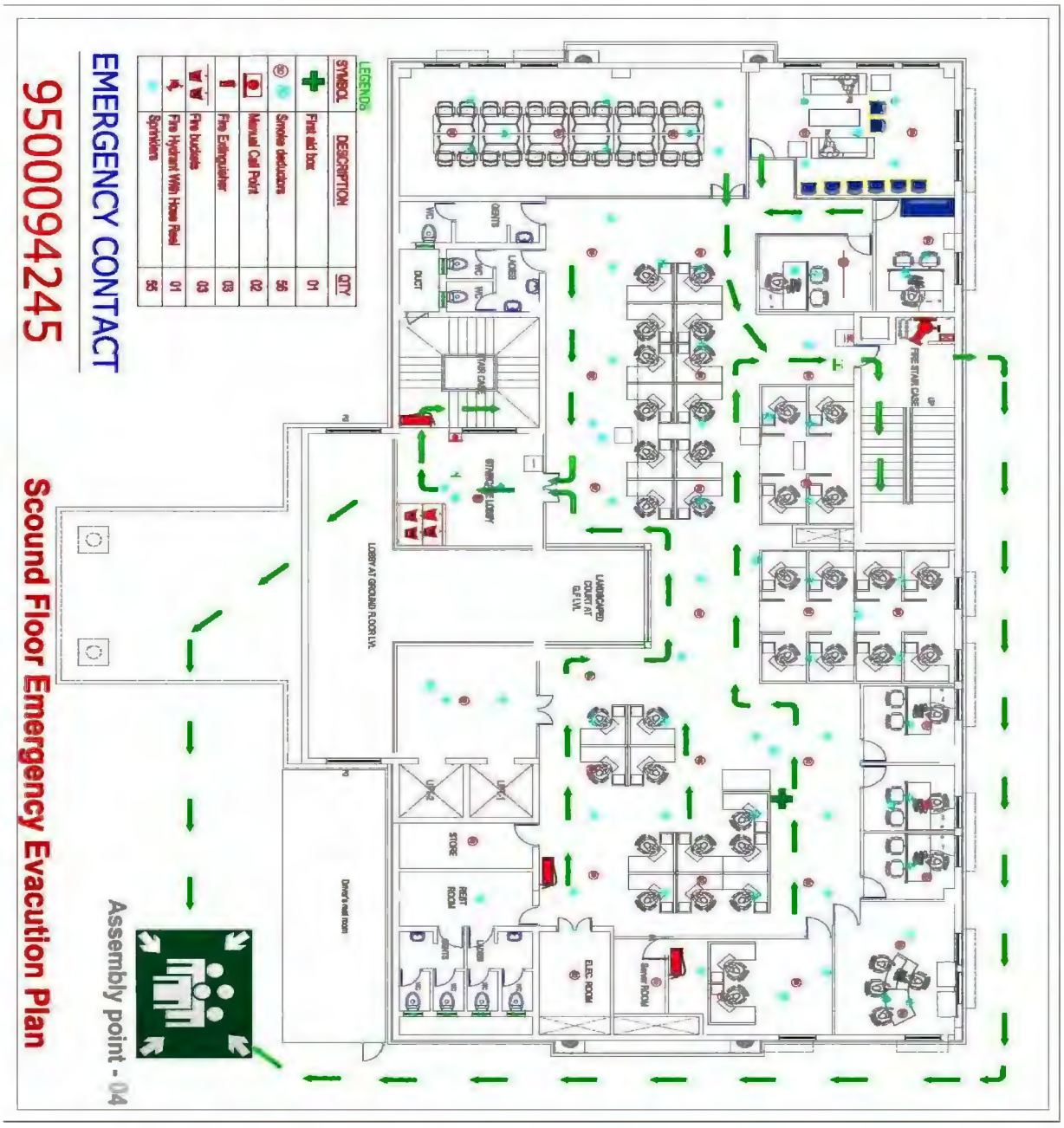
Annexure (X)

Admin First Floor Evacuation Plan



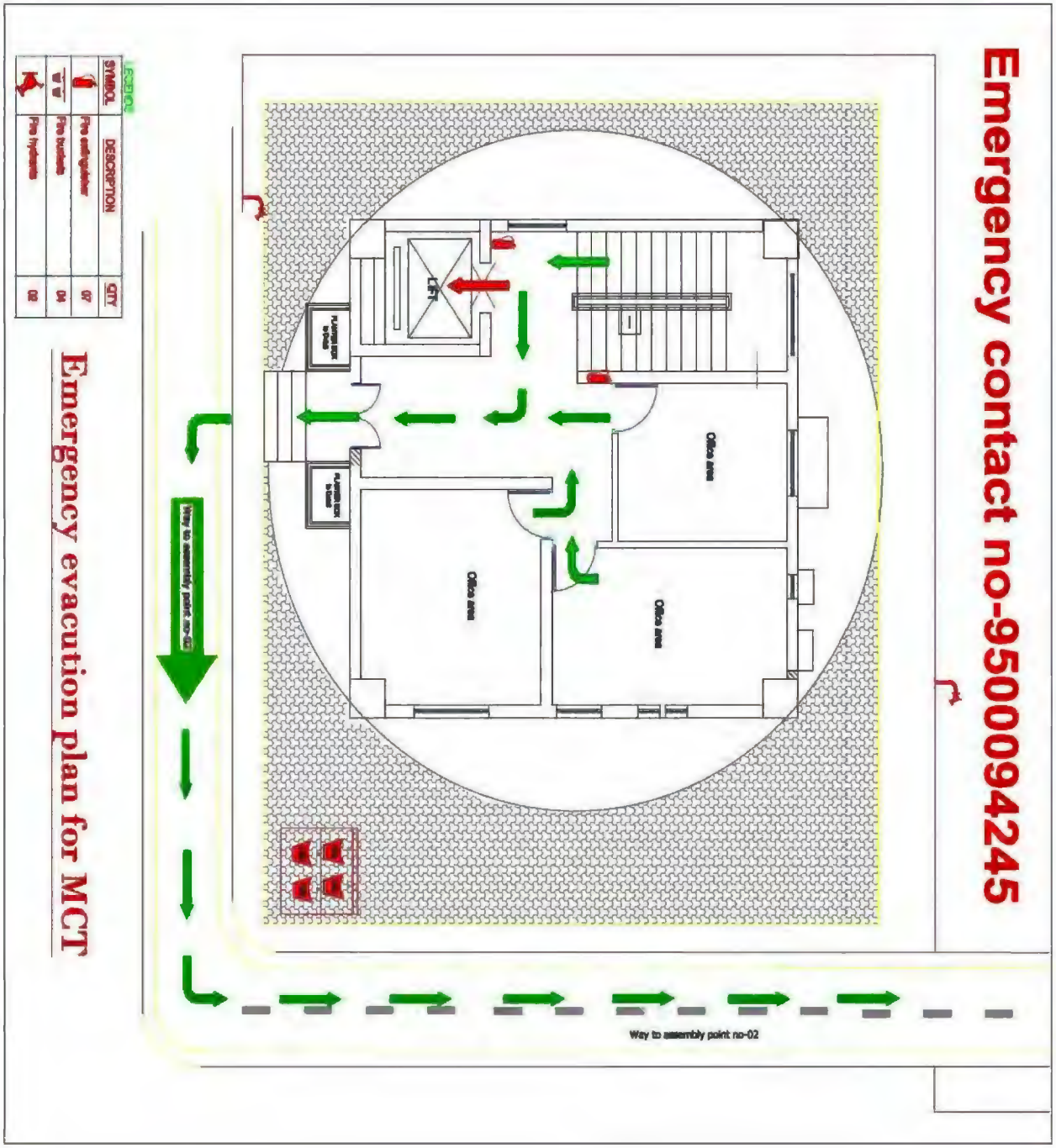
Annexure (XI)

Admin Second Floor Evacuation Plan



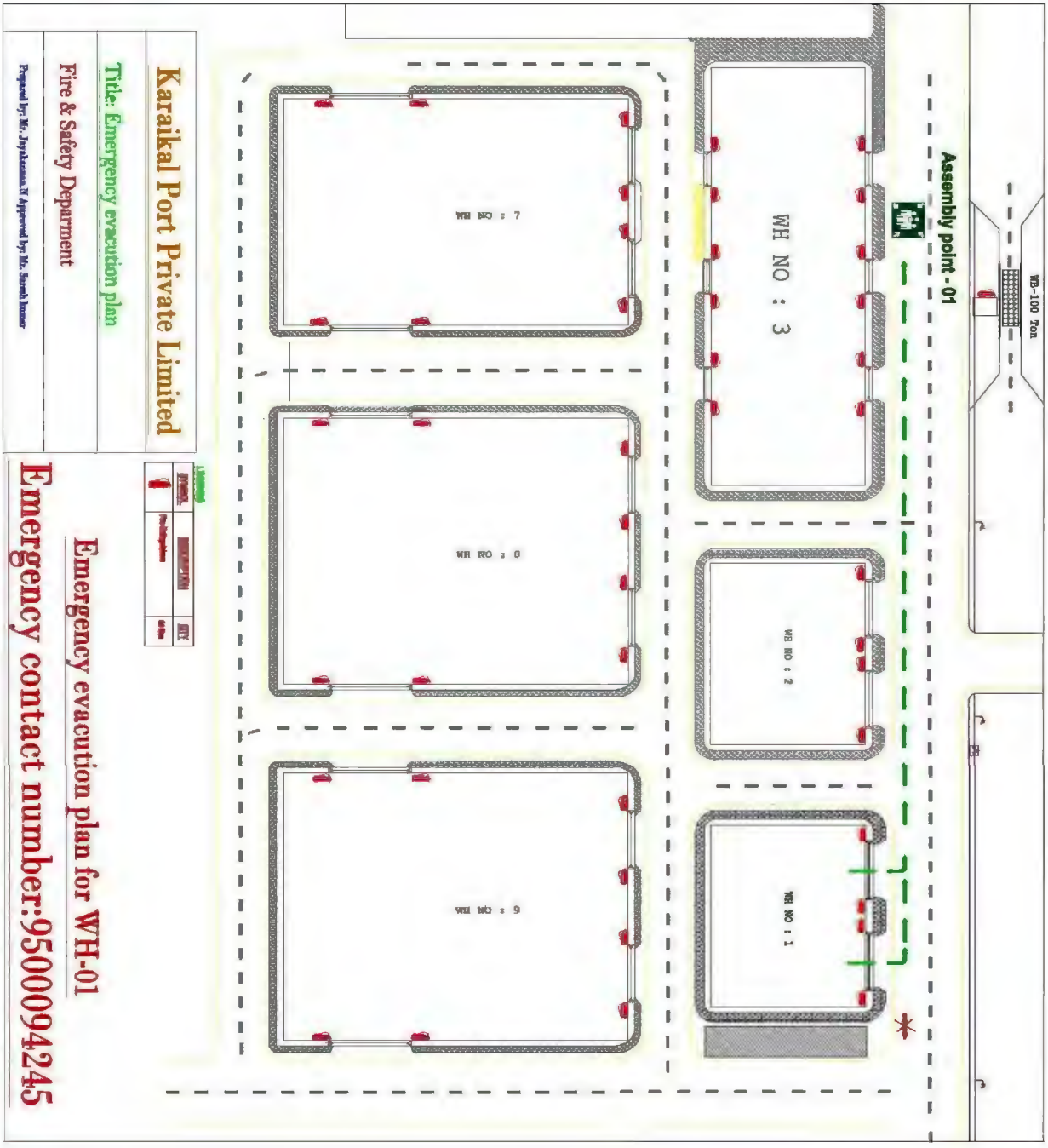
Annexure (XII)

MCT Evacuation Plan



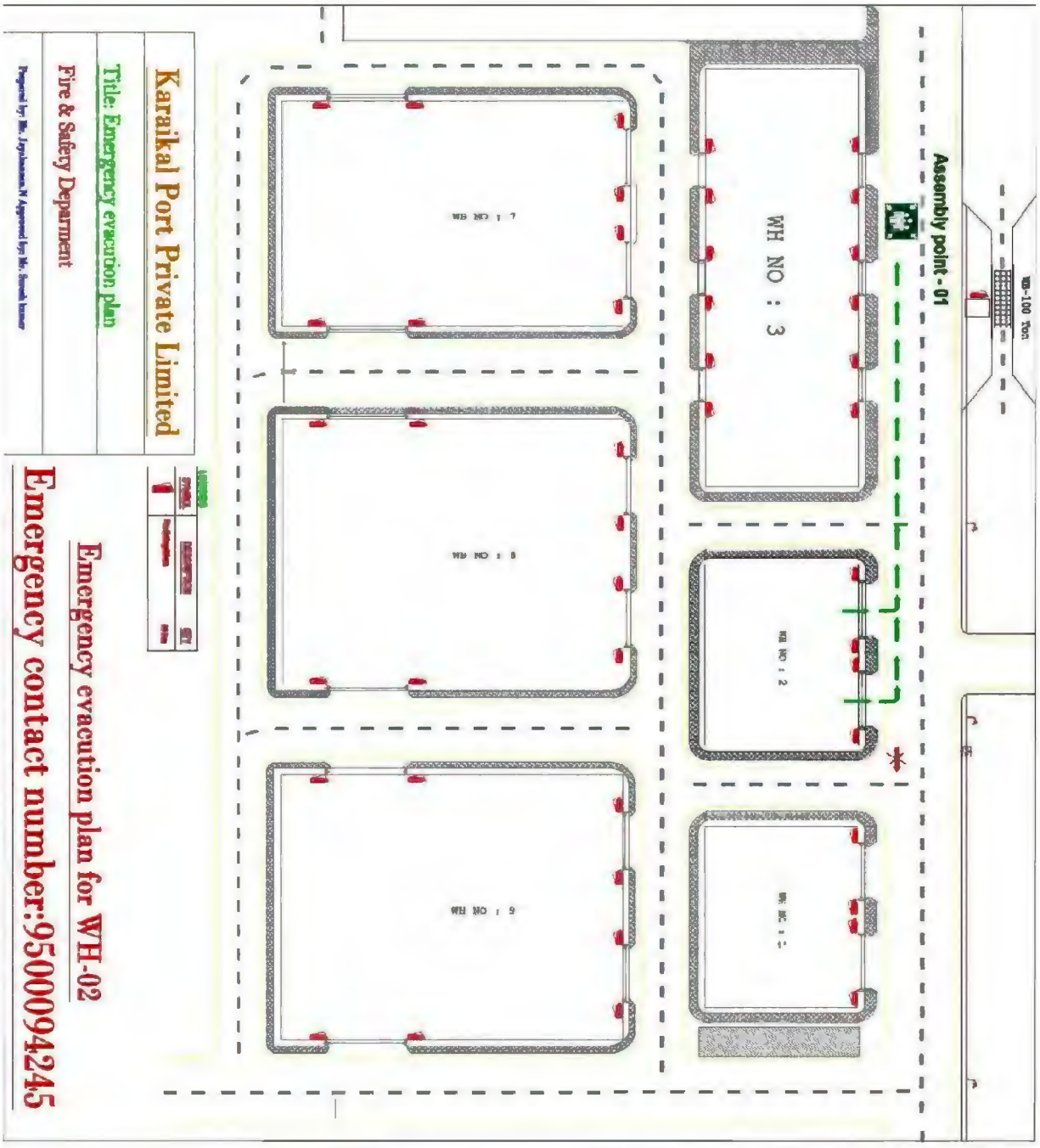
Annexure (XIII)

Warehouse -01 Evacuation Plan



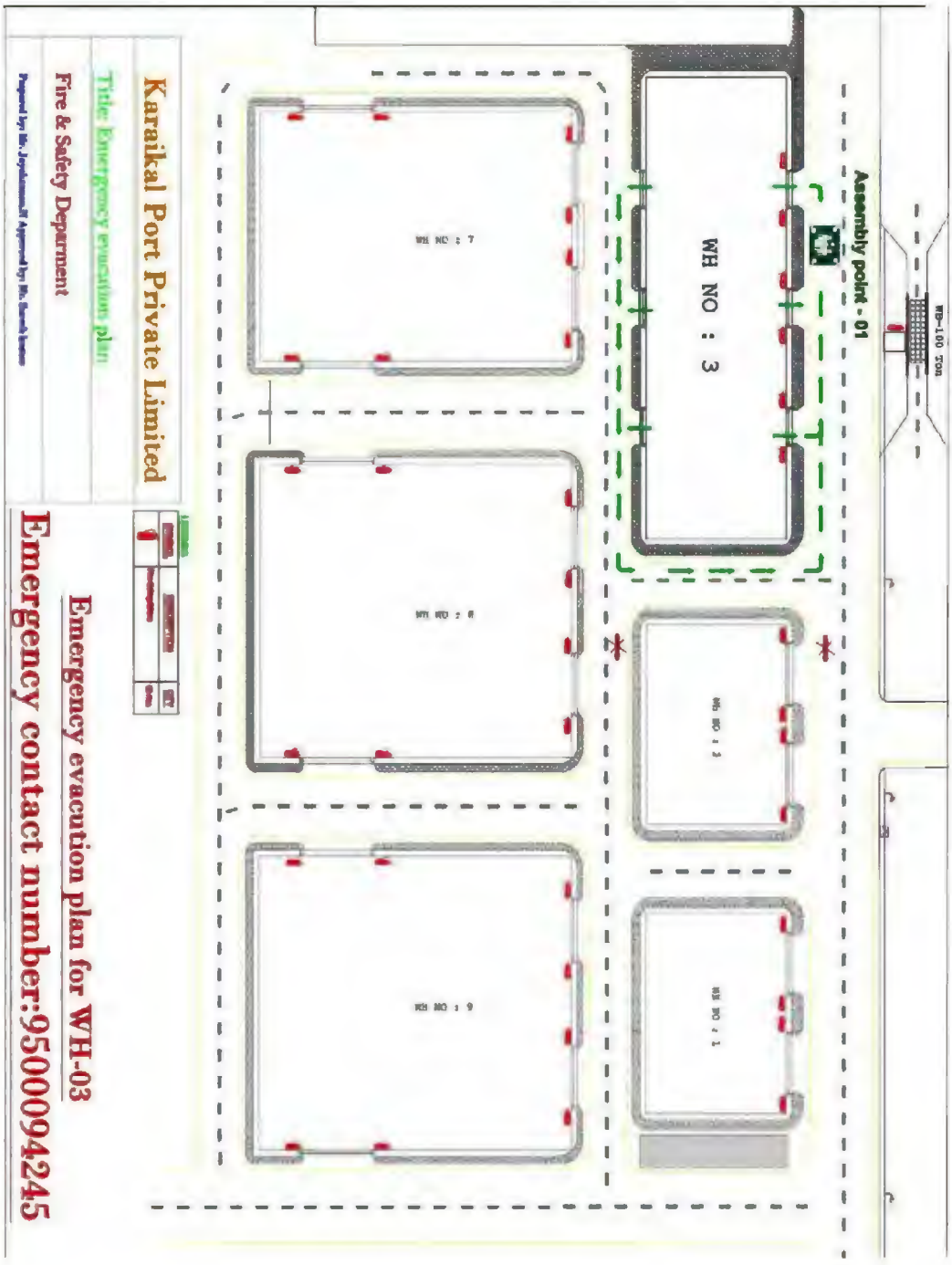
Annexure (XIV)

Warehouse- 02 Evacuation Plan



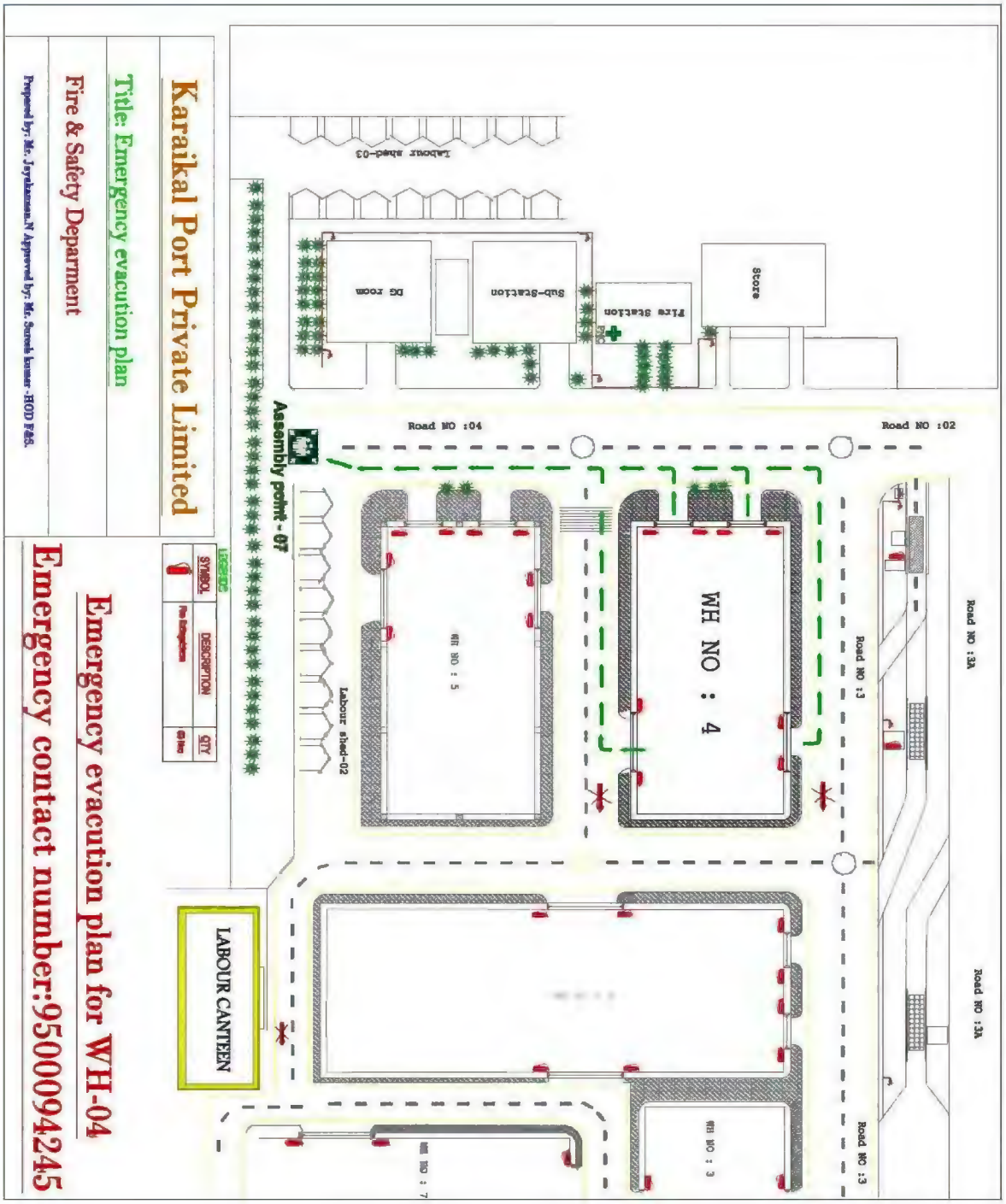
Annexure (XV)

Ware house -03 Evacuation Plan



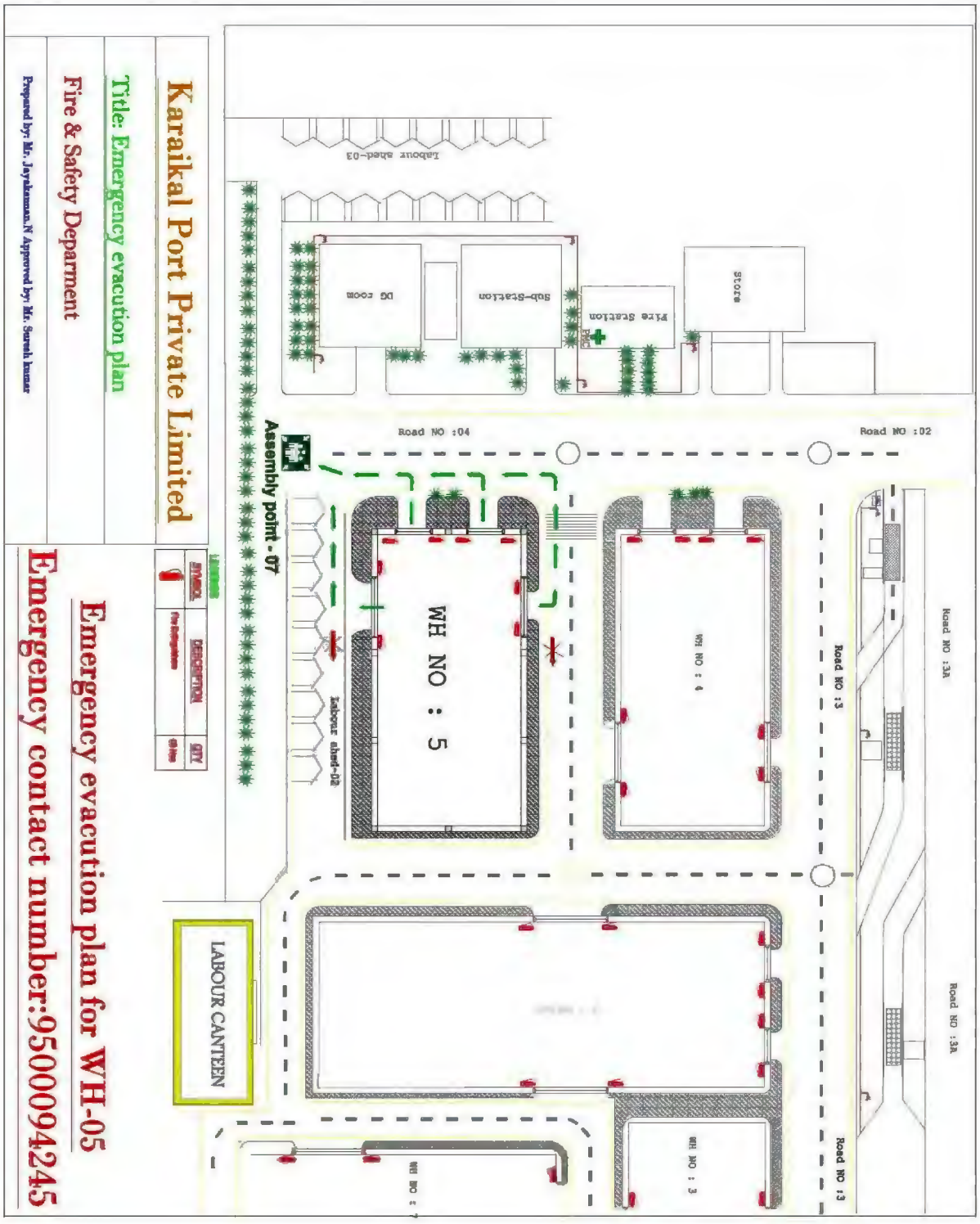
Annexure (XVI)

Warehouse-04 Evacuation Plan

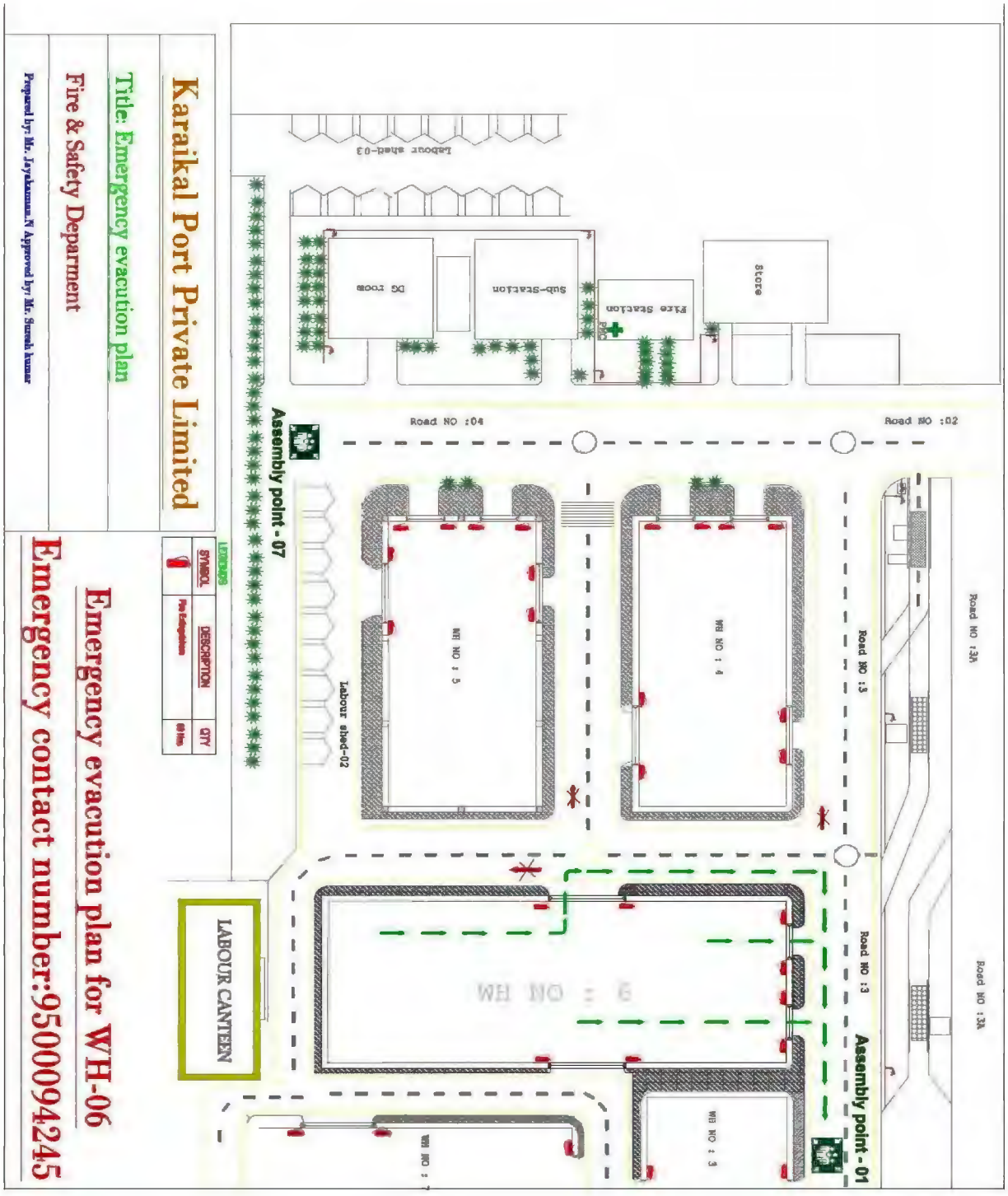


Annexure (XVII)

Warehouse-05 Evacuation Plan



Annexure (XVIII) Warehouse -06 Evacuation Plan



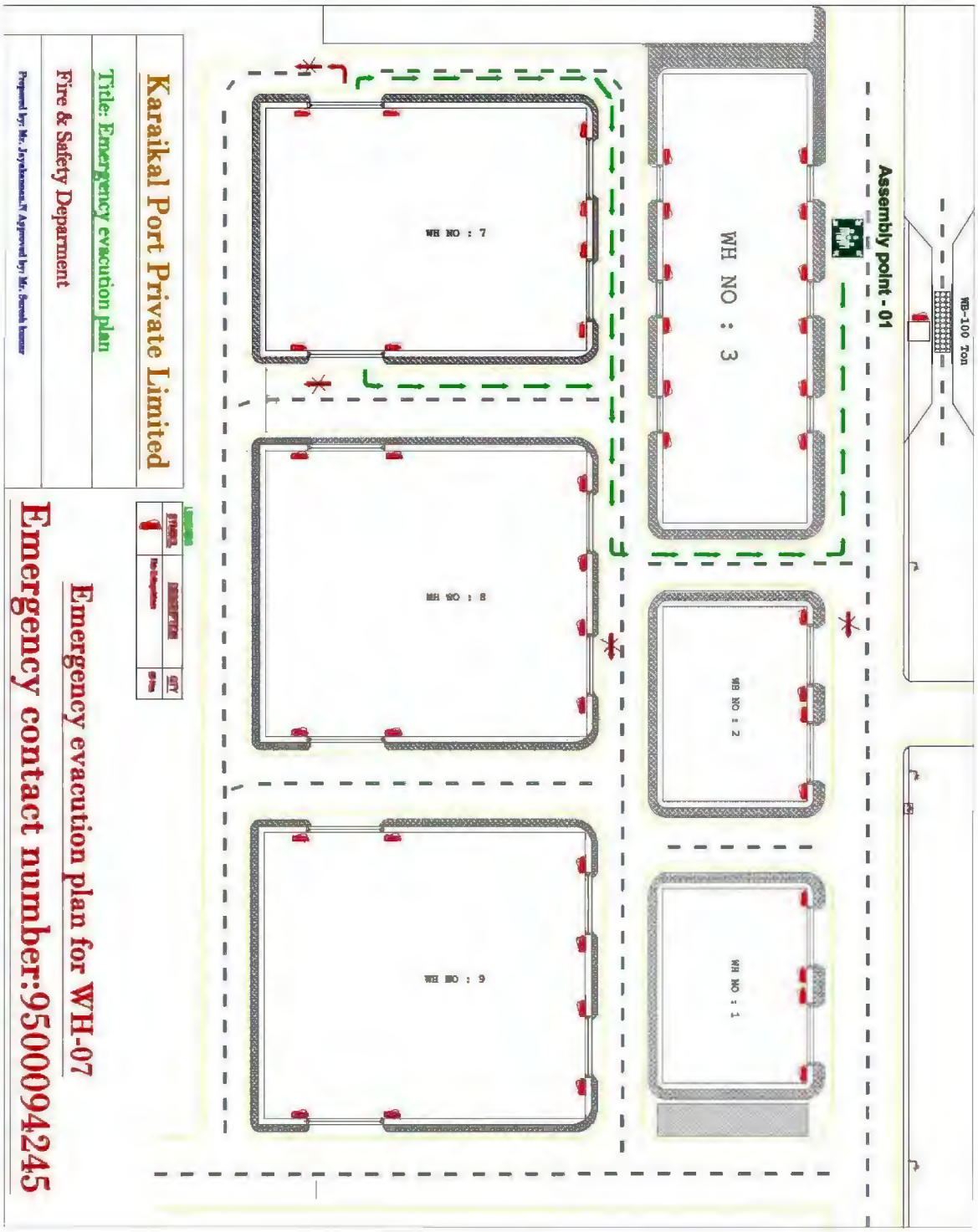
Annexure (XIX)

Warehouse -07 Evacuation Plan

4.2

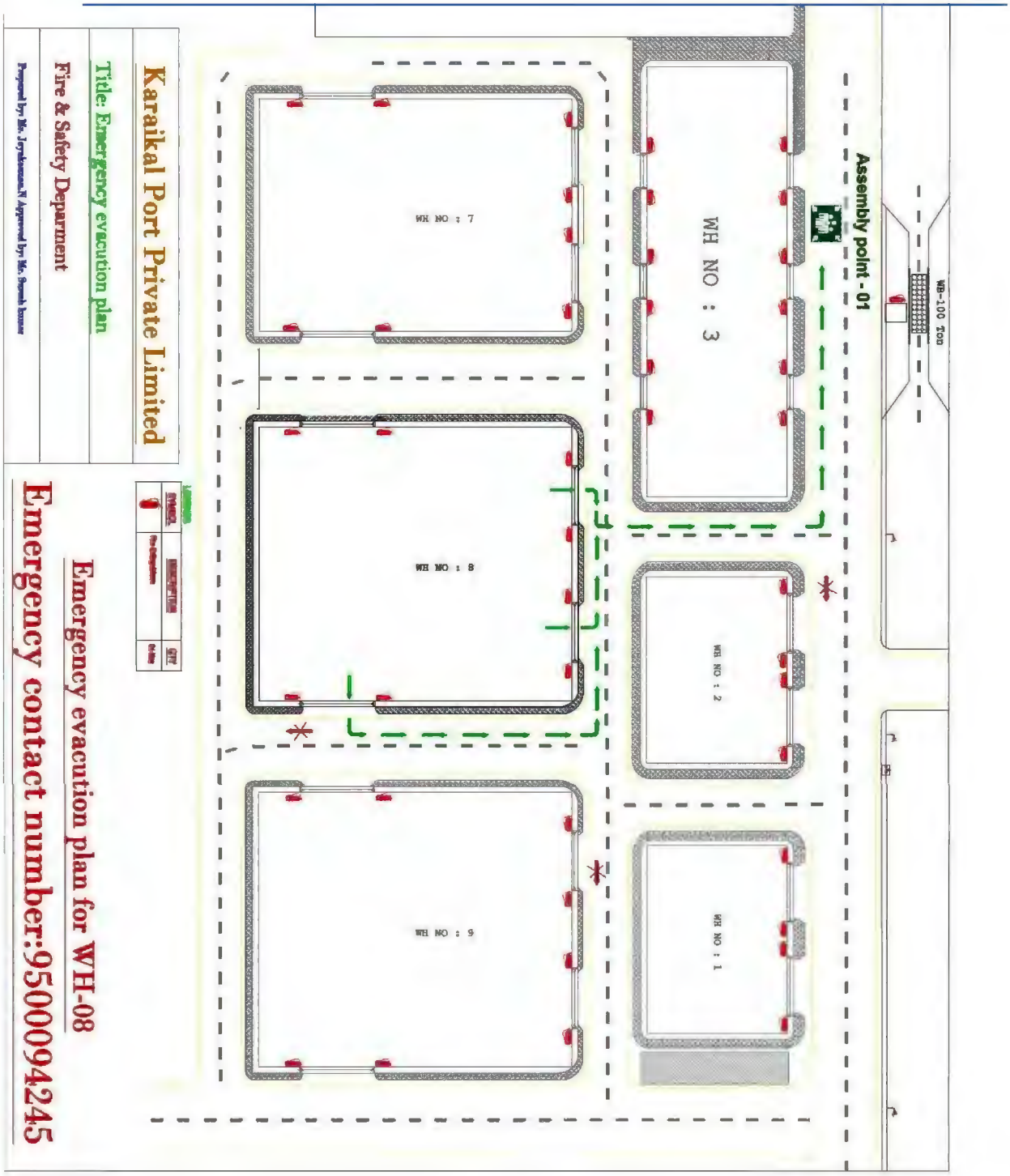
4.3

4.4

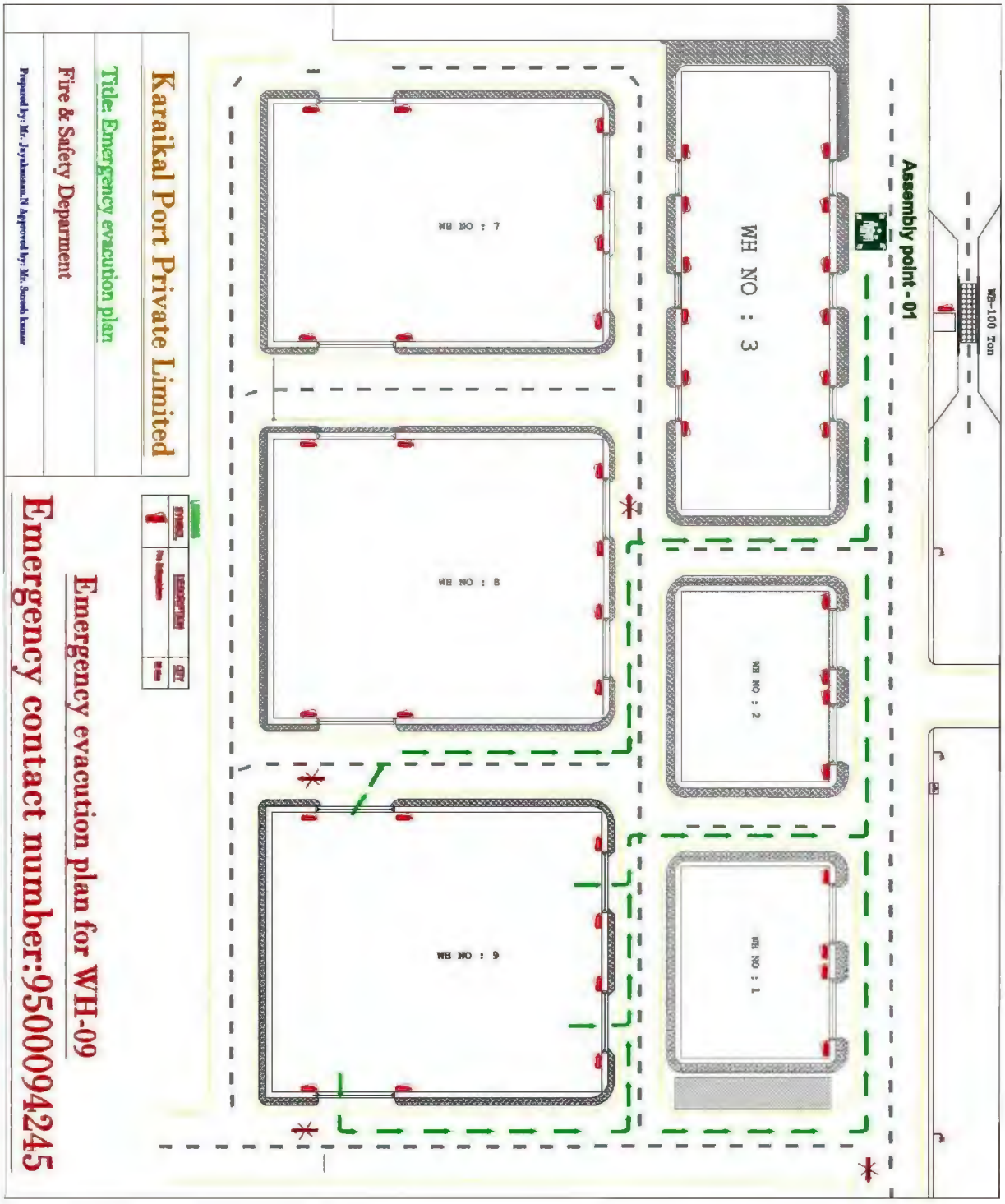


Annexure (XX)

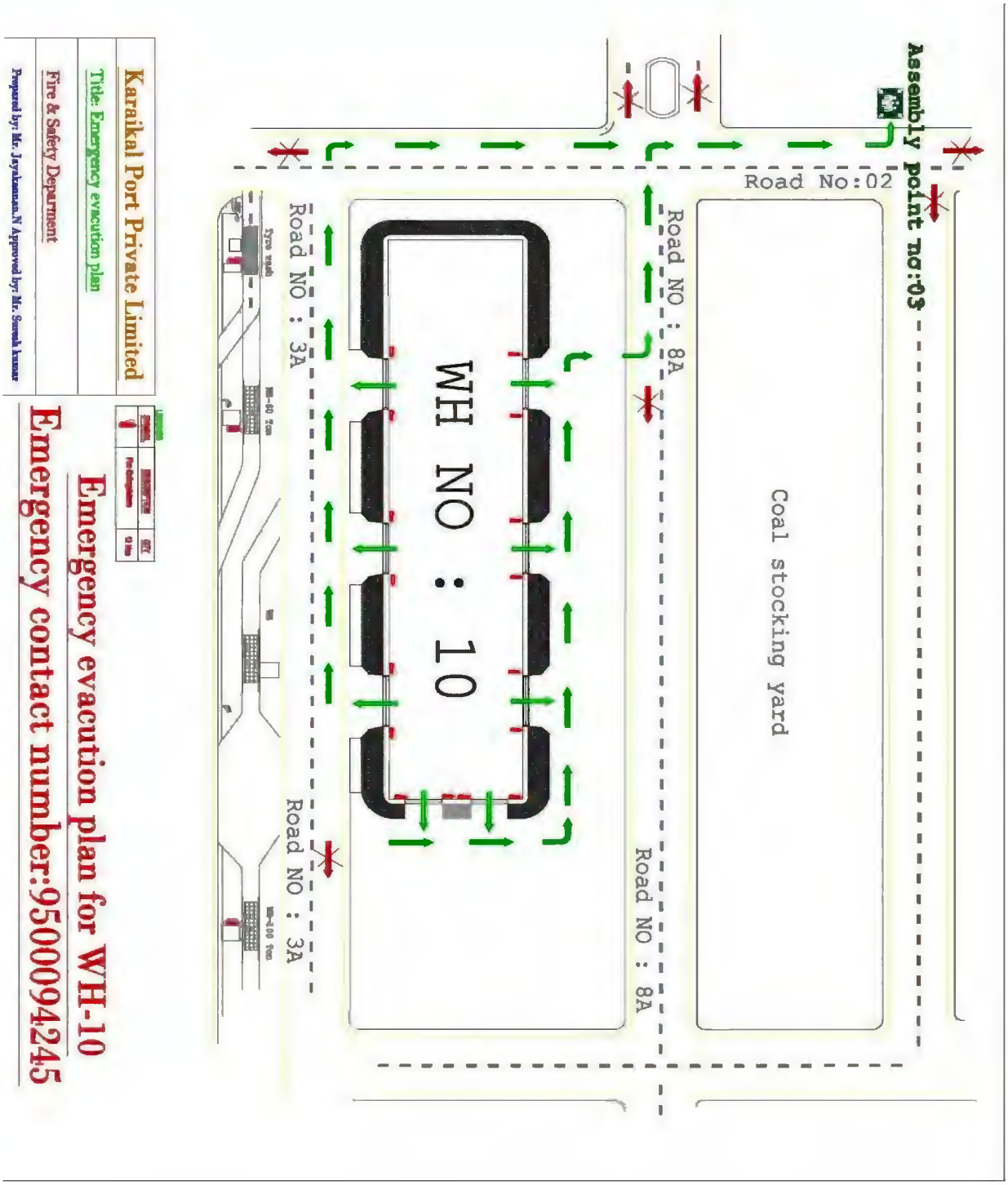
Warehouse-08 Evacuation Plan



Annexure (XXI) Warehouse- 09 Evacuation Plan



Annexure (XXII) Warehouse -10 Evacuation Plan



Annexure (XXIII)

S.NO	Name	Department	Contact no
1	**Mr. Mariajerome**	Admin	8754425814
2	**Mr. Balaji**	Admin	9787354541
3	**Mr. Krishnakumar.J**	Accounts	9500125250
4	**Mr. Biswajit Dash**	Cargo	8754594360
5	**Mr. Mugunthan P**	Cargo	9500127631
6	**Mr. Ravi P**	Cargo	8754596251
7	**Mr. Rajkumar S**	Cargo - TF	9003083288
8	**Mr. Annadurai**	Cargo	8754589523
9	**Mr. Iyyappan**	Cargo - TF	9688110416
10	**Mrs. Anandhy V**	CSR	9500124688
11	**Mr. Manavalan T**	Electrical	8056249234
12	**Mr. Rajarajan K**	Electrical	9788105639
13	**Mr. Narayanan K**	HR	9500026823
14	**Mr.Nazeer.hussain**	IT	9952906492
15	**Mr. Ramachandran M**	Marine	9500117204
16	**Mr. Anandaraj.M**	Marine	9840617764
17	**Mr.PK Karmakar**	Marine	7550031112
18	**Mr.Silambarsan**	Marine	8754484038
19	**Mr.Ravi N**	Marine	7358394110
20	**Mr.Jayakumar C**	Mechanical	9840991679
21	**Mr. Sivakumar K**	Mechanical	9677097224
22	**Mr.Suresh B**	Mechanical	9500067165
23	**Mr.Venkateshwara Balaji K**	Mechanical	9500083855
24	**Mr. Poovarasan**	Store	7305994214
25	**Mr. Abu Backer K M**	Store	9791852833
26	**Mr.Hempushpam**	Security	7024113328

28	**Mr. Rajendiran.K**	Environment	8754417465
29	**Mr. Vasoudevan T**	Accounts	8940966814
30	**Mr.Kasinadhan V**	Project	9786319342
31	**Mr.Balamurali V**	Project	9655253505
32	**Mr.Gunasekaran D**	Project	9842810394
33	**Mrs. Latha. M**	UK	9791799658
34	**Mrs. Muthazhagi . G**	UK	N/A
35	**Mrs. Ganthimathi. K**	UK	N/A
36	**Mrs. Ganagarani. P**	UK	N/A
37	**Mrs. Malathi.G**	UK	N/A
38	**Mrs. Kamala. R**	UK	N/A
39	**Mrs. Chitra. S**	UK	N/A
40	**Mrs. Janaki. K**	UK	N/A

Annexure (XXIV)

MSDS Ethylene

EMERGENCY OVERVIEW:

Ethylene is a colorless, flammable gas with a slightly sweet odor or a colorless, cryogenic liquid with a slightly sweet odor. This gas acts as a simple asphyxiant and presents a significant health hazard by displacing the oxygen in the atmosphere. The gas may spread long distances. Distant ignition and flashback are possible. The cryogenic liquid will rapidly boil to the gas. The liquefied gas can cause frostbite to any contaminated tissue. Both the liquid and gas pose serious fire hazards when accidentally released. Flame or high temperature impinging on a localized area of the cylinder of this gas can cause the cylinder to rupture without activating the cylinder's relief devices. Ethylene can undergo a violent chemical reaction at elevated temperatures. Provide adequate fire protection during emergency response situations.

Physical & Chemical Properties

Physical State and Appearance:	Gas at room temperature, liquid under pressure	**Color:**	Colorless
Odor:	Sweet, faint	**Odor Threshold:**	270-600 ppm
pH:	Not applicable	**Vapor Pressure:**	750 psia at 10°C (50°F); 938 psia at 21°C (69.8°F)
Vapor Specific Gravity @ 0°C and 14 psia (Air=1):	0.975	**Boiling Point:**	-103.8°C (-154.8°F)
Melting Point:	-169°C (-272.2°F)	**Solubility (H2O):**	Negligible (131mg/l at 20°C (68°F)
Heat of Vaporization at Critical Temperature:	3.07 BTU/lb at 9.2°C (48.6 °F)	**Critical Pressure:**	731 psia
Evaporation Rate (n-Butyl Acetate=1):	Immediate at 20°C (68°F)	**Dispersion Properties:**	Partially dispersed in cold water, hot water, alcohols, ethers
Percent Volatile:	100%	**Specific Gravity (Water=1):**	0.568 at its boiling point
Octanol/H2O Coeff.:	log Kow = 1.13	**Auto Ignition:**	Range: 450°C to 490°C (842°F to 914°F)
Flash Point:	-136°C (-212.8°F)	**Flash Point Method:**	Not available
Upper Flammable Limit (UFL):	Range: 28.6% to 36%	**Lower Flammable Limit (LFL):**	Range: 2.3% to 3.02%
Flammability Classification:	Extremely Flammable		

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:

The most significant route of overexposure for Ethylene is by inhalation. The following paragraphs describe symptoms of exposure by route of exposure.

INHALATION:

Exposure to extremely high concentrations of Ethylene (20%) can cause anesthetic effects. High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. The skin of a victim may have a blue color. Under some circumstances of overexposure, death may occur. The effects associated with various levels of oxygen are as follows:

CONCENTRATION SYMPTOMS OF EXPOSURE

12-16% Oxygen: Breathing and pulse rate increased, Muscular coordination slightly disturbed. 10-14% Oxygen: Emotional upset, abnormal fatigue, disturbed respiration. 6-10% Oxygen: Nausea and vomiting, collapse or loss of consciousness.

Below 6%: Convulsive movements, possible respiratory collapse, and death.

OTHER POTENTIAL HEALTH EFFECTS:

Contact with cryogenic liquid or rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with product can quickly subside.

HEALTH EFFECTS OR RISKS FROM EXPOSURE:

Ethylene may cause the following health effects:

ACUTE: The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness and nausea. At high concentrations, unconsciousness or death may occur. Contact with cryogenic liquid or rapidly expanding gases may cause frostbite.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to ethylene. Chronic exposure to oxygen-deficient atmospheres (below 18% oxygen in air) may affect the heart and nervous system.

TARGET ORGANS: ACUTE: Respiratory system. CHRONIC: Heart, central nervous system.

FIRST-AID MEASURES

- Remove victim(s) to a safe location. Trained personnel should administer supplemental oxygen and/or cardiopulmonary resuscitation, if necessary. Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).
- In case of frostbite, place the frostbitten part in warm water. DO NOT USE HOT WATER. If warm water is not available, or is impractical to use, wrap the affected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area of the body in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

RECOMMENDATIONS TO PHYSICIANS:

1) Treat symptoms and reduce over-exposure.
2) Cryogenic dermal injuries should be treated by water bath re-warming at 40 to 42°C until vasodilatory flush has returned. Elevation of the limb and standard frostbite management with late surgical debridement should be utilized. Ocular exposure requires irrigation and slit-lamp evaluation for injury.

FIRE-FIGHTING MEASURES

FIRE EXTINGUISHING MATERIALS: Extinguish fires of this gas by shutting-off the source of the gas. Use water spray to cool fire-exposed containers, structures, and equipment. DO NOT USE HALOGENATED FIRE EXTINGUISHING AGENTS; explosive reaction can occur

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire,this gas ignites to produce toxic gases including carbon monoxide and carbon dioxide. An extreme explosion hazard exists in areas in which the gas has been released, but the material has not yet ignited. Ethylene can undergo a violent chemical reaction at elevated temperatures.

DANGER! Fires impinging (direct flame) on the outside surface of unprotected pressure storage vessels of Ethylene can be very dangerous. Direct flame exposure on the cylinder wall can cause an explosion either by BLEVE (Boiling Liquid Expanding Vapor Explosion), or by exothermic decomposition. This is a catastrophic failure of the vessel releasing the contents into a massive fireball and explosion.

The resulting fire and cylinder rupture can result in severe equipment damage and personnel injury or death over a large areaaround the vessel. For massive fires in large areas, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from area and allow fire to burn.

RESPONSE TO FIRE INVOLVING CRYOGEN:

Cryogenic liquids can be particularly dangerous during fires because of their potential to rapidly freeze water. Careless use of water may cause heavy icing. Furthermore, relatively warm water greatly increases the evaporation rate of Ethylene. If large concentrations of Ethylene gas are present, the water vapor in the surrounding air will condense, creating a dense fog that may make it difficult to find fire exits or equipment. Liquid Ethylene, when exposed to the atmosphere, will produce a cloud of ice/fog in the air upon its release. A flammable mixture could exist within the vapor cloud, and it is advisable that personnel keep well outside the area of visible moisture. Explosion Sensitivity to Mechanical Impact: Not Sensitive. Explosion Sensitivity to Static Discharge: Static discharge may cause Ethylene to ignite explosively. The liquefied gas can accumulate static charge by flow, splashing or agitation. SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. The best fire-fighting technique may be simply to let the burning gas escape from the pressurized cylinder, tank car, or pipeline. Stop the leak before extinguishing fire. If the fire is extinguished before the leak is sealed, the still-leaking gascould explosively re-ignite without warning and cause extensive damage, injury, or fatality. In this case, increase ventilation (in enclosed areas) to prevent flammable mixture formation. Forlarge releases, consider evacuation. Refer to the North American Emergency Response Guidebook for additional information.

ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel usingpre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area and protect people. Adequate fire protection must be provided. Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, mechanically-resistant gloves and Self-Contained Breathing Apparatus.** Use only non-sparking tools and equipment. Locate and seal the source of the leaking gas. Protect personnel attempting the shut-off with water-spray. Allow the gas to dissipate. Monitor the surrounding area for oxygen and combustible gas levels. Combustible gas concentration must be below 10% of the LEL (LEL = 2.7%) prior to entry of response personnel. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there.

RESPONSE TO CRYOGENIC RELEASE: Clear the affected area and allow the liquid to evaporate and the gas to dissipate. After the gas is formed, follow the instructions provided in the previous paragraph. If the area must be entered by emergency personnel, SCBA, Kevlar gloves, and appropriate foot and leg protection must be worn. **THIS IS AN EXTREMELY FLAMMABLE GAS.** Protection of all personnel and the area must be maintained.

HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting Ethylene IN YOU. Do not eat or drink while handling chemicals. Be aware of any signs of dizziness or fatigue; due to oxygen deficiency, exposures to fatal concentrations of Ethylene could occur without any significant warning symptoms.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits. Post "No Smoking or Open Flames" signs in storage or use areas.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Post "No Smoking or Open Flame" signs in storage and use areas. Cylinders should be stored upright and befirmly secured to prevent falling or being knocked over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Never tamper with pressure relief devices in valves and cylinders. Electrical equipment should be non-sparking or explosion proof. The following rules are applicable to work situations in which cylinders are being used:

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap in-place (if prov ded) until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap in discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.

After Use: Close main cylinder valve. Replace valve protection cap (if provided). Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers. Earth-ground and bond all lines and equipment associated with this gas. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information refer to the Compressed Gas Association Pamphlet P-

1, Safe Handling*of Compressed Gases in Containers*. Additionally, refer to CGA Bulletin SB-2 "*Oxygen Deficient Atmospheres*".**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:**Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked

EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to maintain oxygen levels above 19.5% in the workplace. Local exhaust ventilation is preferred, because it prevents Ethylene dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of Oxygen and the presence of potentially flammable air-gas mixtures. Monitoring devices should be installed near the ceiling.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces.

Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-face piece Pressure/demand SCBA or a full face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Splash goggles, face-shield, or safety glasses, for protection from rapidly expanding gases and splashes of liquid Ethylene. If necessary, refer to U.S. OSHA 29 CFR 1910.133, or Canadian Standards.

HAND PROTECTION: Wear mechanically-resistant gloves when handling cylinders of this gas. Use low temperature protective gloves (e.g., Kevlar) when working with containers of liquid Ethylene. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate for task. Transfer of large quantities under pressure may require protective equipment appropriate to protect employees from splashes of liquefied product, as well as fire retardant items. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR.

PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY: 1.261 kg/m3 (0.078 lb/ft3) pH: Not applicable.

SPECIFIC GRAVITY (air = 1): 0.98 FREEZING POINT: -169°C (-272°F)

SOLUBILITY IN WATER: Soluble. BOILING POINT: -104°C (-155 °F)

EVAPORATION RATE (nBuAc = 1): Not applicable. EXPANSION RATIO: 489

ODOR THRESHOLD (detection): 270 ppm VAPOR PRESSURE: Not applicable.

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable. SPECIFIC VOLUME (ft3/lb): 13.8

APPEARANCE, ODOR AND COLOR: Colorless gas with a sweet odor. The cryogenic liquid is also colorless and has a sweet odor. HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinct warning properties. In terms of leak detection, fittings and joints c n be painted with a soap solution to detect leaks, which will be indicated by a bubble formation

STABILITY and REACTIVITY

STABILITY: Stable at standard temperatures and pressures. Explosive decomposition may occur in the absence of air at high temperatures (360°C) and pressures (17 MPa). Decomposition can occur at lower temperatures and pressures in the presence of high energy initiators (e.g. hot wire plus gun cotton, exploding wire, or electricity).

DECOMPOSITION PRODUCTS: When ignited in the presence of oxygen, this gas will decompose to produce carbon monoxide and carbon dioxide. Ethylene may oxidize to ethylene oxide in water.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Ethylene may react violently with the following materials: Strong oxidizers (e.g., chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride); aluminum chloride, organic peroxides, copper, nitrogen dioxide, ozone, halocarbons, halogen acids, and hydrochloric acid.

HAZARDOUS POLYMERIZATION: May occur at elevated temperatures and in the presence of oxidizers.

CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks, static discharge and other sources of ignition and high pressures.

TOXICOLOGICALINFORMATION

TOXICITY DATA: Dogs exposed to 1.4% Ethylene were anesthetized in 2-8.2 minutes. Decreased food intake, physical activity, white cell counts and platelet counts were observed in rats exposed to 60% (600,000 ppm) Ethylene in oxygen for 6 days. Additional information is as follows: LC50 (inhalation, mouse) = 96 pph LCLo (inhalation, mammal) = 950,000 ppm/5 minutes

SUSPECTED CANCER AGENT: Ethylene is l sted by agencies tracking the carcinogenic potential of chemical compounds, as follows:

ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); **IARC-3**: (Unclassifiable as Carcinogenicity in Humans); **MAK-3B:** (Substances for Which in vitro Tests or Animal Studies Have Yielded Evidence of Carcinogenic Effects That is Not Sufficient for Classification of the Substance in One of the Other Categories)

IRRITANCY OF PRODUCT: Ethylene is not irritating; however, contact with rapidly expanding gases can cause frostbite to exposed tissue.

SENSITIZATION TO THE PRODUCT: Ethylene is not known to cause skin or respiratory sensitization in humans.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of Ethylene on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for Ethylene.

Teratogenicity: No teratogenicity effects have been described for Ethylene.

Embryotoxicity: No embryotoxic effects have been described for Ethylene.

Reproductive Toxicity: No reproductive toxicity effects have been described for Ethylene.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is a y substance which interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) have not been determined for Ethylene.

ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: This gas will be dissipated rapidly in well-ventilated areas. The following are

Environmental data currently available for Ethylene. Terrestrial Fate: Volatilization is expected to be the primary fate process of Ethylene in soil based on a measured vapor pressure of 5.213X10+4 mm Hg at 25°C and a Henry's Lawconstant of 0.228 atm-cu m/mole at 25°C. Calculated Kocs of 100 and 300(3,SRC) indicate a medium to high mobilityclass for Ethylene in soils; however, its high vapor pressure would suggest that the gas may permeate through soil. Pure culture studies suggest that Ethylene may be susceptible to microbial degradation; however, it is expected to oxidize to ethylene oxide which is not metabolized and may accumulate in the environment. Aquatic Fate: Ethylene may oxidize to ethylene oxide in water. Hydrolysis of Ethylene is not expected to be an important fate process in aquatic environments. Estimated Kocs of 100 and 300 and a high vapor pressure of 5.213X10+4 mm Hg at 25°C indicate that the gas maypermeate through organic matter contained in sediments and suspended material. The experimental Henry's Law constant of 0.228 atm-cu m/mole at 25°C suggests rapid volatilization of ethylene from environmental waters. Based on this Henry's Law constant, the volatilization half-life from a model river has been estimated to be 1.6 hours.]

Atmospheric Fate: Based on the experimental vapor pressure of 5.213X10+4 mm Hg at 25°C, Ethylene is expected to exist almost entirely in the vapor phase in the ambient atmosphere. Vapor-phase Ethylene will degrade rapidly in the ambient atmosphere by reaction with photo chemically produced hydroxyl radicals with a half-life of about 1.9 days. Vapor-phase Ethylene will also degrade in the ambient atmosphere by reaction with ozone and nitrate radicals with respective half-lives of 6.5 and 190 days. Bio concentration: No bioaccumulation. Based on a measured water solubility of 131 mg/L at 25°C, a measured log octanol / water partition coefficient of 1.13, and recommended regression-derived equations, BCFs for Ethylene can be estimated to be 40 and 4, respectively.

These BCF values indicate that bio concentration in aquatic organisms will not be an important fate process for Ethylene.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen deficient environments. Ethylene in excess of 0.5 ppm in air may injure crops over a 24 hour exposure period. The following toxicity data are available for Ethylene's effects on plant-life.

Vanda Orchid = 1 ppm/24 hours; fading of flowers. *Antirrhinum majus* = 0.1 ppm/1 hour; abscission of flowers. Orchid buds - 0.01 ppm/24 hours; 0.05/6 hours; 0.3 ppm/1 hour; sepal tissue collapse. *Chenopdium album* = 0.05 ppm; epinasty (bending of petals downward) *Dianthus caryophyllus* = 0.1/6 hours; inhibited flower opening. *Cossypium hirsutum* = 0.62/720 ppm; reduction in growth and yield. *Lilium regale; 4*.0 ppm; growth retardation and epinasty. *Rosa* species = 0.33 - 40.0 ppm/24-168 hours; growth retardation,

epinasty, petal fall Tomato = 0.04-0.1 ppm/3-48 hours; leaf epinasty. African Marigold = 0.001 ppm/ leaf epinasty Lemon = 0.025-0.05; epinasty *Datura stramonium* = 0.1 ppm; close to limit for response *Lycopersium esulenyum* = 0.2 ppm; leaf epinasty *Begonia luminosa* = 8 ppm; slight epinasty Sweet pea = 0.1-0.4 ppm; production of triple response; horizontal mutation and swelling.

EFFECT OF CHEMICAL ON AQUATIC LIFE: The following aquatic toxicity data are available for Ethylene:

LD (sunfish) = 22 ppm /1 hour in freshwater

DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Product removed from the cylinder must be disposed of in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada and its Provinces. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

TRANSPORTATION INFORMATION

THIS GAS IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

Ethylene Gas: Liquefied Ethylene:

PROPER SHIPPING NAME: Ethylene, compressed Ethylene, refrigerated liquid

HAZARD CLASS NUMBER and DESCRIPTION: 2.1 (Flammable Gas) 2.1 (Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1962 UN 1038

PACKING GROUP: Not Applicable Not Applicable

DOT LABEL(S) REQUIRED: Class 2.1 (Flammable Gas) Class 2.1 (Flammable Gas)

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 116P (Gas); 115 (Liquid)

MARINE POLLUTANT: Ethylene is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR

172.101, Appendix B.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This gas is considered as Dangerous Goods, per regulations of Transport Canada. The use of the above U.S. DOT information from the

U.S. 49 CFR regulations are allowed for shipments that originate in the U.S. For shipments via ground vehicle or rail that originate in Canada, the following information is applicable.

Ethylene Gas: Liquefied Ethylene:

PROPER SHIPPING NAME: Ethylene, compressed Ethylene, refrigerated liquid

HAZARD CLASS NUMBER and DESCRIPTION: 2.1 (Flammable Gas) 2.1 (Flammable Gas)

UN IDENTIFICATION NUMBER: UN 1962 UN 1038

PACKING GROUP: Not Applicable Not Applicable

HAZARD LABEL(S) REQUIRED: Class 2.1 (Flammable Gas) Class 2.1 (Flammable Gas)

SPECIAL PROVISIONS: None

EXPLOSIVE LIMIT & LIMITED QUANTITY INDEX: 0.12

ERAP INDEX: 3000

PASSENGER CARRYING SHIP INDEX: Forbidden

PASSENGER CARRYING ROAD OR RAIL VEHICLE INDEX: Forbidden

MARINE POLLUTANT: Ethylene is not a Marine Pollutant.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure. **LOQ:** Limit of quantization.

MAK: Federal Republic of Germany Maximum Concentration Values in the workplace. **NE:** Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change. **NIOSH CEILING:** The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

EXPOSURE LIMITS IN AIR (continued):

PEL-Permissible Exposure Limit: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a there is a danger of cutaneous absorption.

STEL-Short Term Exposure Limit: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr

TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV-Threshold Limit Value: An airborne concentration of a Substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

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EXPOSURE LIMITS IN AIR (continued):

TWA-Time Weighted Average: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

IDLH-Immediately Dangerous to Life and Health:

This level represents a concentration from which one can escape within 30- minutes without suffering escape-preventing or permanent injury.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 (Minimal Hazard: No significant health risk, irritation of skin or eyes

not anticipated. *Skin Irritation*: Essentially non-irritating. PII or Draize = "0". *Eye Irritation*: Essentially non-irritating, or minimal effects which clear in < 24 hours [e.g. mechanical irritation]. Draize = "0". *Oral Toxicity LD50 Rat*: < 5000 mg/kg. *Dermal Toxicity LD50Rat or Rabbit*: < 2000 mg/kg. *Inhalation Toxicity 4-hrs LC50 Rat*: < 20mg/L.); **1** (Slight Hazard: Minor reversible Injury may occur; slightly or mildly irritating. *Skin Irritation*: Slightly or mildly irritating. *Eye Irritation*: Slightly or mildly irritating. *Oral Toxicity LD50 Rat*: > 500-5000 mg/kg. *Dermal*

Toxicity LD50Rat or Rabbit: > 1000-2000 mg/kg. *Inhalation Toxicity LC50* 4-hrs *Rat*: > 2-20 mg/L); **2** (Moderate Hazard: Temporary or transitory injury may occur. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize > 0, < 5. *Eye Irritation*: Moderately to severely irritating and/or corrosive; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize > 0, < 25. *Oral Toxicity LD50 Rat*: > 50-500 mg/kg. *Dermal Toxicity LD50Rat or Rabbit*:

> 200-1000 mg/kg. *Inhalation Toxicity LC50 4-hrs Rat*: > 0.5-2 mg/L.); **2** (Moderate Hazard: Temporary or transitory injury may occur. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize > 0, < 5. *Eye Irritation*: Moderately to severely irritating and/or corrosive; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize > 0, < 25. *Oral Toxicity LD50 Rat*: > 50- 500 mg/kg. *Dermal Toxicity LD50Rat or Rabbit*: > 200-1000 mg/kg. *Inhalation Toxicity LC50 4-hrs Rat*: > 0.5-2 mg/L.); **3** (Serious Hazard:

Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may destroy dermal tissue, cause skin burns, dermal necrosis. PII or Draize > 5-8 with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD50 Rat*: > 1-50 mg/kg. *Dermal Toxicity LD50Rat or Rabbit*: > 20-200 mg/kg. *Inhalation Toxicity LC50 4-hrs Rat*: > 0.05-0.5 mg/L.); **4** (Severe Hazard: Life threatening; major or permanent damage may result from single or repeated exposure. *Skin Irritation*: Not appropriate. Do not rate as a "4", based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a "4", based on eye irritation alone. *Oral Toxicity LD50 Rat*: < 1 mg/kg. *Dermal Toxicity LD50Rat or Rabbit*: < 20 mg/kg. *Inhalation Toxicity LC50 4-hrs Rat*: < 0.05 mg/L).

FLAMMABILITY HAZARD:

0 (Minimal Hazard-Materials that will not burn in air when exposure to a temperature of 815.5°C [1500°F] for a period of 5 minutes.); **1** (Slight Hazard-Materials that must be pre-heated before ignition can occur. Material require considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur, Including: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids

and semisolids having a flash point at or above 93.3°C [200°F] (e.g. OSHA Class IIIB, or; Most ordinary combustible materials [e.g. wood, paper, etc.]; **2** (Moderate Hazard-Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres in air, Including: Liquids having a flash-point at or above 37.8°C [100°F] Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton,

sisal, hemp; Solids and semisolids that readily give off flammable vapors.);

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued):

3 (Serious Hazard- Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions, including: Liquids having a flash point below 22.8°C [73°F] and having a boiling point at or above 38°C [100°F] and below 37.8°C [100°F] [e.g. OSHA Class IB and IC]; Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air [e.g., dusts of combustible solids, mists or droplets of flammable liquids]; Materials that burn extremely rapidly, usually by reason of self-contained oxygen [e.g. dry nitrocellulose and many organic peroxides]); **4** (Severe Hazard-Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and which will burn readily, including: Flammable gases; Flammable cryogenic materials;

Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C [73°F] and a boiling point below 37.8°C [100°F] [e.g. OSHA Class IA; Material that ignite spontaneously when exposed to air at a temperature of 54.4°C [130°F] or below [e.g. pyrophoric]).

PHYSICAL HAZARD:

0 (*Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. Unstable *Compressed*

Gases: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No "0" rating allowed. *Unstable Reactives*: Substances that will not polymerize, decompose, condense or self-react.); **1** (*Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy. *Explosives*: Division 1.5 & 1.6 substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose, condense or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosive hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors.); **2** (*Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 - Explosive substances where the explosive effect are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature);

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HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

3 (*Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but re uire a strong initiating source, or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.2 - Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure > 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean

burning time of a 3.:2 potassium bromate/cellulose mixture. Liquids: Any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a moderate potential to cause significant heat generation or explosion.); **4** (*Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2-explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability "4". *Oxidizers*: No "4" rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a high potential to cause significant heat generation or explosion.).

NATIONAL FIRE PROTECTION ASSOCIATION HAZARDRATINGS:

HEALTH HAZARD: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. **1** Materials that must be preheated before ignition can occur. Materials in this degreerequire considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heatingcould release vapor in sufficient quantities to produce hazardous atmospheres with air. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with airunder almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures.

FLAMMABILITY LIMITS IN AIR: Much of the information related to fire and explosion is derived from the **N**ational **F**ire **P**rotection **A**ssociation (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Auto ignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD50** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC50** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m3** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Sub rankings (2A, 2B, etc.) are also used. **Other Information:** **BEI** - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:

EC is the effect concentration in water. **BCF** = Bio concentration Factor, which is used to determine if a substance will concentrate in life forms which consume contaminated plant or animal matter. **TLm** = median threshold limit; Coefficient of Oil/Water Distribution is represented by **log Kow** or **log Koc** and is used to assess a substance's behavior in the environment.

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CHENNAI METTEX LAB PRIVATE LIMITED®

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

TC-5589

TEST REPORT -MARCH - 2024

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

Cust. Ref : SRF Dated :22.03.2024

Lab No : 24144029

Sample Description : **STP Treated Water**
(as stated by customer)

T.C Date : 03.04.2024

T.C No : CML/24-25/1161

Date Of Receipt : 23.03.2024

Analysis Commenced On :23.03.2024

Analysis Completed On : 30.03.2024

Date of Sampling: 22.03.2024

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	7.42	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	26 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	1314 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	500 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	120 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	6 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	18 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	105 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	6.2 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	5.9 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	94 MPN/100ml	NS

Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.

End of Report

Reviewed & Authorized By
B. ARUNAN
Technical Manager
Authorised Signatory

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
Authorised Signatory

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CHENNAI METTEX LAB PRIVATE LIMITED®

Jothi Complex, 83, M.K.N. Road, Guindy. Chennai - 600 032.

TC-5589

TEST REPORT -FEBRUARY-2024

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

Cust. Ref : SRF Dated :16.02.2024

Lab No : 24126299

Sample Description : **STP Treated Water**
(as stated by customer)

T.C Date : 06.03.2024

T.C No : CML/23-24/124180

Date Of Receipt : 17.02.2024

Analysis Commenced On :18.02.2024

Analysis Completed On : 24.02.2024

Date of Sampling: **16.02.2024**

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	7.41	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	38 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	1764 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	528 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	184 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	7 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	20 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	116 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	9.52 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	8.08 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	350 MPN/100ml	NS

Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.

End of Report

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
G.S
Technical Manager
Authorised Signatory

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

E-mail : test@mettexlab.com
Web : www.mettexlab.com
Phone : 044-22323163, 22311034
42179490 42179491

CHENNAI METTEX LAB PRIVATE LIMITED®

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

TC-5589

TEST REPORT -JANUARY -2024

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

Cust. Ref : SRF Dated :30.01.2024

Lab No : 24116833

Sample Description : **STP Treated Water**
(as stated by customer)

T.C Date : 10.02.2024

T.C No : CML/23-24/112154

Date Of Receipt : 31.01.2024

Analysis Commenced On :31.01.2024

Analysis Completed On : 10.02.2024

Date of Sampling: 30.01.2024

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	7.80	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	16 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	1869 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	571 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	141 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	5 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	14 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	67 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	39.0 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	36.3 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	70 MPN/100ml	NS

Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.

End of Report

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
G.S. RADHA
Technical Manager
Authorised Signatory

Reviewed & Authorized By
P. KAVITHA
Technical Manager
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Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

TC-5589

TEST REPORT -DECEMBER-2023

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

T.C Date : 29.12.2023

T.C No : CML/23-24/92092

Cust. Ref : SRF Dated : 14.12.2023

Date Of Receipt : 15.12.2023

Lab No : 24095008

Analysis Commenced On :15.12.2023

Analysis Completed On :23.12.2023

Sample Description : **STP Treated Water**
(as stated by customer)

Date of Sampling: 14.12.2023

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	6.30	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	23 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	2038 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	640 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	185 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	6 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	9 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	52 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	11.8 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	10.6 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	70 MPN/100ml	NS

Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.

End of Report

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
G.S. RADHA
Technical Manager
Authorised Signatory

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

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CHENNAI METTEX LAB PRIVATE LIMITED®

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

TC-5589

TEST REPORT -NOVEMBER-2023

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

T.C Date : 06.12.2023

T.C No : CML/23-24/83521

Date Of Receipt : 22.11.2023

Cust. Ref : SRF Dated : 21.11.2023

Analysis Commenced On :22.11.2023

Lab No : 24085902

Analysis Completed On :29.11.2023

Sample Description : STP Treated Water
(as stated by customer)

Date of Sampling: 21.11.2023

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	6.90	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	148 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	1692 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	655 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	7 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	8 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	55 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	235 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	13 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	12 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	70 MPN/100ml	NS

Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.

End of Report

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
G.S
Authorised Signatory

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

CHENNAI METTEX LAB PRIVATE LIMITED®

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Phone : +91 44 22323163, 22311034, 42179490, 42179491 I CIN : U74999TN2008PTC069459
Email : test@mettexlab.com I Web : www.mettexlab.com

TC-5589

TEST REPORT -OCTOBER-2023

ISSUED TO : M/s. Karaikal Port Private Limited,
Khezhavanjoor Village,
T.R.Pattinam,
Karaikal- 609 606.

Cust. Ref : SRF Dated : 16.10.2023

Lab No : 24071654

Sample Description : **STP Treated Water**
(as stated by customer)

T.C Date : 02.11.2023

T.C No : CML/23-24/70325

Date Of Receipt : 17.10.2023

Analysis Commenced On :17.10.2023

Analysis Completed On : 21.10.2023

Date of Sampling: 16.10.2023

Sl.No.	Test Parameters	Protocol	Results	CPCB Limit (Land for Irrigation)
Discipline : Chemical			**Group:** Pollution & Environment	
01	pH @ 25°C	IS: 3025 Part 11-1983 (Reaff:2017)	8.04	5.5 – 9.0
02	Total Suspended Solids	IS: 3025 Part 17-1984 (Reaff:2017)	28 mg/l	200 mg/l
03	Total Dissolved Solids	IS: 3025 Part 16-1984 (Reaff:2017)	1968 mg/l	NS
04	Chloride as Cl	IS: 3025 Part 32-1988 (Reaff:2019)	600 mg/l	NS
05	Sulphate as SO_4	IS: 3025 Part 24 -1986(Reaff:2019)	225 mg/l	NS
06	Oil & Grease	IS: 3025 Part 39-2021	3 mg/l	10 mg/l
07	BOD @ 27°C for 3 days	IS: 3025 Part 44-1993 (Reaff:2019)	7 mg/l	100 mg/l
08	COD	IS:3025 Part 58 - 2006 (Reaff:2017)	36 mg/l	NS
09	Total Kjeldahl Nitrogen	IS:3025 Part 34 - 1988 (Reaff:2019)	9.21 mg/l	NS
10	Ammonical Nitrogen	IS:3025 Part 34 – 1988 (Reaff:2019)	7.24 mg/l	NS
Discipline : Biological			**Group:** Pollution & Environment	
11	Faecal Coliforms	APHA 23rdEdn .2017 : 9221 'E'	63 MPN/100ml	NS
Abbreviation :MPN : Most Probable Number; APHA : American Public Health Association. NS : Not Specified.				

----------End of Report ----------

For Chennai Mettex Lab Pvt Ltd.,

Reviewed & Authorized By
S. RADHA
Technical Manager
Authorised Signatory

Reviewed & Authorized By
P. KAVITHA
Technical Manager
Authorised Signatory

भारत सरकार
GOVERNMENT OF INDIA
विद्युत मंत्रालय
MINISTRY OF POWER
केन्द्रीय विद्युत प्राधिकरण
CENTRAL ELECTRICITY AUTHORITY
क्षेत्रीय निरीक्षक संगठन
REGIONAL INSPECTORIAL ORGANISATION
ब्लाक IV तीसरी मंजिल, Block IV Floor III, शास्त्री भवन Shastri Bhavan, चेन्नै-६ Chennai - 600 006

No. 78 / K -58/11/2022-RIO(S)/4593-4594 Dated :29/11/2022

To

The Authorized Signatory,
M/s. Karaikal Port Private Limited,
Kheezhavanjore Village,
T.R. Pattinam,
Karaikal – 609 606.

Sub: Order under Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010.

Ref: Your Online Application No. C/2022/05325 dated 07.10.2022.

The existing electrical installations as per list enclosed (Annexure – 11 Pages) at **M/s. Karaikal Port Private Limited, Kheezhavanjore Village, T.R. Pattinam, Karaikal** were inspected under Regulation 30 of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010(as amended to date), by the undersigned on 19.11.2022, and the same appears to be generally in order.

The next Inspection is due before 18.11.2024.

(Lenin. B)
Deputy Director &
Electrical Inspector to the Govt. of India

उप निदेशक / Deputy Director
क्षेत्रीय निरीक्षण संगठन
Regional Inspectorial Organisation
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
चेन्नै / Chennai-600 006.

Copy to: -
The Chief Engineer (CEI), CEA, New Delhi – 110 066

LIST OF EQUIPMENTS

SR. NO.	DESCRIPTION	QTY	UNIT
	SENDING END SWITCHYARD		
1	METOVAR METAL OXIDE LIGHTNING ARRESTOR 96KV, 10KA, MODEL - ZAQ-96-SM, MAKE - OBLUM ELECTRICALS, HYDERABAD	6	NOS
2	110KV OUTDOOR OIL COOLED TYPE POTENTIAL TRANSFORMER, 50HZ, CORE 1 RATIO: 110KV/ √3 / 110V/ √3; CORE 2 RATIO: 110KV/ √3 / 110V/ √3, CORE 1 BURDEN: 100 VA; CORE 2 BURDEN: 100 VA, CORE 1 ACCURACY: 0.2; CORE 2 ACCURACY: 0.2, MAKE: MEHRU ELECTRICAL, BHIWADI, SL. NO. OP-4012/1/1/13 to OP-4012/1/3/13	3	NOS
3	110KV OUTDOOR OIL COOLED TYPE CAPACITIVE VOLTAGE TRANSFORMER, 50HZ, CORE 1 RATIO: 110KV/ √3/110V/ √3; CORE 2 RATIO: 110KV/ √3/110V/√3, CORE 1 BURDEN: 100 VA; CORE 2 BURDEN: 100 VA, CORE 1 ACCURACY: 0.2; CORE 2 ACCURACY: 3P, MAKE: MEHRU ELECTRICAL, BHIWADI, SL. NO.OCVT-4012/3/1/13 TO 4012/3/3/13	3	NOS
4	110KV OUTDOOR OIL COOLED TYPE CURRENT TRANSFORMER, 40KA FOR 1SEC, CORE 1 RATIO: 125-250/1A; CORE 2 RATIO: 125-250/1A; CORE 3 RATIO: 125-250/1A CORE 1 BURDEN: VA; CORE 2 BURDEN: 20 VA, CORE 3 BURDEN: 20 VA CORE 1 ACCURACY: PS; CORE 2 ACCURACY: 5P; CORE 3 ACCURACY: 0.5 MAKE: MEHRU ELECTRICALS, BHIWADI, SL. NO. OC-4012/4/1/13 TO OC-4012/4/3/13	3	NOS
5	110KV OUTDOOR OIL COOLED TYPE CURRENT TRANSFORMER, 40KA FOR 1SEC, CORE 1 RATIO: 50-75-100/5A; CORE 2 RATIO: 50-75-100/5A, CORE 1 BURDEN: 20 VA; CORE 2 BURDEN: 20 VA, CORE 1 ACCURACY: 0.2s; CORE 2 ACCURACY: 0.2s, MAKE: MEHRU ELECTRICALS, BHIWADI, SL. NO. OC-4012/2/1/13 TO OC-4012/2/3/13	3	NOS
6	123KV, 1250A, 50HZ, 40KA FOR 1SEC, HORIZANTAL MOUNTED DOUBLE BREAK DISCONNECTOR WITH SINGLE EARTH SWITCH MOTORISED ISOLATOR, OUTDOOR TYPE, MAKE: S&S POWER SWITCHGEAR, CHENNAI, SL. NO. 001 & 002	2	SET
7	SF6 CIRCUIT BREAKER 145KV, 1250A, 50HZ, 40KA FOR 1 SEC, TYPE - GL312P, MAKE: AREVA	1	SET
8	CRP	1	SET
9	BATTERY CHARGER 48V, 3PHASE 4 WIRE, 415V, 50HZ, MAKE: HBL, 48TP 45FC & FCBC WITH DCDB, SL. NO. 10305-4623	1	SET
10	BATTERY CHARGER 110V, 3PHASE 4 WIRE, 415V, 50HZ, MAKE: HBL, 110TP 10FCBC + DVR, SL. NO. 10306-4623	1	SET
11	ACDB	1	SET
12	POWER AND CONTROL CABLES	1	LUMPSUM
	110kV TOWER LINE		
SR. NO.	**DESCRIPTION**	**QTY**	**UNIT**
1	**110kV Over head EHV Transmission line**	**2.73**	**km**
	RECEIVING END SWITCHYARD		
SR. NO.	**DESCRIPTION**	**QTY**	**UNIT**
1	LIGHTNING ARRESTOR 96KV,10KA, CLASS 3, LAMCO HYDERABAD	6	NOS
2	POTENTIAL TRANSFORMER 110KV/110V, 100VA, CLASS 3P, 0.2, 2 CORE NEHRU ELECTRICAL RAJAST	6	NOS
3	20 MVA POWER TRANSFORMER 110 / 33 KV, ONAN, 22POSITIONS, YnYnO	1	NOS
4	110KV CURRENT TRANSFORMER, 200A/1A, 15VA ,CLASS 0.2, 2 CORE, NEHRU ELECTRICAL RAJASTA	6	NOS
5	110KV CURRENT TRANSFORMER, 100A/1A, 15VA ,CLASS 0.2, 4 CORE, NEHRU ELECTRICAL RAJASTA	3	NOS
6	110KV, 2500A, 40KA FOR 1SEC DOUBLE BREAK MOTORISED ISOLATOR, DBR TYPE SIEMENS HYDERA	4	SET
7	SF6 CIRCUIT BREAKER 110KV, 2500A, 40KA FOR 1 SEC, 3AP1FG SIEMENS AURANGABHAD	2	SET
9	BUS POST INSULATOR, 110KV SOLID CORE INSULATOR BHOPAL	12	NOS
10	TENSION STRING INSULATOR, 11KV DISKS OF 10NOS. /STRING WITH CREEPAGE 31mm/KV	9	NOS
12	BAY MARSHALING KIOSK	2	NOS
13	SWITCH YARD LIGHT FITTING FAULT RECTIFICATION AND LUX LEVEL CHECKING	1	Lot

14	IPS AL. TUBE - 4 INCH	220	MTR
15	33KV HT BOARD, TYPE:8BK80-3AH3 VCB,SIEMENS MAKE MUMBAI	1	NOS
16	400KVA, 33 / 0.433 KV DRY TYPE TRANSFORMER	1	NOS
17	MAIN LT PANEL	1	NOS
18	ACDB - 4 WAY	1	NOS
19	ACDB - 8 WAY	1	NOS
20	LDB - 6 WAY	1	NOS
21	LDB - 8 WAY	1	NOS
22	CONTROL AND RELAY PANEL, VEEVEE CONTROLS CRP 110/33KV	1	NOS
23	RTCC PANEL	1	NOS
24	BATTERY CHARGER WITH DCDB, 110V,200AH,CALDYNE AUTOMATICS LTD	1	NOS

SUBSTATION 1

SR. NO.	DESCRIPTION	QTY	UNIT
1	33kV HT BOARD, TYPE:PIX36SWSD VCB, MAKE:AREVA	1	Set
a	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-7	1	Nos
b	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-8	1	Nos
c	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-1	1	Nos
d	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-10	1	Nos
e	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-2	1	Nos
f	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-3	1	Nos
g	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-9	1	Nos
h	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for Incomer Feeder, Sl.NO:V-7505041126-5	1	Nos
2	11KkV, 26.2kA, 800A Vacuum Circuit Breaker, HWX Unit Panel, Sl.NO:V-7505041126/04/31C	1	Nos
3	6.6kV HT BOARD, TYPE:HWX VCB & HWC VCU, MAKE:AREVA	1	Set
a	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/1C	1	Nos
b	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/4C	1	Nos
c	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/11C	1	Nos
d	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/12C	1	Nos
e	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/13C	1	Nos
f	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/14C	1	Nos
g	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/15C	1	Nos
h	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/16C	1	Nos
i	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/17C	1	Nos
j	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/18C	1	Nos
k	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/24C	1	Nos
l	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/29C	1	Nos
m	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/04/30C	1	Nos
n	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/2C	1	Nos
o	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/3C	1	Nos
p	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/5C	1	Nos
q	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/6C	1	Nos
r	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/7C	1	Nos
s	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/8C	1	Nos
t	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/9C	1	Nos
u	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/10C	1	Nos
v	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/19C	1	Nos
w	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/20C	1	Nos
x	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/21C	1	Nos
y	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/22C	1	Nos
z	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/23C	1	Nos
aa	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/25C	1	Nos
ab	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/26C	1	Nos
ac	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/27C	1	Nos
ad	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/04/28C	1	Nos
4	7.72kV, 2X558kVAR+1X279kVAR, Capacitor bank panel, Make:EPCOS, Sl.NO:HT/11/100841/01, HT/1	2	Set
5	415V PCC panel	1	Set
a	415V, 1600A, ACB, Make:Siemens, Sl.NO:6641311115000, 6640311015001, 664131111504	3	Nos
b	415V, 1250A, ACB, Make:Siemens, Sl.NO:6640311114017	1	Nos

c	415V, 630A, ACB, Make:Siemens, Sl.NO:6640311114025, 6640311015005, 6640311015007	3	Nos
d	415V, 500A MCCB, Make:Siemens	1	Nos
e	415V, 315A MCCB, Make:Siemens	2	Nos
f	415V, 250A MCCB, Make:Siemens	1	Nos
g	415V, 125A MCCB, Make:Siemens	2	Nos
h	415V, 100A MCCB, Make:Siemens	1	Nos
i	415V, 63A MCCB, Make:Siemens	1	Nos
j	415V, 50A MCCB, Make:Siemens	1	Nos
k	415V, 32A MCCB, Make:Siemens	1	Nos
l	415V, 20A MCCB, Make:Siemens	15	Nos
m	8kW MCCB+C O/G	13	Nos
n	3kVA Control Transformer	2	Nos
o	Epmty feeder	12	Nos
6	415V MCC Panel	1	Set
a	415V, 630A, ACB, Make:Siemens, Sl.NO:6640311007008	1	Nos
b	415V, 30kW DOL	4	Nos
c	415V, 30kW RDOL	1	Nos
d	415V, 22kW DOL	3	Nos
e	415V, 11kW DOL	4	Nos
F	415V, 5kW DOL	14	Nos
G	415V, 4.5kW DOL	4	Nos
H	415V, 2.2kW DOL	3	Nos
I	415V, 0.5kW DOL	8	Nos
J	3kVA Control Transformer	2	Nos
K	Empty Feeder	11	Nos
7	415V MLDB Panel	1	Set
a	415V, 1250A, ACB, Make:Siemens, Sl.NO:6640311219004	1	Nos
b	415V, 42.6kW feeder	1	Nos
c	415V, 20kW feeder	1	Nos
d	415V, 17kW feeder	1	Nos
e	415V, 15kW feeder	2	Nos
f	415V, 14.14kW feeder	1	Nos
g	415V, 13.16kW feeder	1	Nos
h	415V, 12.88kW feeder	2	Nos
i	415V, 12.60kW feeder	1	Nos
j	415V, 10.00kW feeder	2	Nos
k	415V, 9.9kW feeder	1	Nos
l	415V, 9.8kW feeder	1	Nos
m	415V, 6.06kW feeder	1	Nos
n	415V, 5.52kW feeder	3	Nos
o	415V, 5.4kW feeder	1	Nos
p	Spare Feeder	12	Nos
8	ACDB Panel	1	Nos
9	AMF Panel, 415V, 1250A, ACB, MAKE:L&T, Sl.NO:FU473857, FU473856	1	Set
10	625kVA DG Set	1	Nos
11	Control Distribution Board	11	Nos
12	Lighting Distribution Board	11	Nos
13	8000kVA, 33/6.6kV Transformer-1, Make:Voltamp, Sl.NO:21796/2	1	Nos
14	8000kVA, 33/6.6kV Transformer-1, Make:Voltamp, Sl.NO:21796/1	1	Nos
15	3000kVA, 33/11kV Transformer-1, Make:Voltamp, Sl.NO:16927/1	1	Nos
16	1000kVA, 6.6/0.433kV Transformer-1, Make:Voltamp, Sl.NO:16926/1	1	Nos
17	1000kVA, 6.6/0.433kV Transformer-1, Make:Voltamp, Sl.NO:16926/4	1	Nos
18	Various Size & Length of HT & LT Cables	46510	Mtrs
19	PLC Panel, RIO Panel and Control desk (12+9)	1	Lot
20	2 X 20kVA UPS with Batteries and UPS DB's (8 nos)	1	Set
21	Battery Charger Panel with Batteries	1	Set

SUBSTATION 2

SR. NO.	DESCRIPTION	QTY	UNIT
1	33kV HT BOARD, TYPE:PIX36SWSD VCB, MAKE:AREVA	1	Nos
a	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for 8000kVA TR Feeder, Sl.NO:V-7505041126-4	1	Nos
b	33KkV, 26.2kA, 1200A Vacuum Circuit Breaker for 8000kVA TR Feeder, Sl.NO:V-7505041126-6	1	Nos

2	6.6kV HT BOARD, TYPE:HWX VCB & HWC VCU, MAKE:AREVA	1	Set
a	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/7C	1	Nos
b	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/10C	1	Nos
c	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/13C	1	Nos
d	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/1C	1	Nos
e	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/5C	1	Nos
f	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/6C	1	Nos
g	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/8C	1	Nos
h	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/12C	1	Nos
i	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/14C	1	Nos
j	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/18C	1	Nos
k	6.6KkV, 26.2kA, 1250A Vacuum Circuit Breaker for Feeder, Sl.NO:V-7505041126/05/19C	1	Nos
l	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/2C	1	Nos
m	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/3C	1	Nos
n	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/4C	1	Nos
o	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/15C	1	Nos
p	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/16C	1	Nos
q	6.6KkV, 26.2kA, 400A Vacuum Contactor for Feeder, Sl.NO:V-7505041126/05/17C	1	Nos
3	Battery Charger Panel with Batteries	1	Set
4	7.72kV, 3X279kVAR, Capacitor bank panel, Make:EPCOS, Sl.NO:HT/11/100839/01, HT/11/100839/02	1	Set
5	415V PCC panel	1	Set
a	415V, 1600A, ACB, Make:Siemens, Sl.NO:6641311114020, 6641311015001, 6640311015000	3	Nos
b	415V, 1250A, ACB, Make:Siemens, Sl.NO:6640311114018	1	Nos
c	415V, 630A, ACB, Make:Siemens, Sl.NO:6640311205018, 6640311114020, 6640311114019, 6640311	4	Nos
d	415V, 500A MCCB, Make:Siemens	1	Nos
e	415V, 315A MCCB, Make:Siemens	2	Nos
f	415V, 250A MCCB, Make:Siemens	1	Nos
g	415V, 125A MCCB, Make:Siemens	2	Nos
h	415V, 100A MCCB, Make:Siemens	1	Nos
i	415V, 63A MCCB, Make:Siemens	1	Nos
j	415V, 50A MCCB, Make:Siemens	1	Nos
k	415V, 32A MCCB, Make:Siemens	1	Nos
l	415V, 20A MCCB, Make:Siemens	15	Nos
m	8kW MCCB+C O/G	13	Nos
n	3kVA Control Transformer	2	Nos
o	Epmty feeder	12	Nos
6	415V MCC panel	1	Set
a	415V, 630A, ACB, Make:Siemens, Sl.NO:6640311007009	1	Nos
b	415V, 5kW DOL	12	Nos
c	415V, 4.5kW DOL	4	Nos
d	415V, 1.5kW DOL	7	Nos
e	415V, 0.5kW DOL	5	Nos
f	3kVA Control Transformer	2	Nos
g	Empty Feeder	4	Nos
7	415V MLDB Panel	1	Set
a	415V, 800A, ACB, Make:Siemens, Sl.NO:6640311230042	1	Nos
b	415V, 20kW feeder	1	Nos
c	415V, 15kW feeder	1	Nos
d	415V, 10.5kW feeder	2	Nos
e	415V, 10kW feeder	8	Nos
f	415V, 9.8kW feeder	2	Nos
g	415V, 9.66kW feeder	2	Nos
h	415V, 5.0kW feeder	1	Nos
i	415V, 4.2kW feeder	2	Nos
j	415V, 4.14kW feeder	1	Nos
k	Spare Feeder	2	Nos
8	ACDB Panel	1	Nos
9	AMF Panel, 415V	1	Set
10	380kVA DG Set	1	Nos
11	8000kVA, 33/6.6kV Transformer-1, Make:Voltamp, Sl.NO:21796/3	1	Nos
12	8000kVA, 33/6.6kV Transformer-1, Make:Voltamp, Sl.NO:21796/4	1	Nos
13	1000kVA, 6.6/0.433kV Transformer-1, Make:Voltamp, Sl.NO:16926/2	1	Nos

14	1000kVA, 6.6/0.433kV Transformer-1, Make:Voltamp, Sl.NO:16926/3	1	Nos
15	Various Size & Length of HT & LT Cables	29606	Mtrs

FIELD ELECTRICAL EQUIPMENTS

SR. NO.	DESCRIPTION	QTY	UNIT
1	HT MOTORS	19	Nos.
a	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/7	1	Nos.
b	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/4	1	Nos.
c	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/5	1	Nos.
d	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/6	1	Nos.
e	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/3	1	Nos.
f	450kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660473/2	1	Nos.
g	350kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660472/3	1	Nos.
h	350kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660472/1	1	Nos.
i	350kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660472/2	1	Nos.
j	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/5	1	Nos.
k	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/3	1	Nos.
l	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/7	1	Nos.
m	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/2	1	Nos.
n	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/6	1	Nos.
o	300kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660471/1	1	Nos.
p	230kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660470/2	1	Nos.
q	230kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660470/4	1	Nos.
r	230kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660470/1	1	Nos.
s	230kW, 6.6kV, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:3F660470/3	1	Nos.
2	LT MOTORS	18	Nos.
a	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0004	1	Nos.
b	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0008	1	Nos.
c	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0007	1	Nos.
d	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0009	1	Nos.
e	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0002	1	Nos.
f	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0003	1	Nos.
g	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0005	1	Nos.
h	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0001	1	Nos.
i	30kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:11562562A0006	1	Nos.
j	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0005	1	Nos.
k	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0008	1	Nos.
l	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0001	1	Nos.
m	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0007	1	Nos.
n	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0002	1	Nos.
o	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0003	1	Nos.
p	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0006	1	Nos.
q	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0009	1	Nos.
r	3.7kW, 415V, 3PH, 50HZ, IP55 Motor, Make:Marathon, Sl.NO:10564228A0004	1	Nos.
3	20hp, 415V, 3PH, 50HZ, Sump Pump motor with Control Panel	2	Set
4	22kW, In-Line Magnetic Seperator with control panel	2	Set
5	22kW, Suspended Magnet with Control Panel	2	Set
6	2.2kW, 415V, 50HZ, 3PH Motor with control Panel for Diverter Gate	4	Set
7	Motor for Scoop Coupling with Control Panel	19	Set
8	Local Control Panel for Shuttle conveyor	4	Set
9	Local Control Panel for Belt Feeder	2	Nos.
10	Local Control Panel for Reverseable Belt Feeder	2	Nos.
11	CDB and LDB Panel	22	Nos.
12	PLC Panel and RIO Panel (5nos.)	1	Set
13	10m3/h Pump with motor	2	Set
14	Control Panel for DFDS Pump	1	Set
15	1200m3 Compresor with air dryer	2	Set
16	373 m3/h Pump with VFD motor	2	Set
17	132kW VFD Panel	2	Set
18	Power and Control Cable	1	Lot

STACKER CUM RECLAIMER-1

SR. NO.	DESCRIPTION	QTY	UNIT

1	6.6kV, 630A, 40kA Load Break Switch	1	Nos.
2	6.6kV, 800A, 13.1kA HWX Vacuum Circuit Breaker Sl.NO:	1	Nos.
3	433V, MCC Panel	1	Nos.
a	1600A ACB, Make:Schneider	1	Nos.
b	2.5-4A MPCB, Make:Schneider	4	Nos.
c	4-6.3A MPCB, Make:Schneider	21	Nos.
d	100A MCCB, Make:Schneider	2	Nos.
e	16A MPCB, Make:Schneider	1	Nos.
f	6-10A MPCB, Make:Schneider	1	Nos.
g	32A MCCB, Make:Schneider	7	Nos.
h	16A MCCB, Make:Schneider	2	Nos.
i	160A MCCB, Make:Schneider	2	Nos.
j	250A MCCB, Make:Schneider	1	Nos.
k	63A MCCB, Make:Schneider	1	Nos.
l	9-14A MPCB, Make:Schneider	1	Nos.
m	320A MCCB, Make:Schneider	3	Nos.
n	500A MCCB, Make:Schneider	1	Nos.
o	50A MCCB, Make:Schneider	3	Nos.
p	20-25A MPCB, Make:Schneider	1	Nos.
q	24-32A MPCB, Make:Schneider	1	Nos.
r	1.6-2.5A MPCB, Make:Schneider	1	Nos.
4	3kVA, 240V UPS	1	Nos.
5	VFD Drive, Make:Siemens	1	Nos.
6	Lubrication control Panel	1	Nos.
7	Dust Supersion system control Panel	1	Nos.
8	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032391002	1	Nos.
9	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:	1	Nos.
10	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032390004	1	Nos.
11	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032390001	1	Nos.
12	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032388002	1	Nos.
13	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389003	1	Nos.
14	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389001	1	Nos.
15	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032390002	1	Nos.
16	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032387002	1	Nos.
17	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/203237001	1	Nos.
18	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/20323891003	1	Nos.
19	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:	1	Nos.
20	0.37kW, 415V, 3PH, 50HZ Motor, Make:Siemens	12	Nos.
21	0.75kW, 415V, 3PH, 50HZ Motor, Make:Electro Adda, Sl.NO:10112200522424	2	Nos.
22	2.2kW, 415V, 3PH, 50HZ Motor, Make:Grundfos	2	Nos.
23	1.5kW, 415V, 3PH, 50HZ Motor, Make:Bharat Bijilee, Sl.NO:N1137089, K1138165	2	Nos.
24	3.3kW, 415V, 3PH, 50HZ Motor, Make:Cavotec, Sl.NO:D13451	1	Nos.
25	1.1kW, 415V, 3PH, 50HZ Motor, Make:Cavotec, Sl.NO:D13455	1	Nos.
26	5.1kW, 415V, 3PH, 50HZ Motor, Make:oLAER, Sl.NO:20805960407	1	Nos.
27	200kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:UC1103/082883401	1	Nos.
28	3kW,415V, 3PH, 50HZ Motor, Make:ABB, Sl.NO:3GE110510P871001	1	Nos.
29	22kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:SDF/1102299856	1	Nos.
30	0.75kW,415V, 3PH, 50HZ Motor, Make:LHP, Sl.NO:1000214356	1	Nos.
31	11kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:SDF/12032430448	1	Nos.
32	1.1kW,415V, 3PH, 50HZ Motor, Make:LHP, Sl.NO:SDF/11042322540	1	Nos.
33	200kW,415V, 3PH, 50HZ Motor, Make:Marathon, Sl.NO:115620880003	1	Nos.
34	0.56kW,415V, 3PH, 50HZ Motor, Make:Emco, Sl.NO:110102-2/3	1	Nos.
35	200kW,415V, 3PH, 50HZ Motor, Make:Marathon, Sl.NO:115620880004	1	Nos.
36	0.56kW,415V, 3PH, 50HZ Motor, Make:Emco	1	Nos.
37	1000kVA, 6.6/0.433kV Transformer, Make:Voltamp, Sl.NO:	1	Nos.
38	Control and Power Cable	1	Lot

STACKER CUM RECLAIMER-2

SR. NO.	DESCRIPTION	QTY	UNIT
1	6.6kV, 630A, 40kA Load Break Switch	1	Nos.
2	6.6kV, 800A, 13.1kA HWX Vacuum Circuit Breaker Sl.NO:	1	Nos.
3	433V, MCC Panel	1	Nos.

a	1600A ACB, Make:Schneider	1	Nos.
b	2.5-4A MPCB, Make:Schneider	4	Nos.
c	4-6.3A MPCB, Make:Schneider	21	Nos.
d	100A MCCB, Make:Schneider	2	Nos.
e	16A MPCB, Make:Schneider	1	Nos.
f	6-10A MPCB, Make:Schneider	1	Nos.
g	32A MCCB, Make:Schneider	7	Nos.
h	16A MCCB, Make:Schneider	2	Nos.
i	160A MCCB, Make:Schneider	2	Nos.
j	250A MCCB, Make:Schneider	1	Nos.
k	63A MCCB, Make:Schneider	1	Nos.
l	9-14A MPCB, Make:Schneider	1	Nos.
m	320A MCCB, Make:Schneider	3	Nos.
n	500A MCCB, Make:Schneider	1	Nos.
o	50A MCCB, Make:Schneider	3	Nos.
p	20-25A MPCB, Make:Schneider	1	Nos.
q	24-32A MPCB, Make:Schneider	1	Nos.
r	1.6-2.5A MPCB, Make:Schneider	1	Nos.
4	3kVA, 240V UPS	1	Nos.
5	VFD Drive, Make:Siemens	1	Nos.
6	Lubrication control Panel	1	Nos.
7	Dust Supersion system control Panel	1	Nos.
8	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032391001	1	Nos.
9	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032387003	1	Nos.
10	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032388004	1	Nos.
11	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032391004	1	Nos.
12	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389002	1	Nos.
13	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389001	1	Nos.
14	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389005	1	Nos.
15	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032391003	1	Nos.
16	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032389004	1	Nos.
17	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032387004	1	Nos.
18	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032388005	1	Nos.
19	11kW, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:FDU1012/2032387005	1	Nos.
20	0.37kW, 415V, 3PH, 50HZ Motor, Make:Siemens	12	Nos.
21	0.75kW, 415V, 3PH, 50HZ Motor, Make:Electro Adda, Sl.NO:1010-0522304, 1010-0522314	2	Nos.
22	2.2kW, 415V, 3PH, 50HZ Motor, Make:Grundfos	2	Nos.
23	1.5kW, 415V, 3PH, 50HZ Motor, Make:Bharat Bijilee, Sl.NO:N1134199, N1137086	2	Nos.
24	3.3kW, 415V, 3PH, 50HZ Motor, Make:Cavotec, Sl.NO:D13452	1	Nos.
25	1.1kW, 415V, 3PH, 50HZ Motor, Make:Cavotec, Sl.NO:D13456	1	Nos.
26	5.1kW, 415V, 3PH, 50HZ Motor, Make:oLAER, Sl.NO:	1	Nos.
27	200kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:UC1103/082883402	1	Nos.
28	3kW,415V, 3PH, 50HZ Motor, Make:ABB, Sl.NO:3GE110510P9651002	1	Nos.
29	22kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:SDF/11072346920	1	Nos.
30	0.75kW,415V, 3PH, 50HZ Motor, Make:LHP,	1	Nos.
31	11kW,415V, 3PH, 50HZ Motor, Make:Siemens, Sl.NO:SDF/12032430449	1	Nos.
32	1.1kW,415V, 3PH, 50HZ Motor, Make:LHP, Sl.NO:1EA090-4YA86	1	Nos.
33	200kW,415V, 3PH, 50HZ Motor, Make:Marathon, Sl.NO:115620880001	1	Nos.
34	0.56kW,415V, 3PH, 50HZ Motor, Make:Emco, Sl.NO:110102-2/1	1	Nos.
35	200kW,415V, 3PH, 50HZ Motor, Make:Marathon, Sl.NO:115620880002	1	Nos.
36	0.56kW,415V, 3PH, 50HZ Motor, Make:Emco	1	Nos.
37	1000kVA, 6.6/0.433kV Transformer, Make:Voltamp, Sl.NO:	1	Nos.
38	Control and Power Cable	1	Lot

WAGON LOADING STATION

SR. NO.	DESCRIPTION	QTY	UNIT
1	415V, MCC Panel	1	Nos.
a	415V, 400A Incomer MCCB Feeder	1	Nos.
b	3kVA, 415/230V Control Transformer	1	Nos.
c	45kW DOL Feeder for HYD Powerpack	2	Nos.
d	0.75kW DOL Feeder for Oil Cooler Pump	2	Nos.
e	0.37kW DOL Feeder for Oil Cooler Fan	2	Nos.

f	2.2kW DOL Feeder for Oil Filter	2	Nos.
g	7.5kW DOL Feeder for Compresor	2	Nos.
h	3.7kW SFU Feeder for Compresor	2	Nos.
i	5.5kW DOL Feeder for Bag Filter	2	Nos.
j	0.5kW DOL Feeder for Rotary Air lock	2	Nos.
k	22kW SFU Feeder for Pasenger lift	1	Nos.
l	32A SFU Feeder for Pasenger lift	4	Nos.
2	45kW, 3PH, 50HZ Motor	2	Nos.
3	0.75kW, 3PH, 50HZ Motor	1	Nos.
4	0.37kW, 3PH, 50HZ Motor	1	Nos.
5	2.2kW, 3PH, 50HZ Motor	1	Nos.
6	7.5kW, 3PH, 50HZ Motor	1	Nos.
7	3.7kW, 3PH, 50HZ Motor	1	Nos.
8	5.5kW, 3PH, 50HZ Motor	2	Nos.
9	0.5kW, 3PH, 50HZ Motor	1	Nos.
10	Control Desk and PLC Panels	2	Nos.
11	Lighting Distribution board	3	Nos.
12	Control and Power Cable	1	Lot

TRUCK LOADING STATION

SR. NO.	DESCRIPTION	QTY	UNIT
1	415V, MCC Panel	1	Nos.
a	415V, 400A Incomer MCCB Feeder	1	Nos.
b	3kVA, 415/230V Control Transformer	1	Nos.
c	30kW DOL Feeder for HYD Powerpack	2	Nos.
d	0.75kW DOL Feeder for Oil Cooler Pump	1	Nos.
e	0.37kW DOL Feeder for Oil Cooler Fan	1	Nos.
f	2.2kW DOL Feeder for Oil Filter	1	Nos.
g	5.5kW DOL Feeder for Compresor	1	Nos.
h	2.2kW SFU Feeder for Hoist	1	Nos.
i	5.5kW DOL Feeder for Bag Filter	3	Nos.
j	0.5kW DOL Feeder for Rotary Air lock	3	Nos.
k	2.2kW DOL Feeder for Divertor Gate	2	Nos.
l	32A SFU Feeder	4	Nos.
2	30kW, 3PH, 50HZ Motor	2	Nos.
3	0.75kW, 3PH, 50HZ Motor	1	Nos.
4	0.37kW, 3PH, 50HZ Motor	1	Nos.
5	2.2kW, 3PH, 50HZ Motor	2	Nos.
6	5.5kW, 3PH, 50HZ Motor	1	Nos.
7	2.2kW, 3PH, 50HZ Motor	1	Nos.
8	5.5kW, 3PH, 50HZ Motor	2	Nos.
9	0.5kW, 3PH, 50HZ Motor	3	Nos.
10	Lighting Distribution board	3	Nos.
11	Control Desk and PLC Panels	4	Nos.
12	Control and Power Cable	1	Lot

SHIP UNLOADER-1

SR. NO.	DESCRIPTION	QTY	UNIT
1	630 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:2011070/4	1	Nos.
2	630 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:2011070/1	1	Nos.
3	250 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:90033246	1	Nos.
4	132 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:90033248	1	Nos.
5	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 003	1	Nos.
6	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682 004	1	Nos.
7	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682 003	1	Nos.
8	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 004	1	Nos.
9	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682 005	1	Nos.
10	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585 004	1	Nos.
11	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 002	1	Nos.
12	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 005	1	Nos.
13	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 004	1	Nos.
14	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040588 001	1	Nos.
15	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585 006	1	Nos.

16	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 003	1	Nos.
17	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 009	1	Nos.
18	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682 008	1	Nos.
19	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585 001	1	Nos.
20	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 008	1	Nos.
21	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 009	1	Nos.
22	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 001	1	Nos.
23	37 KW, 415 V, Motor, Make:ABB, Sl.NO:807900	1	Nos.
24	45 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:809381	1	Nos.
25	5.5 KW, 415 V, Motor, Make:ABB, Sl.NO:786574	1	Nos.
26	5.5 KW, 415 V, Motor, Make:ABB, Sl.NO:786571	1	Nos.
27	22 KW, 415 V, Motor, Make:Bharat Bijlee, Sl.NO:L 1106501	1	Nos.
28	1.5 KW, 415 V, Motor, Make:Bharat Bijlee, Sl.NO:T 1105496	1	Nos.
29	0.37 KW, 415 V, Motor, Make:ABB, Sl.NO:8 . 420764	1	Nos.
30	2.0 KW, 415 V, Motor, Make:Cavotec, Sl.NO:D13390	1	Nos.
31	3.7 KW, 415 V, Motor, Make:Cavotec, Sl.NO:D13387	1	Nos.
32	4.0 KW, 415 V, Motor, Make:Siemens, Sl.NO:FDU1104/2049602001	1	Nos.
33	4.0 KW, 415 V, Motor, Make:Siemens, Sl.NO:FDU1104/2049602004	1	Nos.
34	30KW, 415 V, Motor, Make:Chicago Pneumatic, Sl.NO:1000206292	1	Nos.
35	30KW, 415 V, Motor, Make:Chicago Pneumatic, Sl.NO:1000213691	1	Nos.
36	3000kVA, 6.6/.690kV Distribution Transformer Voltamp, Sl.NO:18846/2	1	Nos
37	850kVA, .690/.433kV Distribution Transformer Voltamp, Sl.NO:18847/1	1	Nos
38	250kVA, .433/.690kV Distribution Transformer Voltamp, Sl.NO:18848/1	1	Nos
39	6.6kV HT Panel, MAKE:Megawin switchgear, Sl.NO:111556/8668	1	Nos
40	0.690kV, PCC Panel	1	Set
a	0.690kV,Outgoing ACB feeder, Sl.NO:6641310621030, 6641310621020, 6640300606020, 6640310610	4	Nos.
41	0.433kV, MCC Panel	1	Set
a	0.433kV,Incoming ACB feeder, Sl.NO:6640310603003	2	Nos.
b	0.433kV,Outgoing ACB feeder for VFD	37	Nos.
c	0.433kV,VFD feeder	1	Nos.
42	690V Multi drive VFD Panel	1	Set
43	433V VFD Panel	1	Set
44	PLC Panel and Control desk	6	Nos
45	UPS with Battery set	1	Set
46	Load break switch Panel	1	Nos.
47	HT, Power and Control Cable	1	Lot

SHIP UNLOADER-2

SR. NO.	DESCRIPTION	QTY	UNIT
1	630 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:2011070/3	1	Nos.
2	630 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:2011070/2	1	Nos.
3	250 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:90033247	1	Nos.
4	132 KW, 690 V, VFD Motor, Make:ABB, Sl.NO:90033249	1	Nos.
5	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/20405885002	1	Nos.
6	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682001	1	Nos.
7	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587005	1	Nos.
8	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682009	1	Nos.
9	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040682 007	1	Nos.
10	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585 009	1	Nos.
11	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 007	1	Nos.
12	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585008	1	Nos.
13	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585005	1	Nos.
14	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040582006	1	Nos.
15	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040585 003	1	Nos.
16	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 008	1	Nos.
17	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 006	1	Nos.
18	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040687002	1	Nos.
19	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586001	1	Nos.
20	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040586 006	1	Nos.
21	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587007	1	Nos.
22	15 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:FDU1103/2040587 002	1	Nos.
23	37 KW, 415 V, Motor, Make:ABB, Sl.NO:807901	1	Nos.

24	45 KW, 415 V, VFD Motor, Make:ABB, Sl.NO:809380	1	Nos.
25	5.5 KW, 415 V, Motor, Make:ABB, Sl.NO:586572	1	Nos.
26	5.5 KW, 415 V, Motor, Make:ABB, Sl.NO:586575	1	Nos.
27	22 KW, 415 V, Motor, Make:Bharat Bijlee, Sl.NO:21106502	1	Nos.
28	1.5 KW, 415 V, Motor, Make:Bharat Bijlee, Sl.NO:T 1105497	1	Nos.
29	0.37 KW, 415 V, Motor, Make:ABB, Sl.NO:8 . 420765	1	Nos.
30	2.0 KW, 415 V, Motor, Make:Cavotec, Sl.NO:D13392	1	Nos.
31	3.7 KW, 415 V, Motor, Make:Cavotec, Sl.NO:D13386	1	Nos.
32	4.0 KW, 415 V, Motor, Make:Siemens, Sl.NO:FDU1104/2049602002	1	Nos.
33	4.0 KW, 415 V, Motor, Make:Siemens, Sl.NO:FDU1104/2049602003	1	Nos.
34	30KW, 415 V, Motor, Make:Chicago Pneumatic, Sl.NO:1000206293	1	Nos.
35	30KW, 415 V, Motor, Make:Chicago Pneumatic, Sl.NO:1000213694	1	Nos.
36	3000kVA, 6.6/.690kV Distribution Transformer Voltamp, Sl.NO:18846/1	1	Nos
37	850kVA, .690/.433kV Distribution Transformer Voltamp, Sl.NO:18847/2	1	Nos
38	250kVA, .433/.690kV Distribution Transformer Voltamp, Sl.NO:18848/2	1	Nos
39	6.6kV HT Panel, MAKE:Megawin switchgear, Sl.NO:111557/8668	1	Nos
40	0.690kV, PCC Panel	1	Set
a	0.690kV,Outgoing ACB feeder, Sl.NO:6641310622002, 6641310621021, 6640310606016, 6640310610	4	Nos.
41	0.433kV, MCC Panel	1	Set
a	0.433kV,Incoming ACB feeder, Sl.NO:6640310603002	2	Nos.
b	0.433kV,Outgoing ACB feeder for VFD	37	Nos.
c	0.433kV,VFD feeder	1	Nos.
42	690V Multi drive VFD Panel BB41158751	1	Set
43	433V VFD Panel	1	Set
44	PLC Panel and Control desk	6	Nos
45	UPS with Battery set	1	Set
46	Load break switch Panel	1	Nos.
47	HT, Power and Control Cable	1	Lot

PHASE-1

SR. NO.	DESCRIPTION	QTY	UNIT
01	"Kirloskar" make 11KV HT VCB Incomer Panel from DP Structure-Rating 630A, 11KV, 50HZ, Sl.No.:0901VH056	01	No.
02	11KV "Kirloskar" make HT Nine VCB Compartmentalised Panel Comprising one no. Buscoupler interlocked with incomer, electromechanical, castal key arrangement, with section asunder:-	01	Set
2.A	A.11KV VCB Incomer Panel from AVR, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH050		
2.B	B.11KV VCB RING MAIN-1 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH053		
2.C	C.11KV VCB RING MAIN-2 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH054		
2.D	D.11KV VCB TRANSFORMER-4 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH059		
2.E	E.11KV VCB TRANSFORMER-3 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH052		
2.F	F.11KV VCB TRANSFORMER-2 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH055		
2.G	G.11KV VCB TRANSFORMER-1 Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH058		
2.H	H.11KV VCB Spare Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH057		
2.I	I.11KV VCB Bus Coupler Panel, Rating 630A, 11KV, 50HZ,. Sl.No. :0901VH051		
03	4 MVA, 3 phase, 50HZ, Oil cooled indoor type"RECON" make AUTOMATIC VOLTAGE REGULATOR (AVR) Sl.No. : 1518/2/09. BUCK/BOOST Transforme Sl.No.:1518/2/09-C, Step Up / Step down Transformer Sl.No.:1518/2/09/-A and Reversing Q Panel.	01	Set
04	630 KVA, 11KV/433V "VOLTAMP" make Casr Resin Dry Type Transformer No. 1-Sl.No.: 18113/3	01	Set
05	630 KVA, 11KV/433V "VOLTAMP" make Casr Resin Dry Type Transformer No. 2-Sl.No.: 18113/2	01	Set
06	630 KVA, 11KV/433V "VOLTAMP" make Casr Resin Dry Type Transformer No. 3-Sl.No.: 18113/1	01	Set
07	630 KVA, 11KV/433V "VOLTAMP" make Casr Resin Dry Type Transformer No. 4-Sl.No.: 18113/4	01	Set
08	3 core, 120 Sqmm Aluminium Armoured XLPE 11KV Cable of "Polycab" make-from 11KV VCB Panel to Transformer No.1 Primary (one run), - from 11KV VCB Panel to Transformer No.2 Primary (one run), from 11KV VCB Panel to Transformer No.3 Primary (one run), from 11KV VCB Panel to Transformer No.4 Primary (one run)- totally four runs.	04	Runs

09	3 core, 120 Sqmm Aluminium Armoured XLPE 11KV Cable of "Polycab" make-from EB supply source two pole structure to 11KV two pole structure at customer end (one run), From 11KV Two pole structure at customer end to Feeder Pillar No.1 near railway crossing (One run), From feeder Pilar No.1 to Feeder Pilar No.2 underneath the railway line through 300mm dia RCC Hume Pipe (One run) and Feeder Pilar No.2 to Substation main incomer 11KV Single VCB Panel (One run)- Totally four runs.	04	Runs
10	3 core, 120 Sqmm Aluminium Armoured XLPE 11KV Cable of "Polycab" make-from HT Single VCB Incomer Panel to AVR (One run), from AVR to HT nine VCB Panel incomer (One run) and from Step UP/Step Down Transformer of AVR to Buck/Boost Transformer of AVR - Totally three runs.	03	Runs
11	Kirloskar Green make 500KVA DG set No.1 Rating:500KVA / 400KW, 415V incorporating KIRLOSKAR OIL ENGINES LTD. (KOEL) make Engine Sl.No. : KV0.5003 / 0800304 and kirloskar Electric Co. (KEC) make Alternator Sl.No. : 0902D1311 / Machine No. : IS3 M1 08L 63113	01	No.
12	Kirloskar Green make 500KVA DG set No.2 Rating:500KVA / 400KW, 415V incorporating KIRLOSKAR OIL ENGINES LTD. (KOEL) make Engine Sl.No. : KV0.5003 / 0800305 and kirloskar Electric Co. (KEC) make Alternator Sl.No. : 0902D1310 / Machine No. : IS3 M1 09A 64836	01	No.
13	11 KV 2 Pole Structure with single arm AB switch with H.G.Fuse	01	No.
14	3750A, 433V MV Panel of "Square Automation" make consisting of 17 nos. 4 Pole L&T make ACBs for outgoing.	01	Set
15	300 KVAR APFC Panel with 5 X 50 KVAR & 2 X 25 KVAR capacitor bank	02	Nos.
16	PDB - 1 : 2 nos. 1000A 4 pole ACBs, 1no. 400A 4 Pole MCCB & 1No.250A, 4 Pole MCCB	01	No.
17	PDB - 2 : 1 no. 250A 4 pole MCCCB, 1no. 150A 4 Pole MCCB & 3Nos. 100A, 4 Pole MCCB	01	No.
18	PDB - 3 : 2 nos 800A 4 pole ACBs, 1no. 150A 4 Pole MCCB & 4Nos. 100A, 4 Pole MCCB	01	No.
19	PDB - 4 : 1 no. 800A 4 pole ACB, 1no. 300A 4 Pole MCCB & 3Nos. 100A, 4 Pole MCCB	01	No.
20	PDB - 5 : 1 no. 250A 4 pole MCCB, 1no. 150A 4 Pole MCCB & 1No.100A, 4 Pole MCCB	01	No.
21	PDB - 6 : 1 no. 150A 4 pole MCCB, 1no. 100A 4 Pole MCCB & 4Nos.63A, 4 Pole MCBs	01	No.
22	PDB - 7 : 1 no. 150A 4 pole MCCB, 1no. 100A 4 Pole MCCB & 4Nos.63A, 4 Pole MCBs	01	No.
23	LDB - 1 : 1 no. 300A 4 pole MCCB, 1no. 250A 4 Pole MCCB & 1No.200A, 4 Pole MCCB	01	No.
24	LDB - 2 : 1 no. 200A 4 pole MCCB, 1no. 150A 4 Pole MCCB & 5Nos.63A, 4 Pole MCBs	01	No.
25	LDB - 3 : 1 no. 150A 4 pole MCCB, 1no. 100A 4 Pole MCCB & 3Nos.63A, 4 Pole MCBs	01	No.
26	LDB - 4 : 1 no. 100A 4 pole MCCB, 5nos. 63A 4 Pole MCBs & 2Nos.32A, 4 Pole MCBs	01	No.
27	LDB - 5 : 1 no. 250A 4 pole MCCB, 1no. 200A 4 Pole MCCB & 1No.63A, 4 Pole MCB	01	No.
28	LDB - 6 : 1 no. 100A 4 pole MCCB, 3nos. 63A 4 Pole MCBs & 2Nos.40A, 4 Pole MCBs	01	No.
29	LDB - 7 : 2 nos. 100A 4 pole MCCBs, 3nos. 63A 4 Pole MCBs & 2Nos.40A, 4 Pole MCBs	01	No.
30	LDB - 8 : 1 no. 150A 4 pole MCCB, 3nos. 63A 4 Pole MCBs & 2Nos.40A, 4 Pole MCBs	01	No.
31	LDB - 9 : 1 no. 100A 4 pole MCCB, 3nos. 63A 4 Pole MCBs & 2Nos.40A, 4 Pole MCBs	01	No.
32	LDB - 10 : 1 no. 100A 4 pole MCCB, 2nos. 63A 4 Pole MCBs & 2Nos.40A, 4 Pole MCBs	01	No.
33	LDB - 11 : 1 no. 63A 4 pole MCB, 4nos. 32A 4 Pole MCBs	01	No.
34	LDB - 12 : 1 no. 800A 4 pole ACB, 4nos. 200A 4 Pole MCCBs, 2Nos. 100A, 4 Pole MCCBs & 4 nos. 63A, 4 Pole MCB'S	01	No.
35	LDB - 13 : 1 no. 200A 4 pole MCCB, 2nos. 100A 4 Pole MCCBs & 4Nos.63A, 4 Pole MCB	01	No.
36	LDB - 14 : 1 no. 200A 4 pole MCCB, 2nos. 100A 4 Pole MCCBs & 4Nos.63A, 4 Pole MCB	01	No.
37	Switch Tripping system incorporating Batteries of 30V ratting & 50AH Capacity and Battery Charger	01	No.
38	20mtr High Mast Tower	04	No.
39	30mtr High Mast Tower	26	No.
40	40mtr High Mast Tower	16	No.
41	3.5C, 400 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
42	3.5C, 300 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
43	3.5C, 185 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
44	3.5C, 120 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
45	3.5C, 95 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
46	3.5C, 70 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
47	3.5C, 50 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
48	3.5C, 35 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
49	3.5C, 25 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
50	4C, 16 Sqmm Aluminium Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
51	4C, 6 Sqmm Copper Armoured XLPE LT Cable of "POLYCAB" make	01	Lot
52	4C, 4 Sqmm Copper Armoured XLPE LT Cable of "POLYCAB" make	01	Lot

Thank you for choosing a Kirloskar Green Genset and extending your support in caring for the environment.

CERTIFICATE

This is to certify that Kirloskar Engine Model .....10K18TA.....

Serial No.KVD5003/0800304 complies to Central Pollution Control Board Norms

Notification GSR No. 371 (E) F. No. 8-15022/2/2001- CPA dated 17.05.2002

issued by Ministry of Environment & Forests, Government of India, has been

tested as per ...ISO3046..... standard. The full load B.H.P. at N.T.P.

condition is .....602..... at .....1500..... RPM.

Thakur.G.S

Date :02/12/08

Q.A. (Medium Engines)

Power rating is gross and ICXN/IFN/HD/LD/ISO3046/BS5514/IS10000/DIN6271 or equivalent.

KIRLOSKAR OIL ENGINES LTD. Khadki, Pune - 411 003.
An ISO 9000 & ISO 14001 Company

Enriching Lives

Thank you for choosing a Kirloskar Green Genset and extending your support in caring for the environment.

CERTIFICATE

This is to certify that Kirloskar Engine Model .....10K18TA.....

Serial No.K10S003/0800305. complies to Central Pollution Control Board Norms

Notification GSR No. 371 (E) F. No. 8-15022/2/2001- CPA dated 17.05.2002

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condition is .....602..... at .....1500..... RPM.

Date :02/12/08

Thakur G.S
Q.A. (Medium Engines)

Power rating is gross and ICXN/IFN/HD/LD/ISO3046/BS5514/IS10000/DIN6271 or equivalent.

By **Registered Post with Acknowledgement Due**
(This document contains 07 (Seven) Pages)

AIR CONSENT ORDER (RENEWAL)

Ref. : No. (R19KAR654931)/(2022)/731

Date : 09 JUN 2022

Sub : Puducherry Pollution Control Committee - **M/s. Karaikal Port Private Limited** - Air Consent Order (Renewal), under Section 21 of The Air (Prevention and Control of Pollution) Act, 1981, as amended - Issued - Reg.

Ref : R19KAR654931 dated 29/11/2021 of **Capt. Vijay Nicodemus Venkataramanan B**

****

Consent to Operate is hereby **renewed** under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended (hereinafter referred to as 'The Act') and the Rules and Ordersmade there under for emission / continuation of emission to **Capt. Vijay Nicodemus Venkataramanan B, The Chief Operating Officer, M/s. Karaikal Port Private Limited, Keezhavanjore Village, T.R.Pattinam Commune, Karaikal.**

CATEGORY : RED SIZE : LARGE LOCATION : MIXED AREA : 602 ACRES

(hereinafter referred to as 'The Applicant') authorizing them to **Operate the industry, @ Keezhavanjore Village, T. R. Pattinam Commune, Karaikal**, subject to following special and general conditions:

Validity of the Consent :

(i) This Consent order is valid upto 31.03.2026.

(ii) The Project Proponent shall apply for obtaining Renewal of this Air Consent Order (Renewal), before Sixty (60) days of the expiry of the same, as imposed in (i) above, via www.ponocmms.nic.in, duly filled in, remitting Consent Fees and uploading relevant and required documents, as per prevailing orders. No other mode of application shall be entertained.

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

To,

Capt. Vijay Nicodemus Venkataramanan B, The Chief Operating Officer, M/s. Karaikal Port Private Limited, Keezhavanjore Village, T.R.Pattinam Commune, Karaikal - 609 606.

Copy to :

1.The Assistant Director, Departmnent of Industries and Commerce, Rural Industrial Estate, Kottucherry Commune, Karaikal - 609 609.

2. The Commissioner, T.R.Pattinam Commune Panchayat, T.R.Pattinam, Karaikal - 606 606.

3 Standing Guard File.

Received on 06/Jun/2022

SPECIAL CONDITIONS

1. Notwithstanding anything contained in any other Act or Rules or Notifications this clearance isgiven from pollution angle only.

2. **Details of the Cargoes permitted to be handled :** Multi - purpose port, permitted to handle different types of cargo, in MMTPA, as mentioned below :

Column 1	Column 2	Column 3
Dry Bulk Cargoes	**Break Bulk / General Cargoes – 3.5 MMTPA**	**Liquid Cargoes**
Coal – **10.0 MMTPA**	Textiles	Edible Oil – **0.5 MMTPA**
* Fertilizers	Machinery	**Crude Oil & Other Petroleum Products – **1.0 MMTPA**
* Clay	Timber	** LNG (To be handled by M/s. AGP Karaikal LNG Pvt. Ltd., **1.0 MMTPA**
* Iron Ore	Steel	
* Gypsum	Containers	
* Limestone	Granite	
* Dolomite	Marble Slabs	
* Aggregates	Fertilizers in Bags	
*Agro Products such as, Corn, Wheat, Sugar, Red Chillies, Wood Chips.	Agro Products such as, Corn, Wheatm Red Chillies etc., (in Bags only)	
* Clinker	Wood Chips	
Cement in Bulk (Handled by M/s. Penna Cement Industries Ltd.,) – **0.5 MMTPA**	Cement (in Bags)	
Sand – **1.0 MMTPA**	Salt	

Note :

(i) The Total Capacity of the Cargoes permitted to be handled by this Committee is only **17.5 MMTPA,** as imposed above, as against the Total Capacity of the Cargoes permitted to be handled by the MoEF&CC, *viz.*, 21.5 MMTPA.

(ii) The above table is in accordance with the EC Amendment issued by the MoEF&CC, vide No. 10-42/2009-IA.III dated 05.08.2021, except Items marked ** in the Column No. 3, above.

(iii) Items marked * in the Column 1 of the above table and the items mentioned in the Column 2 of the same, collectively shall be handled upto **3.5 MMTPA** only.

(iv) Items marked ** in the Column 3 of the above table has been classified as Liquid Cargoes in the Table at Page No. 37, of the EIA Guidance Manual, prepared by the Administrative Staff College, Hyderabad, for MoEF&CC, New Delhi.

3. The applicant shall erect the chimney(s)/stack(s) of the following specifications:

S.No.	Chimney / Stack attached to	Height of the stack in metre	Diameter, m	Volume Nm3/hr
1	Stack 1 - DG Set 1 - 500 KVA (Manufacturing Year 2008)	8	0.15	853
2	Stack 2 - DG Set 2 - 500 KVA (Manufacturing Year 2008)	8	0.15	853

4. The applicant shall install a comprehensive air pollution control system consisting of control equipment as detailed below and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:

Chimney / Stack	Control Equipment	Relevant - parameters & standard limits
Stack 1 - DG Set 1 - 500 KVA (Manufacturing Year 2008)	Acoustic Enclosure & Stack	Oxides of Nitrogen + Hydrocarbon (NOx + HC) - <= 4.0 g/kW-Hr ; Carbon Monooxide (CO) - <= 3.5 g/kW-Hr ; Particulate Matter (PM) - <= 0.2 g/kW-Hr ; Smoke Limit (Light Absorption Co-effieient) - <= 0.7 1/m
Stack 2 - DG Set 2 - 500 KVA (Manufacturing Year 2008)	Acoustic Enclosure & Stack	Oxides of Nitrogen + Hydrocarbon (NOx + HC) - <= 4.0 g/kW-Hr ; Carbon Monooxide (CO) - <= 3.5 g/kW-Hr ; Particulate Matter (PM) - <= 0.2 g/kW-Hr ; Smoke Limit (Light Absorption Co-efficient) - <= 0.7 1/m

5 The applicant shall observe the following fuel consumption:

S.No	Type of fuel	Maximum quantity T/day
1	Diesel (in LPD) (Density - 0.85 Kg/l)	40

6. The proponent shall take measures to comply with the provisions laid down under Noise pollution (Regulation and Control) Amendment Rules, 2010 and control the noise to the prescribed levels.

7 The industry shall take adequate measures for control of noise from its own source so as to comply with the standards as may be applicable. Noise Level should not exceed 65 dB (A) and 55 dB (A) during daytime and night times respectively.

8. DG Sets shall meet the noise and air emission standards prescribed under The Environment (Protection) Rules, 1986 and shall be provided with integral acoustic enclosure. The applicant shall comply with order of Hon,ble National Green Tribunal dated 11.05.2015 in Appeal No. 12(THC) of 2013. Original Application No. 17(THC) of 2013 and Original Application No. 32(THC) of 2013 and implement all conditions in the CPCB Guidelines for DG Set. The DG set which are 15 years old or completed 50,000 Hours of Operation shall not be used.

9. The unit shall provide minimum stack height (H) to the DG sets as per the formula H = h + 0.2 SQRT (KVA) where KVA= total generation capacity and h= Height of the building where DG set is installed.

10. The Industry shall take appropriate measures to ensure that the ground level concentration shall comply with revised National Ambient Air Quality Standards dated 16.11.2009 notified by MoEF&CC, GOI.

11 There shall not be any be perceptible odour outside the industry's premises.

12. Any change in the emission source / process / Air Pollution Control System / fuel shall be brought to the notice of this Authority in writing and fresh consent has to be obtained, as required.

13. The unit shall submit the Environmental Statement in Form V before 30th September every year as per the Rule No.14 of the E(P) Rules, 1986 & Amendments.

14. Specific Conditions :

a) The unit shall handle only cargoes permitted, as permitted vide Clause 2 of Section "Special"

Conditions" of this Consent Order and the quantity of cargoes handled by the unit shall not exceed 17.5 MMTPA, at any point of time. Any other goods / cargoes, intended to be handled, by the unit, shall be done only after obtaining prior consent from this Committee.

(b) Cement in Bulk, as mentioned in the Column 1 of Annexure I, of this Consent Order, shall be handled by M/s. Penna Cement Industries only, as per the Consent to Operate, issued by PPCC.

(c) LNG, as mentioned in the Column 3 of Annexure I, of this Consent Order, shall be handled by M/s. AGP Karaikal LNG Pvt., Ltd., only after obtaining Consent to Operate, from this Committee.

(d) **For handling of Dry Bulk Cargoes :** To control fugitive emission at the Coal Stockyard and other Dry Bulk Cargoes, the following shall be regularly utilized / practiced to meet the applicable standards:

(i) Coal shall not be handled more than 10.0 MMTPA, as specified in the Column 1 of Clause 2 of Section "Special Conditions", of this Consent Order. Most of the Coal shall be handled through Mechanization of Coal Handling System Only. Coal upto 1.5 MMTPA, shall be handled by Semi Mechanized Mode, using Hoppers and Conveyors, for small customers.

(ii) Dry Bulk Cargoes viz., Fertilizers, Clay, Iron Ore, Gypsum, Limestone, Dolomite, Aggregates, Agro Products such as, Corn, Wheat, Sugar, Red Chillies, Wood Chips, etc., which are handled in Bulk, shall be handled within the capacity of 3.5 MMTPA, allocated for Break Bulk / General Cargoes, as specified Clause 2 of Section "Special Conditions", of this Consent Order.

(iii) Water Sprinklers shall be provided all along the Coal and Iron ore Stockyard area, wherever applicable, for constantly wetting the Coal and Iron ore heaps.

(iv) Water Tanker with rear spreading bars and high pressure sprinkler nozzles, shall be deployed for constant wetting of the Roads, areas in the Coal and Iron ore Stock Yard inside the premises of the unit.

(v) Dust Separation Wall, with high resistant polymer meshes, shall be provided around the Coal and Iron ore Stock Yard and along the Railway sidings and shall be immediately mended / replaced, as and when damaged.

(vi) Coal and Iron Ore shall be loaded in the trucks only in the wet condition after sprinkling water.

(vii) The height of the Coal and Other Dry Bulk Cargoes heaps shall not exceed 10 metres from the Ground Level, at any cost.

(viii) Mobile mistifiers shall be operated throughout the time of handling Coal and Iron ore.

(ix) The trucks transporting Coal out of the premises shall be subjected to wash using the Automated Tyre Wash System, before exiting the premises.

(x) The trucks transporting Coal and Other Dry Bulk Cargoes, out of the premises shall be covered using tarpaulins to avoid spillage on the roads and the unit shall ensure that, the tarpaulins cover of the trucks are locked till the delivery point is reached.

(xi) The Automated Continuous Ambient Air Quality Monitoring stations (3 Nos.) connected to the server of this Committee, for parameters, PM10, PM2.5 and CO, shall be operated and maintained, at all times and any corrective actions, if required, shall be carried out immediately and the same shall be reported to this Committee.

(xii) The Ambient Air Quality, in and around the unit, shall be maintained within the prescribed standards and if exceeded at any point of time, the Committee shall review / revoke the handling capacity of Coal, awarded herewith, in this Consent Order.

(e) **For Handling of Dry Bulk Cargoes other than Coal and Iron ore :** Dry Bulk Cargoes that are likely to be affected by sprinkling of water shall be handled, such that, there are no dust emissions arising, at any point of time and shall be stored in closed sheds only, such that, wind action is minimized to near zero.

(f) **For Handling of General Cargo, the following systems shall be regularly utilized to meet the** standards:

(i) The Total Handling Capacity of the General Cargo permitted to be handled by the unit shall not exceed 3.5 MMTPA, including Items marked * in Column 1 of Clause 2 of the Section "Special Conditions" of this Consent Order.

(ii) Cargoes as specified alone shall be handled and clearance from this Committee shall be obtained in case of any other items to be handled, afresh.

(iii) Cargoes mentioned under Break Bulk Cargoes / General Cargoes in Column 3 of Table of Clause 2 of Section "Special Conditions" of this Consent Order, shall only be handled in only in Bags and / or countable units and shall be carried to the closed warehouses in trucks covered by tarpaulins without any spillage due to transportation, inside the premises.

(iv) Agro Products such as, Red Chillies, Sugar, Wheat, Corn etc., shall be handled with utmost care, with closed Hoppers and Closed Baggings in warehouses.

(v) There shall be no increase in the pollution load due to the handling process.

(g) For Liquid Bulk Cargoes :

(i) Crude Oil and Other Petroleum Products:

(1) There shall be no storage of crude oil at any point of time in the premises of the Port except other petroleum products including Bitumen.

(2) No Construction activities shall be carried out and the applicant shall not undertake any expansion, modernization, diversification, change of location, storage etc., without the prior approval / clearance from this authority.

(3) Coast Guard approved Oil Spill Contingency Plan (OSCP) shall be strictly adhered to.

(4) All the measures adopted in Oil Spill Risk Assessment (OSRA) and Environmental Management Plan (EMP) shall be strictly adhered to.

(5) Fire fighting systems OISD (Oil Industries Safety Directorate) – 156 Standards shall be strictly adhered to.

(6) Provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any fire hazard to human beings, other living creatures, plants and properties while handling hazardous substances shall be strictly adhered to.

(7) Periodical mock drills, for all personnel to be involved in transportation of crude oil and petroleum products through pipeline, by updating their technical skills from time to time, so as to control actual leakage of hazardous materials in the quickest possible time, is mandatory.

(8) The unit shall comply with the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

(ii) For Edible Oil:

(1) Certified storage tanks shall be utilized for storing edible oil. The validity of the certifications, if any, shall be reviewed and updated, periodically.

(2) There shall be no spillage of Oil, on land, in and around the premises.

(h) The unit shall engage an NABL Accredited Laboratory, for collection and analysis of samples, for Parameters of Ambient Air Quality and Noise, as imposed vide this Consent Order and the reports of the same, shall be submitted to this Committee, once every Six (06) Months, as per the Monitoring Frequency for Red Category Units, recommended by the Central Pollution Control Board, New Delhi. This is for Strict Compliance.

(i) The unit shall submit compliance statement of the conditions imposed, in this Air Consent Order, in tabulated form, along with neeessary annexures, once in every six (06) months, to this Committee.

(j) The revised standards mentioned under the Special Conditions, shall be applicable for the whole production capacity of the unit and shall be in force, in accordance with the Rules / Laws / Notifications, issued under the Environment (Protection) Act, 1986 and its amendments till date.

(k) The unit shall be liable to environmental compensation charges henceforth, in accordance with the above point (n), which is proportional to the no. of non-compliances and the period of the same. Hence, compliance of all conditions, of this Consent order shall be immediately effected, unless any specified timelines are applicable and are strictly enforced henceforth.

(l) **Implementation Schedules :**

(i) The unit shall submit six monthly report on the dredging operations including the quantity of sand dredged, utilized and the balance stored as per the EC conditions of MoEF&CC.

(ii) The above said 1 No. of implementation schedule shall be followed with due diligence, failing which, the unit shall be liable to be levied with environmental compensation, since inception of the Port, as per the prevailing Acts / Rules / Notifications, as applicable and also the enforcement action, as deemed fit shall be initiated against the unit, as applicable.

(i) **For Better Environmental Management :**

(i) Energy conservation measures like installation of energy efficient lighting systems, like LED's for lighting the areas inside and outside the building should be integral part of the design. Used CFL's/TFL's/LED's should be properly collected and disposed off / sent to for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid toxic contamination.

(ii) Use of Solar panels may be adopted to the maximum extent possible, especially for streetlights within the campus.

(iii) Energy Audit and annual reduction pattern to be planned and intimated to this committee.

(iv) Systematic Plantation of suitable varieties of trees, shrubs and climbers etc., shall be done in phased manner, with plan budget over a period of years covering the entire available vacant area.

(v) Appropriate rainwater harvesting struetures and Farm Ponds shall be established on scientific basis.

(vi) The unit shall declare itself an "Single Use Plastic Free Zone" and maintain the same, in compliance with the Notification issued by this Committee on Ban of Single Use Plastics, G.O. Ms. No. 18/Envt./2019 dated 30.07.2019, published in the Gazette of Puducherry, Part I Extraordinary, dated 02.08.2019.

DEPT OF SCIENCE TECHNOLOGY & ENVIRONMENT * PUDUCHERRY *

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

GENERAL CONDITIONS

1. Notwithstanding anything contained in this No-Objection Certificate from Pollution Angle, the Puducherry Pollution Control Committee hereby reserves its right and power under Section 27 (2) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 21 (4) of the Air (Prevention and Control of Pollution) Act, 1981 to Review / Revoke any or all the conditions imposed herein and to cancel, refuse, modify or stipulate additional conditions for the purpose of the Act by the Committee, if conditions of the consent granted are not fulfilled.

2. The applicant shall not undertake any expansion, modernization, diversification, change of location, change of process, change of products etc., without the prior approval / clearance from this authority.

3. The applicant shall take all possible measures to create pollution free surroundings.

4. Sufficient green belt shall be provided all around the unit.

5. This No-Objection Certificate from Pollution Angle shall be exhibited in the office room and must be made available to the inspecting officers of this Committee.

6. Housekeeping shall be maintained clean.

7. All the conditions shall be enforced under the provisions of the Environment (Protection) Act, 1986, along with its amendments, from time to time.

DEPT OF SCIENCE TECHNOLOGY & ENVIRONMENT * PUDUCHERRY *

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

By Registered Post with Acknowledgement Due
(This document contains 09 (Nine) Pages)

PUDUCHERRY POLLUTION CONTROL COMMITTEE PPCC

(4)

WATER CONSENT ORDER (RENEWAL)

Ref. : No. (R19KAR654931)/(2022)/732

Date 09 JUN 2022

Sub : Puducherry Pollution Control Committee - **M/s. Karaikal Port Private Limited** - Water Consent Order (Renewal) under Section 25 / 26 of The Water (Prevention and Control of Pollution) Act, 1974, as amended - Issued - Reg.

Ref : R19KAR654931 **dated 29/11/2021** of **Capt. Vijay Nicodemus Venkataramanan B**

****

Consent to Operate is hereby **renewed** under Section 25 / 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended (hereinafter referred to as 'The Act') and the Rules and Orders made there under for discharge or continuation of discharge of sewage or trade effluent to **Capt. Vijay Nicodemus Venkataramanan B, The Chief Operating Officer, M/s. Karaikal Port Private Limited, Keezhavanjore Village, T.R.Pattinam Commune, Karaikal.**

CATEGORY : RED SIZE : LARGE LOCATION : MIXED AREA : 602 ACRES

(hereinafter referred to as 'The Applicant') authorizing them to **Operate the industry, @ Keezhavanjore Village, T. R. Pattinam Commune, Karaikal**, subject to following special and general conditions:

Validity of the Consent :

(i) This Consent order is valid upto 31.03.2026.

(ii) The Project Proponent shall apply for obtaining Renewal of this Air Consent Order (Renewal), before Sixty (60) days of the expiry of the same, as imposed in (i) above, via www.ponoemms.nic.in, duly filled in, remitting Consent Fees and uploading relevant and required documents, as per prevailing orders. No other mode of application shall be entertained.

DEPT OF SCIENCE TECHNOLOGY & ENVIRONMENT * PUDUCHERRY *

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

To,

Capt. Vijay Nicodemus Venkataramanan B, The Chief Operating Officer, M/s. Karaikal Port Private Limited, Keezhavanjore Village, T.R.Pattinam Commune, Karaikal - 609 606.

Copy to :

1. The Assistant Director, Department of Industries and Commerce, Rural Industrial Estate, Kottucherry Commune, Karaikal - 609 609.

2. The Commissioner, T.R.Pattinam Commune Panchayat, T.R.Pattinam, Karaikal - 606 606.

3. Standing Guard File.

Received on 09/06/2022

SPECIAL CONDITIONS

1. Notwithstanding anything contained in any other Act or Rules or Notifications this clearance is given from pollution angle only.

2. **Details of the Cargoes permitted to be handled :** Multi - purpose port, permitted to handle different types of cargo, in MMTPA, as mentioned below :

Column 1	Column 2	Column 3
Dry Bulk Cargoes	**Break Bulk / General Cargoes – 3.5 MMTPA**	**Liquid Cargoes**
Coal – **10.0 MMTPA**	Textiles	Edible Oil – **0.5 MMTPA**
* Fertilizers	Machinery	**Crude Oil & Other Petroleum Products – **1.0 MMTPA**
* Clay	Timber	** LNG (To be handled by M/s. AGP Karaikal LNG Pvt. Ltd., **1.0 MMTPA**
* Iron Ore	Steel	
* Gypsum	Containers	
* Limestone	Granite	
* Dolomite	Marble Slabs	
* Aggregates	Fertilizers in Bags	
*Agro Products such as, Corn, Wheat, Sugar, Red Chillies, Wood Chips.	Agro Products such as, Corn, Wheatm Red Chillies etc., (in Bags only)	
* Clinker	Wood Chips	
Cement in Bulk (Handled by M/s. Penna Cement Industries Ltd.,) – **0.5 MMTPA**	Cement (in Bags)	
Sand – **1.0 MMTPA**	Salt	

Note :

(i) The Total Capacity of the Cargoes permitted to be handled by this Committee is only **17.5 MMTPA,** as imposed above, as against the Total Capacity of the Cargoes permitted to be handled by the MoEF&CC, *viz.,* 21.5 MMTPA.

(ii) The above table is in accordance with the EC Amendment issued by the MoEF&CC, vide No. 10-42/2009-IA.III dated 05.08.2021, except Items marked ** in the Column No. 3, above.

(iii) Items marked * in the Column 1 of the above table and the items mentioned in the Column 2 of the same, collectively shall be handled upto **3.5 MMTPA** only.

(iv) Items marked ** in the Column 3 of the above table has been classified as Liquid Cargoes in the Table at Page No. 37, of the EIA Guidance Manual, prepared by the Administrative Staff College, Hyderabad, for MoEF&CC, New Delhi.

3. **Details of Water Consumption :**

Water Requirement for	Quantity in KLD	Water Source
Process	170.0	Desalination Plant and PASIC Borewell
Cooling	0.0	NIL
Boiler	0.0	NIL
Floor and Vessel Washing	0.0	NIL
Domestic Use	140.0	Desalination Plant and PASIC Borewell

Garden	40.0	Desalination Plant, PASIC Borewell and STP Treated Water
Total	**350**	

4. The applicant shall have the following outlets with maximum discharge quantities and disposal point as specified in the table for discharge of sewage / trade effluent. Any change in the outlets has to be brought to the notice of the Board and fresh consent has to be obtained if necessary.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
1	Sewage	32.0	**Sewage Treatment Plant :** Treated in 25 KLD STP and the treated Water after conforming to the standards, used for gardening.
2	Trade Effluent	16.0	**Vehicle Wash System ETP :** The Vehicle wash water is treated in Vehicle Wash ETP of 16 KLD and the treated water is reused / recycled.
3	Trade Effluent	25.0	**Tyre Wash System ETP :** The Tyre wash water is treated in Tyre Wash ETP of 25 KLD and the treated water is reused /recycled.
4	Trade Effluent	50.0	**Storm Water ETP No. 1 :** Dedicated to Storm Water Drain System and are operated during Monsoon. The Storm Water are collected and filtered for impurities and the clear water are drained in Sea.
5	Trade Effluent	50.0	**Storm Water ETP No. 2 :** Dedicated to Storm Water Drain System and are operated during Monsoon. The Storm Water are collected and filtered for impurities and the clear water are drained in Sea.

5. The applicant shall provide comprehensive effluent treatment plant consisting of Primary/ Secondary and/or Tertiary treatment as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards before disposal (If applicable).

S.No	Name	Concentration Standard	Mass standard (if applicable)
1	pH	5.5 - 9.0	-
2	Suspended Solids (mg/l)	100 mg/l	-
3	BOD, 3 days, 27 deg.C	30 mg/l	-
4	C.O.D	250 mg/l	-
5	Oil & Grease	10 mg/l	-

6. The applicant shall provide, comprehensive sewage treatment plant as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of treated waste water to the following standards before disposal (If applicable):

S.No	Name	Concentration Standard	Mass standard to be complied (if applicable)
1	pH	5.5 - 9.0	-
2	TSS	20 mg/l	-
3	BOD, 3 days, 27 deg.C	10 mg/l	-
4	COD	50 mg/l	-
5	N- Total	10 mg/l	-
6	Fecal Coliform (MPN/100 ml - Most Probable Number per 100 ml)	Desirable 100 MPN/100ml ; permissible 230 MPN/100 ml	-
7	Surfactants	1.0 mg/l	-
8	Free Ammonia	1.2 mg/l	-

7. The details of STP / ETP to be provided is as follows:

S.No.	Treatment unit name	No. of unit	Dimension (in meter)
Sewage Treatment Plant Capacity : 30 KLD			
1	Sewage Treatment Plant	1	20 X 20 X 3
Effluent Treatment Plant Capacity: 141 KLD			
1	Vehicle Wash System	1	20 X 16 X 3
2	Tyre Wash System	1	20 X 16 X 3
3	Strom Water ETP 1	1	12 X 10
4	Storm Water ETP 2	1	12 X 10

8 The ETP/STP units shall be impervious to prevent ground water pollution.

9 There shall be no perceptible odour outside the industry's premises.

10. The unit shall provide digital flow meter to the inlet and outlet of the treatment plant and proper records shall be maintained in log book.

11. Separate energy meter shall be provided for the ETP / STP and proper records shall be maintained in log book.

12. The unit shall provide an alternate power source along with separate energy meter for the Effluent Treatment Plant / Sewage Treatment Plant to ensure continuous operation of the Treatment Plant.

13. The applicant shall submit the Environmental Statement in Form V before 30th September every year as per the Rule No.14 of the E(P) Rules, 1986 & Amendments.

14. **Specific Conditions :**

(a) The unit shall handle only cargoes permitted, as per Clause 2 of Section "Special Conditions", of this Consent Order and the total quantity of cargoes handled by the unit shall not exceed 17.5 MMTPA, at any point of time. Any other goods / cargoes, intended to be handled, by the unit, shall be done only after prior clearance from this Committee.

(b) Cement in Bulk, as mentioned in the Column 1 of the table of Clause 2 of Section "Special Conditions", of this Consent Order, shall be handled by M/s. Penna Cement Industries only, as per the Consent to Operate, issued by PPCC.

(c) LNG, as mentioned in the Column 3 of the table of Clause 2 of Section "Special Conditions", of this Consent Order, shall be handled by M/s. AGP Karaikal LNG Pvt., Ltd., only after obtaining Consent to Operate, from this Committee.

(d) **For handling of Dry Bulk Cargoes :** To control fugitive emission at the Coal Stockyard and other Dry Bulk Cargoes, the following shall be regularly utilized / practiced to meet the applicable standards:

(i) Coal shall not be handled more than 10.0 MMTPA, as specified in the Column 1 of the table of Clause 2 of Section "Special Conditions", of this Consent Order. Most of the Coal shall be handled through mechanization of Coal Handling System Only. Coal upto 1.5 MMTPA, shall be handled by Semi Mechanized Mode, using Hoppers and Conveyors, for small customers.

(ii) Dry Bulk Cargoes *viz.*, Fertilizers, Clay, Iron Ore, Gypsum, Limestone, Dolomite, Aggregates, Agro Products such as, Corn, Wheat, Sugar, Red Chillies, Wood Chips, etc., which are handled in Bulk, shall be handled within the capacity of 3.5 MMTPA, allocated for Break Bulk / General Cargoes, as specified in the table of Clause 2 of Section "Special Conditions", of this Consent Order.

(iii) Water Sprinklers shall be provided all along the Coal and Iron ore Stockyard area, wherever applicable, for constantly wetting the Coal and Iron ore heaps.

(iv) Water Tanker with rear spreading bars and high pressure sprinkler nozzles, shall be deployed for constant wetting of the Roads, areas in the Coal and Iron ore Stock Yard inside the premises of the unit.

(v) Dust Separation Wall, with high resistant polymer meshes, shall be provided around the Coal and Iron ore Stock Yard and along the Railway sidings and shall be immediately mended / replaced, as and when damaged.

(vi) Coal and Iron Ore shall be loaded in the trucks only in the wet condition after sprinkling water.

(vii) The height of the Coal and Other Dry Bulk Cargoes heaps shall not exceed 10 metres from the Ground Level, at any cost.

(viii) Mobile mistifiers shall be operated throughout the time of handling Coal and Iron ore.

(ix) The trucks transporting Coal out of the premises shall be subjected to wash using the Automated Tyre Wash System, before exiting the premises.

(x) The trucks transporting Coal and Other Dry Bulk Cargoes, out of the premises shall be covered using tarpaulins to avoid spillage on the roads and the unit shall ensure that, the tarpaulins cover of the trucks are locked till the delivery point is reached.

(xi)The Automated Continuous Ambient Air Quality Monitoring stations (3 Nos.) connected to the server of this Committee, for parameters, PM_{10}, $PM_{2.5}$ and CO, shall be operated and maintained, at all times and any corrective actions, if required, shall be carried out immediately and the same shall be reported to this Committee.

(xii) The Ambient Air Quality, in and around the unit, shall be maintained within the prescribed standards and if exceeded at any point of time, the Committee shall review / revoke the handling capacity of Coal, awarded herewith, in this Consent Order.

(e) **For Handling of Dry Bulk Cargoes other than Coal and Iron ore:** Dry Bulk Cargoes that are likely to be affected by sprinkling of water shall be handled, such that, there are no dust emissions arising, at any point of time and shall be stored in closed sheds only, such that, wind action is minimized to near zero.

(f) **For Handling of General Cargo, the following systems shall be regularly utilized to meet the standards:**

(i) The Total Handling Capacity of the General Cargo permitted to be handled by the unit shall not exceed 3.5 MMTPA, including Items marked * in Column 1 of the table of Clause 2 of Section "Special Conditions", of this Consent Order.

(ii) Cargoes as specified alone shall be handled and clearance from this Committee shall be obtained in case of any other items to be handled, afresh.

(iii) Cargoes mentioned under Break Bulk Cargoes / General Cargoes in Column 3 of the table of Clause 2 of Section "Special Conditions", of this Consent Order, shall only be handled in only in Bags and / or countable units and shall be carried to the closed warehouses in trucks covered by tarpaulins without any spillage due to transportation, inside the premises.

(iv) Agro Products such as, Red Chillies, Sugar, Wheat, Corn etc., shall be handled with utmost care, with closed Hoppers and Closed Baggings in warehouses.

(v) There shall be no increase in the pollution load due to the handling process.

(g) **For Liquid Bulk Cargoes :**

(i) **Crude Oil and Other Petroleum Products:**

(1) There shall be no storage of crude oil at any point of time inside the premises of the Port except other petroleum products including Bitumen.

(2) No Construction activities shall be carried out and the applicant shall not undertake any expansion, modernization, diversification, change of location, storage etc., without the prior approval / clearance from this authority.

(3) Coast Guard approved Oil Spill Contingency Plan (OSCP) shall be strictly adhered to.

(4) All the measures adopted in Oil Spill Risk Assessment (OSRA) and Environmental Management Plan (EMP) shall be strictly adhered to.

(5) Fire fighting systems OISD (Oil Industries Safety Directorate) – 156 Standards shall be strictly adhered to.

(6) Provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any fire hazard to human beings, other living creatures, plants and properties while handling hazardous substances shall be strictly adhered to.

(7) Periodical mock drills. for all personnel to be involved in transportation of crude oil and petroleum products through pipeline, by updating their technical skills from time to time, so as to control actual leakage of hazardous materials in the quickest possible time, is mandatory.

(8) The unit shall comply with the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

(ii) For Edible Oil:

(1) Certified storage tanks shall be utilized for storing edible oil. The validity of the certifications, if any, shall be reviewed and updated, periodically.

(2) There shall be no spillage of Oil, on land, in and around the premises.

(i) For Water Management :

(i) The accounts of water consumption, with the source of water, shall be maintained separately for the above usage requirements and discharge along with treated water. The copy of the above said records shall be submitted to this committee on a monthly basis.

(ii) The operation of the R.O.System shall be recorded in a log book, indicating the quantity of intake and reject, source of water, discharge of the reject, along with their qualitative analysis data tested by a NABL accredited laboratories and the report of the same shall be submitted to this Committee on a monthly basis.

(iii) The domestic wastewater treated in Sewage Treatment Plant (1 X 25 KLD) shall be used for gardening purpose. The accounts of water treated and reused shall be recorded in a logbook and the same shall be submitted to this committee on a monthly basis, along with the qualitative analysis data tested by a NABL accredited laboratories.

(iv) The Storm Water Drain system shall be maintained regularly. The Effluent Treatment Plant (2 X 50 KLD) linked to the Storm Water Drain System shall be ensured for its operability and shall be used for the very purpose. The records of the water treated and reused of the same shall be submitted to this Committee, on a monthly basis.

(v) The Effluent Treatment Plants, connected to the Vehicle Wash Area (1 X 16 KLD) and the Tyre Wash System (1 X 25 KLD), shall be ensured for its operability and shall be used for the very purpose. The records of the water treated and reused of the same shall be submitted to this Committee, on a monthly basis.

(i) The unit shall engage an NABL Accredited Laboratory, for collection and analysis of samples, for Parameters of inlet and outlet of the Effluent and Sewage Treatment Plants, as imposed vide this Consent Order and the reports of the same, shall be submitted to this Committee, every month, so as to enable the Committee, to submit Compliance report to the Central Pollution Control Board, New Delhi, as per the orders of NGT, on STPs / ETPs, in the country. This is for Strict Compliance.

(j) The unit shall submit compliance statement of the conditions imposed, in this Air Consent Order, in tabulated form, along with necessary annexures, once in every six (06) months, to this Committee.

(k) The revised standards mentioned under the Special Conditions, shall be applicable for the whole production capacity of the unit and shall be in force, in accordance with the Rules / Laws /Notifications, issued under the Environment (Protection) Act, 1986 and its amendments till date.

(l) The unit shall be liable to environmental compensation charges henceforth, in accordance with the above point (i), which is proportional to the no. of non-compliances and the period of the same. Hence, compliance of all conditions, of this Consent order shall be immediately effected, unless any specified timelines are applicable and are strictly enforced henceforth.

(m) Implementation Schedules :

(i) The unit shall submit six monthly report on the dredging operations including the quantity of sand dredged, utilized and the balance stored as per the EC conditions of MoEF&CC.

(ii) The above said 1 No. of implementation schedule shall be followed with due diligence, failing which, the unit shall be liable to be levied with environmental compensation, since inception of the Port, as per the prevailing Acts / Rules / Notifications, as applicable and also the enforcement action, as deemed fit shall be initiated against the unit, as applicable.

(n) For Better Environmental Management:

(i) Energy conservation measures like installation of energy efficient lighting systems, like LED's for lighting the areas inside and outside the building should be integral part of the design. Used CFL's/TFL's/ LED's should be properly collected and disposed off / sent to for recycling as per the prevailing guidelines /rules of the regulatory authority to avoid toxic contamination.

(ii) Use of Solar panels may be adopted to the maximum extent possible, especially for streetlights within the campus.

(iii) Energy Audit and annual reduction pattern to be planned and intimated to this committee.

(iv) Systematic Plantation of suitable varieties of trees, shrubs and climbers etc., shall be done in phased manner, with plan budget over a period of years covering the entire available vacant area.

(v) Appropriate rainwater harvesting structures and Farm Ponds shall be established on scientific basis.

(iv) The unit shall declare itself an "Single Use Plastic Free Zone" and maintain the same, in compliance with the Notification issued by this Committee on Ban of Single Use Plastics, G. O. Ms. No. 18/ Envt./2019 dated 30.07.2019, published in the Gazette of Puducherry, Part I Extraordinary, dated 02.08.2019.

DEPT OF SCIENCE TECHNOLOGY & ENVIRONMENT * PUDUCHERRY *

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

GENERAL CONDITIONS

1. Notwithstanding anything contained in this Certificate from Pollution Angle, the Puducherry Pollution Control Committee hereby reserves its right and power under Section 27 (2) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 21 (4) of the Air (Prevention and Control of Pollution) Act, 1981 to Review / Revoke any or all the conditions imposed herein and to cancel, refuse, modify or stipulate additional conditions for the purpose of the Act by the Committee, if conditions of the consent granted are not fulfilled.

2. The applicant shall not undertake any expansion, modernization, diversification, change of location, change of process, change of products etc., without the prior approval / clearance from this authority.

3. The applicant shall take all possible measures to create pollution free surroundings.

4. Sufficient green belt shall be provided all around the unit.

5. This No-Objection Certificate from Pollution Angle shall be exhibited in the office room and must be made available to the inspecting officers of this Committee.

6. Housekeeping shall be maintained clean.

7. All the conditions shall be enforced under the provisions of the Environment (Protection) Act, 1986, along with its amendments, from time to time.

DEPT OF SCIENCE TECHNOLOGY & ENVIRONMENT * PUDUCHERRY *

Member Secretary

MEMBER SECRETARY
PUDUCHERRY POLLUTION
CONTROL COMMITTEE
PUDUCHERRY.

THE NEW INDIA ASSURANCE CO. LTD.
(Government of India Undertaking)

POLICY SCHEDULE FOR PUBLIC LIABILITY (Non-Industrial Risks) INSURANCE

UIN NUMBER - IRDAN190P0079100001

Insured's Name	:	M/S KARAIKAL PORT PRIVATE LTD			
Insureds Details			**Issuing Office Details**		
Customer ID	:	POA8569690	**Office Code**	:	KARAIKKAL BR (731201)
Address	:	KEEZHAVANJORE, TIRIPATTINAM, KARAIKAL, KARAIKAL ,PONDICHERRY, 609606	**Address**	:	1 ST FLOOR, MAJ APRTS, 149 ,BHARATHIYAR ROAD, KARAIKAL ,609602
Phone No	:		**Phone No**	:	04368222652 / 9487406046
E-mail/Fax	:	sabarigirinathan@karaikalport.com, /	**E-mail/Fax**	:	nia.731201@newindia.co.in /
PAN No	:		**S.Tax Regn. No**	:	AAACN4165CST178
GSTIN/UIN	:	34AACCK8122E1ZW / NA	**GSTIN**	:	34AAACN4165C2ZV
	:		**SAC**	:	997139 (Other non-life insurance services excl RI)

Policy Details					
Policy Number	:	73120136230700000003	**Business Source Code**		
Period of Insurance	:	From: 30/09/2023 12:31:33 PM To: 29/09/2024 11:59:59 PM	**Dev.Off. level/Broker/Corp. Agent/Web Aggregator/CPSC User**	:	DIRECT BUSINESS - (2D6484354)
Date of Proposal	:	30-Sep-23	**Agent/Bancassurance/Specified Person**	:	Mr. KUNAPALAN P (NIAAG00037561) P.KUNAPALAN (SI00069446)
Prev. Policy no.	:		**Phone No**	:	9976197814 / 04368222652,
Client Type	:	Corporate	**E-mail/Fax**	:	kishorbalak@gmail.com, / /

Premium(₹)	GST(₹)	Total(₹)	Total:(₹ in words)	Receipt No. & Date
16,627	2,992	19,619	RUPEES NINETEEN THOUSAND SIX HUNDRED NINETEEN ONLY	73120181230000003042 - 05/10/23

Details of risk covered under current year policy:

								Deductibles	
Retroactive Date	**Jurisdiction**	**Territory**	**AOA**	**AOA:AOY**	**AOY**	**Deductible Type (Amount/Percentage/Amount & Percentage)**	**India**	**Worldwide excluding USA & Canada**	**Worldwide including USA & Canada**
30/09/2022	India	India	50000000	1:3	150000000	AMT	0	0	0

Retroactive Dates

									Deductibles	
Retroactive Date Details	**Date**	**Jurisdiction**	**Territory**	**AOA**	**AOA:AOY**	**AOY**	**Deductible Type (Amount/Percentage/Amount & Percentage)**	**India**	**Worldwide excluding USA & Canada**	**Worldwide including USA & Canada**
RETROACTIVE DATE 1	30/09/2022	India	India	50000000	1:3	150000000	Amount	0	0	0

RETRO-DATE IS SUBJECT TO LESSER OF LIMITS - NARROWER OF COVER.

Type of Construction	OTHERS
Number of Units	1
Class of Construction	
Voluntary Excess	0

Extensions under the Policy

Name of the Extension	Sub Limit of the Extension	Deductibles of the Extension
Accidental pollution liability	₹500000	As Per Policy Deductible
Transportation liability	₹1000000	As Per Policy Deductible
the Act of GOD (Other than Earthquake) Cover	₹1000000	As Per Policy Deductible

Special Conditions	0.25% of Any One Accident limit subject to minimum of ₹50000/- NA
Special Exclusions	NA
Special Excess/Deductible	NA

This Policy shall be subject to PUBLIC LIABILITY (Non-Industrial Risks) INSURANCE policy clauses attached herewith

Clauses	Description

Premium and GST Details

	Rate of Tax	Amount in INR
Premium		₹ 16,627
SGST	9	1496
CGST	9	1496
IGST	0	0

In witness whereof the undersigned being duly authorised by the Insurers and on behalf of the Insurers has (have) hereunder set his (their) hand(s)
on this 05th day of October,2023.

For and on behalf of
The New India Assurance Company Limited

Date of Issue: 05/10/2023

Duly Constituted Attorney(s)

Stamp Duty under the Policy is ₹1/-.

Mudrank_____Dt._____consolidated Stamp Fees Paid by Pay Order Number_____vide receipt number_____dt._____.

We hereby declare that though our aggregate turnover in any preceding financial year from 2017-18 onwards is more than the aggregate turnover notified under sub-rule (4) of rule 48, we are not required to prepare an invoice in terms of the provisions of the said sub-rule.

Tax Invoice No : 73120123P0003437

IRDA Registration Number: 190
NIA PAN NUMBER: AAACN4165C

MARG

To

Date: 12.11.2010

The Chief Conservator of Forests (Central),
Ministry of Environment & Forests,
Regional Office (South Zone),
Kendriya Sadan,
4th Floor E&F Wing,
II Block Koramangala,
Banglore-560034

Dear Sir,

Sub: Release of Notification in English & Tamil Newspapers regarding CRZ clearance for permission to handle crude oil and petroleum products.

Ref: Letter No: F. No. 11-35/2010 – IA . III dated 25th October 2010, Ministry of Environment & Forests, Govt of India (IA-III Division).

Karaikal Port (P) Ltd accorded Environmental clearance for permission to handle Crude oil and Petroleum products connecting Chidambaranar Oil Jetty at Nagore and KPPL Jetty at Karaikal Port vide Letter No: F. No. 11-35/2010 – IA . III dated 25th October 2010, Ministry of Environment & Forests, Govt of India (IA-III Division).

In this regard, We would like to inform that we have published the Notification in an English daily Newspaper (The New Indian Express, Trichy Edition) dated 05.11.2010 and in a Tamil (Vernacular language) daily Newspaper (Dina mani, Trichy Edition) dated 05.11.2010, according to the General Conditions Clause No. 9 of the clearance letter. Copies of the Notification are enclosed for your reference.

Kindly acknowledge receipt of the same.

Thanking you.

Yours faithfully,

Capt. Prasad Rebala
Sr.Vice President
Karaikal Port (P) Ltd.

Enclosures: Copy of News Papers.

Chennai – Centre Head – Melots International – Chennai, TN. Key Skills: Chennai - Centre Head , Centre head; branch head; centre manager; education industry The Centre Head would be required to ensure perfect planing;. Jobs in India - Jobs Careers Vacancies in India - http://jobsdugg.co.in/

TIRUCHY: P3

CENTRAL TEAM INSPECTS JIM SI

GOVERNMENT OF ANDHRA PRADESH
ROADS & BUILDINGS DEPARTMENT
ANDHRA PRADESH ROAD SECTOR PROJECT

CORRIGENDUM

No.1 to BID Notice No.3/APRSP/OPRC-15 Date: 02.11.2010

The following amendment is issued in respect of the following work "Output and Performance Based Road Contract for the maintenance of Package 15 - Roads in West Godavari District of Andhra Pradesh".

1. Last date for sale of Bid documents : 18-11-2010 upto 5:00PM
2. Last date for submission of bids : 19-11-2010 upto 14:00Hrs
3. Last date for opening of bids : 19-11-2010 upto 14:30Hrs

The remaining contents of the procurement notice remain unaltered.

Sd/- Chief Engineer (R&B) CRN & Managing Director, APRDC

BHARAT SANCHAR NIGAM LIMITED
(A Government of India Enterprise)
An ISO 9001-2000 certified Unit
Office of the Executive Engineer, BSNL Civil Division,
5th Floor, Ganapathy T/Exge, Ganapathy, Coimbatore-06.

NOTICE INVITING TENDER

File No. 54(1)\BSNL\CD\C8E\2010-2011\1183 Dated: 2/11/2010

On behalf of BSNL the Executive Engineer (C), invites Tender for the work of "Environmental Civil works for accommodating Customer Service Centre at Ground Floor CTO Building, Coimbatore", for further details, please visit our website www.tamilnadu.bsnl.co.in

EXECUTIVE ENGINEER (C)
BSNL CIVIL DIVISION
COIMBATORE-06.

SR/97988/10

KARAIKAL PORT PRIVATE LIMITED
Devs Ark, No.284/1136, Rajiv Gandhi Salai, Kottivakkam, Chennai – 600 096

Wishes to inform that it has been accorded Environmental clearance for permission to handle Crude oil and Petroleum products connecting Chidambaranar Oil Jetty at Nagore and KPPL Jetty at Karaikal Port by the Ministry of Environment and Forests, Government of India and the copies of clearance letters are available with the Puducherry Pollution Control Board and also on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in

Date : 04. 11.2010 EXECUTIVE DIRECTOR

GOVERNMENT OF ORISSA
OFFICE OF THE ENGINEER-IN-CHIEF (CIVIL), ORISSA, BHUBANESWAR
INVITATION FOR BIDS (IFB)

Bid Identification No. CE-DPI & R- 24/2010-11
File No- C-IIM-IFB-4/2009 No--Dtd.

1. The Chief Engineer, D.P.I & Roads, Orissa, Bhubaneswar on behalf of Governor of Orissa invites percentage rate bids to be received in online mode only for the construction of work detailed in the table below.

Sl. No	Name of work	Approx. Value of work (in Rs)	Class of bidder	Period of completion
1	2	3	4	5
1	Improvement to Old Cuttack [illegible]	2,20,58,000.00	[illegible]	[illegible]

BSNL festival offer for 3G

Tiruchy: As a festival offer, , BSNL has announced concession offers for 3G services. All new 3G customers will get unlimited free data download for one week from the date of activation. This will be in addition to the 200 MB free download which will start after seven days. Prepaid as well as post-paid customers will enjoy this facility. During the festival period, 3G data plans with unlimited free downloads for 60, 95 and 180 days validity will be available for ₹ 2000, ₹ 2500 and ₹ 4200 respectively. These two offers will be available till Jan 29, 2011. In addition, 3G data cards with 7.2 Mbps and 3.6 Mbps speed will be available for only ₹ 2,500 and ₹ 2,000 respectively during the festival season as against the normal price of ₹ 3,000 and ₹ 2,500 respectively. BSNL 3G service is now available in 675 cities across the country and customers can enjoy free national data throughout the country, according to a release issued by V Raju, Principal General Manager, Tiruchy Telecom District, BSNL – ENS

Change of Name

My daughter, J. Gayathrikamakshi, born on 1st August 1989 (native place : Thanjavur), residing at Old No. 26, New No. 59, Banadurai South, Kumbakonam - 621 001, shall henceforth be known as J. GAYATHRI.

S. JAYAGOPAL
(Father)
Kumbakonam, 14th November 2003.

Change of Name

I, K. Selvakumar, son of Thiru A. Krubanandham, born on 28th May 1982 (native district: Thanjavur), residing at Old No. 2, New No. 5, Sukkravarakattalai, Thiruvidaimaruthur - 612 104, shall henceforth be known as K. SELVAKUMARAN.

K. SELVAKUMAR.
Thiruvidaimaruthur, 23rd August 2005.

Dee prog

Express News Servi
Tiruchy, Nov 4

All India Radio quency 936 K. Hz of programmes l
4.30 am - Specia isai: Chi amanu Nagaswaram, T Radhakri hnan-T Srirangam Srira Swamigal, 5.55 Thiraimolarga Sudarvilakku,Ila Krishnan
12.10 pm - Thu Gnanapragasam, ga, Vazhvil Oliya Programme), 1.30 halaku Mariyadh ram), 4.0 - Naga vizha: R. Guruna Special Pattima Nerigalai Pu Kutravaaligal', Th vadivel and Dr. A. S. Sathya eelan, r rai Isai, 8.30 pm - zhi Padalgal, 8.

GOVERN FO

Rc.No. 15 7/2010-F

Sealed Tenders owners of paper m extracted material Agency, Nellore. Th (debarked is 189 1527 Cmt.

The tender docu O/o Divisional Fore Nippo Factory, Chan hours. The tender 22-11-2010 upto 1. Divisional Forest Off in favour of Divisio documents are requ VAT. The final date is 22-11-2010 upto 3 The sealed tenders After the 1st sal

கிராமக் கோயில் பூசாரிகளுக்கு இலவச சைக்

திருவாரூர், நவ. 4: திருவாரூர் மாவட்டத்தில் உள்ள ஒரு கால பூஜை செய்யும் கிராமக் கோயில்களின் அர்ச்சகர்கள், பூசாரிகளுக்கு இலவச சைக்கிள்கள் வழங்கும் விழா திருவாரூர் அருள்மிகு தியாகராஜ சுவாமி கோயில் வளாகத்தில் வியாழக்கிழமை நடைபெற்றது.

விழாவில் 642 பேருக்கு இலவச சைக்கிள்களை வழங்கி மாநில பால் வளத் துறை அமைச்சர் உ. மதிவாணன் பேசியது:

தமிழகத்தில் உள்ள ஒரு கால பூஜை நடைபெறும் கிராமக் கோயில்களில் பணியாற்றும் அர்ச்சகர்கள், பூசாரிகளுக்கு இலவச சைக்கிள்கள் வழங்க தமிழக முதல்வர் உத்தரவிட்டு, வழங்கப்படுகிறது.

கிராமங்களில் சென்று பணியாற்றும் அர்ச்சகர்களது சிரமத்தை கருத்தில் கொண்டு தமிழக முதல்

திருவாரூரில் வியாழக்கிழமை நடைபெற்ற விழாவில் சைக்கிள்களை வழங்குகிறார் அமைச்சர்

தில்தான் தமிழக முதல்வர், இறைப் பணியில் ஈடுபட்டுள்ள அர்ச்சகர் டுத்தி வருகிறார் என்றார் அமை சர். விழாவுக்கு மாவட்ட ஆ

மின்சாரம் பாய்ந்து உணவக உரிமையாளர் சாவு

மன்னார்குடி, நவ. 4: மன்னார்குடியில் புதன்கிழமை இரவு மின்சாரம் பாய்ந்து உணவக உரிமையாளர் உயிரிழந்தார்.

மன்னார்குடி நான்காம் தெருவை சேர்ந்த ஆர். வீரக்குமார் (42). இவர் வ.உ.சி. சாலையில் உணவகம் நடத்தி வருகிறார்.

புதன்கிழமை இரவு கடையை பூட்டிவிட்டு வீட்டுக்குச் சென்றவர் தூங்குவதற்கு முன் கொசு வலை கட்டிய போது தவறுதலாக அவரது கை அருகில் இருந்த மின் விளக்கு செல்லும் வயரில் பட்டதால், அவரது உடலில் மின்சாரம் பாய்ந்து, தூக்கி வீசப்பட்ட வீரக்குமார் சம்பவ இடத்திலேயே உயிரிழந்தார். இதுகுறித்து மன்னார்குடி போலீஸார் வழக்குப் பதிந்து விசாரித்து வருகின்றனர்.

பின்லே பள்ளி மாணவர்களுக்கு

Annexure 9

ISO 9001
ISO 14001
ISO 45001
ISO 50001

KPP/ENV/MoEF&CC/EC-CRZ /2023/06 Date:18th October,2023

To
The Regional Officer, Integrated Regional Office (IRO),
Ministry of Environment, Forest & Climate Change (MoEF&CC),
1st Floor, Additional Office Block for GPOA, Shastri Bhawan, Haddows Road,
Nungambakkam, Chennai - 600006

Subject:
Submission of Compliance Report by end of 30th September, 2023 – Regarding

Reference:
CRZ Clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited MoEF&CC EC letter No F. No. 11-35/2010-IA.III dated 25th Oct, 2010

Respected Sir

As per the conditions stipulated in Environmental & CRZ Clearance letter (F. No. 11-35/2010-IA.III dated 25th Oct, 2010), from Govt of India, Ministry of Environment, Forest and Climate Change IA.III Section (MOEF&CC, IA.III Section), herewith we are submitting the status of compliance reports including results of monitored data for the period of April to September 2023.

Thanking you,
Yours faithfully,

KARAIKAL PORT PVT LTD * KARAIKAL *

(Prabu Ananth B)
Authorized Signatory

Cc:

- **The Regional Director,** CPCB Regional Directorate/Project Office, Second Floor, No.77-A, South Avenue Road, Ambattur Industrial Estate, Ambattur Taluk, Thiruvallur District, Chennai 600 058

- **The Member Secretary,** Puducherry Pollution Control Committee (PPCC), Department of Science, Technology & Environment, 3rd Floor, PHB Building, Anna Nagar, Puducherry 605 005.

Karaikal Port Private Limited - Ambient Air Qulaity Monitoring Results from Oct 2023 to Mar 2024

Sl.No	Location	Parameter & Unit	CPCB Standard	Oct-23		Nov-23		Dec-23		Jan-24		Feb-24		Mar-24	
				16.10.2023 (10.30 AM) to 17.10.2023 (10.30 AM)	17.10.2023 (11.00 AM) to 18.10.2023 (11.00 AM)	21.11.2023 (10.15 AM) to 22.11.2023 (10.15 AM)	22.11.2023 (10.45 AM) to 23.11.2023 (10.45 AM)	13.12.2023 (10.00 AM) to 14.12.2023 (10.00 AM)	14.12.2023 (10.30 AM) to 15.12.2023 (10.30 AM)	29.01.2024 (10.30AM) to 30.01.2024 (10.30 AM)	30.01.2024 (11.00AM) to 31.01.2024 (11.00 AM)	15.02.2024 (10.15AM) to 16.02.2024 (10.15 AM)	16.02.2024 (11.00AM) to 17.02.2024 (11.00 AM)	21.03.2024 (09.45 AM) to 22.03.2024 (09.45 AM)	22.03.2024 (10.15 AM) to 23.03.2024 (10.15 AM)
1	Lat: N 10° 51′08.8012” Long: E 79° 50′49.0668”	PM10 µg/m^3	100 µg/m^3	67.1	63.7	44.9	47	45.8	46.2	40.5	38.9	47.6	46.3	48.7	49.7
2		PM2.5 µg/m^3	60 µg/m^3	36.5	34.8	21.5	22.9	20.8	21.5	18.6	17.3	21.9	21.4	22.9	23.2
3		SO2 µg/m^3	80 µg/m^3	14.7	13.9	9.2	9.5	8.4	8.2	7.8	7.5	7.1	6.8	6.5	6.7
4		NO2 µg/m^3	80 µg/m^3	15.2	14.8	11.7	11.9	10.2	10.4	9.6	9.1	9.2	8.9	8.7	9.4
5		CO mg/m^3	4 mg/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sl.No	**Location**	**Parameter & Unit**	**CPCB Standard**	**16.10.2023 (11.00 AM) to 17.10.2023 (11.00 AM)**	**17.10.2023 (11.30 AM) to 18.10.2023 (11.30 AM)**	**21.11.2023 (10.45 AM) to 22.11.2023 (10.45 AM)**	**22.11.2023 (11.15 AM) to 23.11.2023 (11.15 AM)**	**13.12.2023 (10.30 AM) to 14.12.2023 (10.30 AM)**	**14.12.2023 (11.00 AM) to 15.12.2023 (11.00 AM)**	**29.01.2024 (11.00AM) to 30.01.2024 (11.00 AM)**	**30.01.2024 (11.30AM) to 31.01.2024 (11.30 AM)**	**15.02.2024 (10.45AM) to 16.02.2024 (10.45 AM)**	**16.02.2024 (11.30 AM) to 17.02.2024 (11.30 AM)**	**21.03.2024 (10.30 AM) to 22.03.2024 (10.30 AM)**	**22.03.2024 (11.00 AM) to 23.03.2024 (11.00 AM)**
1	Lat: N 10° 50′06.2628” Long: E 79° 50′23.1006”	PM10 µg/m^3	100 µg/m^3	65.2	64.3	59.5	60.6	69.7	70.3	76.5	74.5	64.4	63.6	68.4	69.5
2		PM2.5 µg/m^3	60 µg/m^3	35.3	34.9	31.4	32.9	36.8	34.7	45.7	45.2	38.6	36.8	38.1	37.3
3		SO2 µg/m^3	80 µg/m^3	14.2	14	13.6	13.9	14.1	14.6	16.8	15.9	15.4	15.6	13.7	13.9
4		NO2 µg/m^3	80 µg/m^3	15.6	15.3	14.2	14.8	15.7	15.9	19.2	18.4	17	17.1	16.2	15.8
5		CO mg/m^3	4 mg/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sl.No	**Location**	**Parameter & Unit**	**CPCB Standard**	**16.10.2023 (11.30 AM) to 17.10.2023 (11.30 AM)**	**17.10.2023 (12.00 PM) to 18.10.2023 (12.00 PM)**	**21.11.2023 (11.15 AM) to 22.11.2023 (11.15 AM)**	**22.11.2023 (11.45 AM) to 23.11.2023 (11.45 AM)**	**13.12.2023 (11.00 AM) to 14.12.2023 (11.00 AM)**	**14.12.2023 (11.30 AM) to 15.12.2023 (11.30 AM)**	**29.01.2024 (11.30AM) to 30.01.2024 (11.30 AM)**	**30.01.2024 (12.00 PM) to 31.01.2024 (12.00 PM)**	**15.02.2024 (11.15AM) to 16.02.2024 (11.15 AM)**	**16.02.2024 (12.00 PM) to 17.02.2024 (12.00 PM)**	**21.03.2024 (11.00 AM) to 22.03.2024 (11.00 AM)**	**22.03.2024 (11.30 AM) to 23.03.2024 (11.30 AM)**
1	Lat: N 10°49′20.9676” Long: E 79° 50′23.3772”	PM10 µg/m^3	100 µg/m^3	52.6	49.4	55.7	57.5	62.3	65.1	76.7	73.7	63.5	61.8	64.2	64.9
2		PM2.5 µg/m^3	60 µg/m^3	30.5	27.6	27.9	28.6	30.6	32.8	38.5	36.9	34.1	32.9	30.4	30.2
3		SO2 µg/m^3	80 µg/m^3	13.4	13.2	12.3	12.8	13.4	13.1	12.9	12.2	12.3	12.1	12.9	12.4
4		NO2 µg/m^3	80 µg/m^3	15.1	14.8	14.1	14.7	14.9	15.4	14.6	14.1	15.1	14.8	15.4	15.1
5		CO mg/m^3	4 mg/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sl.No	**Location**	**Parameter & Unit**	**CPCB Standard**	**16.10.2023 (12.00 PM) to 17.10.2023 (12.00 PM)**	**17.10.2023 (12.30 PM) to 18.10.2023 (12.30 PM)**	**21.11.2023 (12.00 PM) to 22.11.2023 (12.00 PM)**	**22.11.2023 (12.30 PM) to 23.11.2023 (12.30 PM)**	**13.12.2023 (12.00 PM) to 14.12.2023 (12.00 PM)**	**14.12.2023 (12.30 PM) to 15.12.2023 (12.30 PM)**	**29.01.2024 (12.15 PM) to 30.01.2024 (12.15 PM)**	**30.01.2024 (12.45 PM) to 31.01.2024 (12.45 PM)**	**15.02.2024 (12.00 PM) to 16.02.2024 (12.00 PM)**	**16.02.2024 (12.45 PM) to 17.02.2024 (12.45 PM)**	**21.03.2024 (11.30 AM) to 22.03.2024 (11.30 AM)**	**22.03.2024 (12.00 PM) to 23.03.2024 (12.00 PM)**
1	Lat: N 10° 49′23.7072” Long: E 79° 50′39.1596”	PM10 µg/m^3	100 µg/m^3	41.6	40.2	41.9	41.1	59.1	62.6	69.8	66.7	59.2	60.2	61.5	60.8
2		PM2.5 µg/m^3	60 µg/m^3	21.3	20.9	20.4	20.9	26.7	28.4	31.6	29.8	30.8	29.5	26.7	25.4
3		SO2 µg/m^3	80 µg/m^3	11.5	11.2	10.6	10.7	12.1	12.3	11.8	11.3	11.2	10.9	11.7	11.6
4		NO2 µg/m^3	80 µg/m^3	13.9	13.1	12.3	12.9	13.3	13.6	14.1	13.6	14.3	14.1	14.0	13.4
5		CO mg/m^3	4 mg/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sl.No	**Location**	**Parameter & Unit**	**CPCB Standard**	**16.10.2023 (12.30 PM) to 17.10.2023 (12.30 PM)**	**17.10.2023 (01.00 PM) to 18.10.2023 (01.00 PM)**	**21.11.2023 (12.30 PM) to 22.11.2023 (12.30 PM)**	**22.11.2023 (01.00 PM) to 23.11.2023 (01.00 PM)**	**13.12.2023 (12.45 PM) to 14.12.2023 (12.45 PM)**	**14.12.2023 (01.15 PM) to 15.12.2023 (01.15 PM)**	**29.01.2024 (01.00 PM) to 30.01.2024 (01.00 PM)**	**30.01.2024 (01.30 PM) to 31.01.2024 (01.30 PM)**	**15.02.2024 (12.45 PM) to 16.02.2024 (12.45 PM)**	**16.02.2024 (01.30 PM) to 17.02.2024 (01.30 PM)**	**21.03.2024 (12.00 PM) to 22.03.2024 (12.00 PM)**	**22.03.2024 (12.30 PM) to 23.03.2024 (12.30 PM)**
1	Lat: N 10° 49′20.5860” Long: E 79° 50′46.5684”	PM10 µg/m^3	100 µg/m^3	37.9	36.9	38.4	39.1	47.9	49.8	45	42.5	50.8	49.3	53.8	52.4
2		PM2.5 µg/m^3	60 µg/m^3	19.2	18.7	16.7	17.8	21.7	23.5	22.5	20.2	24.6	23.9	24.1	23.6
3		SO2 µg/m^3	80 µg/m^3	10.9	10.8	8.9	9.4	10.7	10.4	10.3	9.7	10.8	10.6	10.2	9.7
4		NO2 µg/m^3	80 µg/m^3	13.5	12.9	11.5	11.9	12.9	12.8	12.7	11.5	13.1	12.8	12.5	12.1
5		CO mg/m^3	4 mg/m^3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Karaikal Port Private Limited 3rd Party Harbour Basin Marine Water Results from Oct 2023 to Mar 2024								
Characteristics Test	**Unit**	**Protocol**	**Oct-23**	**Nov-23**	**Dec-23**	**Jan-24**	**Feb-24**	**Mar-24**
Date of Sampling			**16.10.2023**	**21.11.2023**	**14.12.2023**	**30.01.2024**	**16.02.2024**	**22.03.2024**
Latitude:			**N 10°49'57.25"**	**N 10°49'54.57"**	**N 10°49'54.57"**	**N 10°49'54.25"**	**N 10°49'54.28"**	**N 10°49'55.23"**
Longitude:			**E 79°50'57.83"**	**E 79°50'57.06"**	**E 79°50'57.06"**	**E 79°50'56.42"**	**E 79°50'56.63"**	**E 79°50'57.45"**
Salinity	%	By Argentometric Titration	4.18	3.29	3.64	3.24	3.72	3.81
pH @ 25˚C	-	IS:3025 Part 11-1983 (Reaff:2017)	6.95	6.98	7.53	7.34	7.65	7.62
Temperature	˚C	IS:3025 Part 9-1984 (Reaff:2017)	28	28	27	25	28	30
Electrical Conductivity	µmhos/cm	IS:3025 Part 14- 2013 (Reaff:2019)	47800	34300	46400	37636	44510	44750
Turbidity	NTU	IS:3025 Part 10-1984 (Reaff:2017)	1.4	4.1	4	1.4	4.3	4.7
Total Suspended Solids	mg/l	IS:3025 Part 17-1984 (Reaff:2017)	12	12	14	7	13	16
Total Dissolved Solids	mg/l	IS:3025 Part 16-1984(Reaff:2017)	39648	27360	31294	33676	35076	35800
Dissolved Oxygen	mg/l	IS:3025 Part 38-1989 (Reaff:2019)	6.2	6.8	6.9	6.7	5.8	5.9
BOD @ 27˚C for 3 days	mg/l	IS:3025 Part 44-1993 (Reaff:2019)	2.6	2.4	6	5	7	6
COD	mg/l	IS:3025 Part 58-2006 (Reaff:2017)	12	10	19.6	14	24	23
Chloride as Cl	mg/l	IS:3025 Part 32-1988 (Reaff:2019)	22693	17894	19794	17594	20260	20737
Sulphate as SO_4	mg/l	IS:3025 Part 24-1986 (Reaff:2019)	2253	1919	2148	1880	2130	2207
Sodium as Na	mg/l	IS:3025 Part 45 - 1993 (Reaff:2019)	10525	8140	8914	10598	12126	12924
Calcium as Ca	mg/l	IS:3025 Part 40-1991 (Reaff:2019)	852	793	1424	512	1242	1322
Magnesium as Mg	mg/l	IS:3025 Part 46-1994 (Reaff:2019)	1412	1205	1415	1487	1676	1749
Potassium as K	mg/l	IS:3025 Part 45 -1993(Reaff:2019)	389	345	532	530	462	512
Oil & Grease	mg/l	IS:3025 Part 39-2021	BDL	BDL	BDL	3	BDL	BDL
Iron as Fe	mg/l	IS:3025 Part 53:2003 (Reaff:2019)	BDL	0.482	0.675	BDL	0.432	0.282
Zinc as Zn	mg/l	IS:3025 Part 2-2004 (Reaff:2019)	BDL	0.163	0.071	BDL	0.102	BDL
Manganese as Mn	mg/l	IS:3025 Part 2:2004 (Reaff:2019)	BDL	BDL	0.019	BDL	BDL	BDL
Cadmium as Cd	mg/l	IS:3025 Part 2-2004 (Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Chromium as Cr	mg/l	IS:3025 Part 2-2004 (Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Mercury Hg	mg/l	IS:3025 Part 48 -1994(Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Nitrite as NO_2	mg/l	IS:3025 Part 34-1988 (Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Nitrate as NO_3	mg/l	IS:3025 Part 34-1988 (Reaff:2019)	2.02	1.95	8.02	2.54	2.50	2.89
Free Ammonia NH_3	mg/l	IS:3025 Part 34-1988 (Reaff:2019)	0.058	0.055	BDL	BDL	BDL	BDL
Total Kjeldahl Nitrogen	mg/l	IS:3025 Part 34-1988 (Reaff:2019)	1.8	1.6	BDL	2.24	BDL	BDL
Inorganic Phosphate	mg/l	IS:3025 Part 31-1988 (Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Total Phosphate	mg/l	IS:3025 Part 31-1988 (Reaff:2019)	BDL	BDL	BDL	BDL	BDL	BDL
Silica as SiO_2	mg/l	IS:3025 Part 35-1988(Reaff:2019)	0.62	0.55	0.52	0.44	0.51	0.40
Total Coliform	MPN/100ml	APHA 23rd Edn 2017:9221 B	280	350	210	920	220	920
Faecal Coliforms	MPN/100ml	APHA 23rd Edn 2017:9221 E	46	110	70	170	58	280
PHYTOPLANKTON								
Total Cell Count	Nollit		32,200	30,700	29,200	28,100	30,900	31,800
Total Geneus	Nos		9	9	9	9	9	10
Geneus			Dianophysis	Dianophysis	Dianophysis	Dianophysis	Dianophysis	Dianophysis
			Leptocylindrus	Leptocylindrus	Leptocylindrus	Leptocylindrus	Leptocylindrus	Leptocylindrus
			Ceratium Macroceros	Ceratium Macroceros	Ceratium Macroceros	Ceratium Macroceros	Ceratium Macroceros	Ceratium Macroceros
			Bellerochea Sp	Bellerochea Sp	Bellerochea Sp	Bellerochea Sp	Bellerochea Sp	Bellerochea Sp
			Triceratium sp	Triceratium sp	Triceratium sp	Triceratium sp	Triceratium sp	Triceratium sp
			Bacillaria sp	Bacillaria sp	Bacillaria sp	Bacillaria sp	Bacillaria sp	Bacillaria sp
			Protoperdinim sp	Protoperdinim sp	Protoperdinim sp	Protoperdinim sp	Protoperdinim sp	Protoperdinim sp
			Ditylum Sp	Ditylum Sp	Ditylum Sp	Ditylum Sp	Ditylum Sp	Ditylum Sp
			Coscinodiscus sp	Coscinodiscus sp	Coscinodiscus sp	Coscinodiscus sp	Coscinodiscus sp	Coscinodiscus sp
								Rhizosolenia sp
ZOOPLANKTON								
Total Cell Count	Nollit		23,200	22,100	21,600	20,900	21,800	22,900
Total Geneus	Nos		6	6	6	6	6	7
Geneus			Brachionus	Brachionus	Brachionus	Brachionus	Brachionus	Brachionus
			Paracalanus	Paracalanus	Paracalanus	Paracalanus	Paracalanus	Paracalanus
			Favella	Favella	Favella	Favella	Favella	Favella
			Nannocalanus	Nannocalanus	Nannocalanus	Nannocalanus	Nannocalanus	Nannocalanus
			Centropages	Centropages	Centropages	Centropages	Centropages	Centropages
			Oithiona sp	Oithiona sp	Oithiona sp	Oithiona sp	Oithiona sp	Dioithona
								Oithiona sp

ZOOPLANKTON								
Population	No.m^3		31,700	30,900	28,400	27,200	29,600	30,400
Faunal Groups	Nos		5	5	5	5	5	5
Major Groups			Arthropoda Copepoda	Arthropoda Copepoda	Arthropoda Copepoda	Arthropoda Copepoda	Arthropoda Copepoda	Arthropoda Copepoda
			Arthropoda Crustacea	Arthropoda Crustacea	Arthropoda Crustacea	Arthropoda Crustacea	Arthropoda Crustacea	Arthropoda Crustacea
			Animalia Rotifera	Animalia Rotifera	Animalia Rotifera	Animalia Rotifera	Animalia Rotifera	Animalia Rotifera
			Chordata Fish Egg	Chordata Fish Egg	Chordata Fish Egg	Chordata Fish Egg	Chordata Fish Egg	Chordata Fish Egg
			Protozoa Ployhymenophora	Protozoa Ployhymenophora	Protozoa Ployhymenophora	Protozoa Ployhymenophora	Protozoa Ployhymenophora	Protozoa Ployhymenophora

Karaikal Port Private Limited 3rd Party Harbour Basin Sediment Results from Oct 2023 to Mar 2024								
Parameters	**Unit**	**Procedure**	**Oct-23**	**Nov-23**	**Dec-23**	**Jan-24**	**Feb-24**	**Mar-24**
Sample on			**16.10.2023**	**21.11.2023**	**14.12.2023**	**30.01.2024**	**16.02.2024**	**22.03.2024**
Latitude:			**N 10°49'57.25"**	**N 10°49'54.57"**	**N 10°49'54.35"**	**N 10°49'54.25"**	**N 10°49'54.28"**	**N 10°49'55.23"**
Longitude:			**E 79°50'57.83"**	**E 79°50'57.06"**	**E 79°50'57.08"**	**E 79°50'56.42"**	**E 79°50'56.63"**	**E 79°50'57.45"**
pH @ 25˚C (1:10 ratio)	-	IS:2720 Part 26-1987 (Reaff:2016)	7.69	7.8	8.15	7.88	8.08	7.01
Iron as Fe	%	USEPA 3050 B -1996 & USEPA 6010C - 2000	6.73	3.78	2.19	1.43	3.6	1.68
Zinc as Zn	mg/Kg		87.7	40.6	73.4	44.5	81	27.1
Manganese as Mn	mg/Kg		785	251	597	334	442	88.7
Cadmium as Cd	mg/Kg		BDL	BDL	BDL	BDL	BDL	BDL
Chromium as Cr	mg/Kg		118	40.6	91.4	137	84.8	28.9
Mercury Hg	mg/Kg		BDL	BDL	BDL	BDL	BDL	BDL
Nitrite as NO_2	mg/Kg	APHA 23rd Edn. 2017 – 4500 NO_2-B	0.78	0.85	0.79	0.99	0.76	0.46
Nitrate as NO_3	mg/Kg	APHA23rd Edn. 2017 – 4500 NO_3-B	584	561	611	612	425	484
Free Ammonia as NH_3	mg/Kg	APHA 23rd Edn. 2017 – 4500 NH_3-B,C	3.24	3.7	4.2	7.77	4.32	4.32
Total Nitrogen	mg/Kg	IS : 10158 - 1982 (Reaff:2019)	1046	963	1031	1032	991	1181
Inorganic Phosphate	mg/Kg	IS : 10158 - 1982 (Reaff:2019)	697	271	508	301	506	496
Total Phosphate as P	mg/Kg	IS : 10158 - 1982 (Reaff:2019)	706	274	512	306	519	501
Silica as SiO_2	%	IS: 1917 Part-3 – 1992 (Reaff: 2005)	60.87	54.72	58.13	60.08	59.12	72.3
OIL & Grease	mg/Kg	USEPA 9071 B - 1998	BDL	BDL	BDL	BDL	BDL	BDL
Magnesium as Mg	mg/Kg	USEPA 3050 B -1996 & USEPA 6010C - 2000	21700	5427	16613	7773	12335	2124
Nickel as Ni	mg/Kg		49.4	41.9	39.2	21.5	30.5	BDL
Lead as Pb	mg/Kg		BDL	BDL	BDL	BDL	BDL	BDL
FAUNAL GROUP								
MACROBENTHOS								
Rotaliidae,Bolivintidae,Hauerinidae,Gastropoda & Bivalvia, Nematodes & Crustaceans			150	160	140	130	150	160
MEIOBENTHOS								
Nematodes,Foraminifera sp, Gastropoda Larvae, Bivalvia Larvae & Fish eggs.			690	680	670	680	690	710
Note: BDL: Below Detection Limit **DL**: Detection Limit								

Karaikal Port Private Limited - Noise Level Results from Oct 2023 to Mar 2024

Sampling Locations: 1. Location 1 2. Location 2 3. Location 3

Month			Oct-23			Nov-23			Dec-23			Jan-24			Feb-24			Mar-24		
Date of Sampling			17.10.2023 to 18.10.2023			22.11.2023 to 23.11.2023			14.12.2023 to 15.12.2023			29.01.2024 to 30.01.2024			15.02.2024 to 16.02.2024			21.03.2024 to 22.03.2024		
S.No	Time	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)	1.Leq dB(A)	2.Leq dB(A)	3.Leq dB(A)
1	**07.00 AM**	47.9	47.3	48.3	46.9	46.8	47.5	47.2	46.2	47.1	47.6	45.9	47.5	46.9	45.7	47.2	46.5	46.2	48.3	47.1
2	8	48.5	48.6	49.6	47.3	47.9	49.1	49.6	46.9	48.6	50.2	46.7	48.9	48.5	46.5	48.6	47.9	46.9	48.9	48.2
3	9	50.3	49.1	51.3	49.5	48.5	50.6	50.2	48.4	49.7	51.3	48.4	50.2	50.7	47.9	50.9	49.2	49.2	50.7	49.6
4	10	51.7	51.4	51.7	50.4	50.3	51.2	49.3	49.6	50.9	52.7	49.1	51.2	50.2	48.6	52.3	50.3	49.6	51.9	50.5
5	11	50.6	51.6	52.3	51.2	50.9	51.8	47.6	49.5	51.3	50.1	49.3	51.6	49.5	49	52.6	50.1	49.2	52.3	50.3
6	**12.00 PM**	49.5	51.7	51.9	51.3	50.2	50.7	48.2	49.9	51.6	48.5	48.6	50.9	48.7	48.5	51.8	49.5	48.8	52.7	50.7
7	1	49.3	50.8	51.3	51.6	49.7	50.5	49.7	50.2	51.1	50.6	48.5	51.4	48.1	48.2	51.2	48.7	48.5	52	49.8
8	2	49.0	50.6	50.7	50.7	50.3	50.9	50.8	50.0	50.2	51.7	48.3	51.6	49.2	47.9	51.9	50.3	48.1	51.6	51.2
9	3	51.2	51.2	51.3	50.1	50.7	51.1	50.2	50.6	49.7	48.3	47.6	50.9	50.5	48	51.3	50.8	47.6	52.3	51.6
10	4	50.7	51.3	51.6	49.2	51.4	50.9	50.7	49.8	50.4	47.2	47.2	50.3	50.1	47.6	50.8	49.9	47.2	52.7	49.3
11	5	50.5	50.9	51.8	50.5	51.2	51.4	51.3	50.2	50.9	48.9	48.3	50.8	48.7	48.1	51.1	49.1	47.9	52.6	50.2
12	6	51.4	50.1	51.6	51.3	50.7	52.2	51.9	50.7	51.7	50.7	48.9	51.3	48.9	48.6	51.6	48.6	48.3	53.1	50.7
13	7	52.8	49.7	50.9	51.7	48.9	51.6	52.4	49.2	52.0	51.6	49.3	51.8	50.6	49.1	52	49.2	48.9	52.4	51.3
14	8	53.4	48.3	50.4	51.4	48.2	49.9	51.8	47.6	51.3	52.1	49.6	51.1	51.3	48.7	51.8	50.3	49.1	51.6	50.9
15	9	53.7	48.0	48.8	50.6	47.3	48.7	49.7	46.2	49.5	51.3	48.7	50.3	51.0	48.3	49.9	50.1	48.5	48.6	50.2
16	10	51.9	47.5	47.3	48.2	46.6	47.2	48.5	45.4	47.9	48.7	47.1	48.5	48.2	46.9	48.3	49.7	47.1	47.3	48.6
17	11	48.6	45.9	47.1	47.3	45.2	46.6	47.2	44.7	47.1	47.3	45.3	48.1	46.8	45.8	47.2	48.2	46.3	45.9	47.2
18	**12.00 AM**	45.1	44.6	46.2	45.9	44.1	45.4	44.8	44.1	45.3	45.8	44.7	47.3	44.7	44.5	46.9	46.3	45.1	44.3	45.9
19	1	44.3	45.1	44.9	45.2	44.9	44.8	43.5	43.5	44.5	44.1	43.9	45.9	43.8	44	45.2	44.2	44.6	44.6	43.8
20	2	43.2	45.3	44.6	44.1	43.7	44.1	42.7	42.7	43.8	42.9	43.6	44.8	43.1	43.8	44.3	43.4	44.1	43.7	43.1
21	3	42.9	46.1	43.8	43.2	43.2	43.5	42.8	42.6	42.9	42.6	43.5	44.1	42.9	43.2	45.2	42.5	43.7	43.9	42.8
22	4	42.7	44.2	43.2	42.8	44.5	44.2	41.6	43.2	42.6	42.1	43.9	43.7	42.7	43.5	44.8	42.9	43.1	44.8	43.4
23	5	44.8	42.7	44.9	44.6	45.7	45.6	42.3	43.9	44.5	43.5	44.5	45.9	44.1	44.1	45.3	43.8	44.6	45.7	43.9
24	6	46.1	45.3	46.1	46.2	45.9	46.7	45.1	44.7	46.2	45.7	45.2	46.8	45.9	45	46.8	45.5	46.3	47.1	46.2

'Annexure 10

karaikal port

ISO 9001
ISO 14001
ISO 45001
ISO 50001

Ref No: KPPL/ENV/PPCC/AES/2024/01 Date: 29.04.2024

To

The Member Secretary,

Puducherry Pollution Control Committee,

Department of Science, Technology & Environment,

Puducherry – 605 005.

Sub: Submission of Annual Environmental Statement in Form V for the Financial Year 2023-24

Respected Sir

Please find attached an Annual Environmental Statement in Form V for the financial year ending 31st March 2024.

Thanking you.

Yours Sincerely,

(Muralidhar.B)
Authorized Signatory

Encl: Annual Environmental Statement Form V: 2023-24

Cc:

The Regional Officer, Integrated Regional Office,Ministry of Environment, Forest & Climate Change (MoEF&CC),I[st]Floor,Additional Office Block for GPOA, Shastri Bhawan, Haddows Road, Nungambakkam -600006

ENVIRONMENTAL STATEMENTS

FORM – V
(See Rule 14)

The Ministry of Environment & Forest vide its notification dated 13th March, 1992directed all industries which need to have consent under Water (Prevention & Control of Pollution) 1974 and Air (Prevention & Control of Pollution) 1981 to file the environmental statement every year. This is to be filed for the period ending March by September every year. The format for the same is as follows:

Environmental Statement for the financial year ending the 31stMarch, 2024

PART – A

i. Name and Address of the owner/occupier of the industry operation or process.

Karaikal Port Private Limited,
Keezhvanjore Village
T.R.Pattinam – 609606
Phone: +91 4365 256600
Fax: +91 4365 256603

ii. Industry category Primary : **Infrastructure**(4400) ; Secondary : **Minor Port** (SIC Code)

iii. Production capacity 21.5MMTPA(Handling Capacity)

Cargo Quantity is 17.5 MMTPA (Coal 10 MMTPA+ General Cargo 3.5 MMTPA +Crude & Petroleum 1 MMTPA+ Edible Oil 0.5 MMTPA + Sand 1 MMTPA + Cement in Bulk 0.5 MMTPA+ LNG 1 MMTPA) as per the Consent from Puducherry Pollution Control Committee.

iv. Year of Establishment:2006 with the issue of EC. Port operations started in the year 2009.

v. Date of the last environmental statement submitted, 03.04.2023

PART – B

Water and Raw Material Consumption

i. Water consumption m^3 / day:350 KL(Domestic, Supply to Ships, Gardening, Fire Service & Pollution Control & Miscellaneous) as per the water consent order.

Process: Effluent & Sewage Treatment Plants, Gardening, Miscellaneous consented quantity is 150 KLD

Cooling : Pollution Control (Dust Suppressions), Fire Services consented quantity is 160 KLD

Domestic : 40 KLD

Name of Products	Process water consumption per unit of product output.	
	During the previous financial year	During the Current financial year
	(1)	(2)
No manufacturing activities are carried out and therefore this table is not applicable. The Port activity does not involve any product to be generated except for the operation of the port in material handling. Hence there is no water consumption per product generated. However the water is consumed for the purposes as mentioned above.		

ii. Raw Material Consumption

*Name of raw materials	Name of products	Consumption of raw material per unit of output	
		During the previous financial year	During the Current financial year
No manufacturing activities are carried out and therefore this table is not applicable. The Port activity does not consume any raw materials and make any products. It is a Port infrastructure project. Hence there is no consumption of raw material involved.			

PART – C

Pollutants discharged to environment / unit of output

(Parameter as specified in the consent issued).

Pollutants		Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a)	**Water**	No pollutant is discharged for operation of the port project.	Nil	Nil
(b)	**Air** (Ambient air pollutants at the site)	Not applicable No manufacturing activities are carried out.		No variations (Pollutants values are under prescribed standards of PPCC/CPCB
	PM_{10}		58.8 µg/m³	
	$PM_{2.5}$		36.5µg/m³	
	SO_2		14.3 µg/m³	
	NO_2		15.8 µg/m³	
	CO		Below Detectable Limit (Detectable limit is 1 mg/m³)	

PART – D

Hazardous Wastes

(as specified under Hazardous Waste Management and Handling Rules, 2016)

Hazardous Waste		Total Quantity (Kg.)	
		During the year 2022-23	During the current 2023-24
(a)	From process (Heavy equipment such as the Front end Loaders and other earth moving equipment)	1. Used Oil– No disposal to registered recyclers – Accumulated & Generated Qty -12700 (61 barrels approx.) 2. Waste Residue containing oil – No disposal - Accumulated & Generated Qty -0.9 Ton (192 Filters approx..)	1. Used oil Generated – 13430 (Litres) – Disposed -24972 – Stock -1169 2. Waste residue containing oil – Generation - 3
(b)	From pollution control facilities		

		Sludge and Filters contaminated with Oil from Ships – 108.2 to Southern Petro Coal; Battery – No disposal – Accumulated & Generated 182 Numbers	Foam Pigs – No disposal – Stock – (0.9 Ton) 3. Sludge and Filters contaminated with Oil – Generated & disposed off – 200.57 MT 4. Battery – Generation 161 Numbers Accumulation 182 Disposed off – 300 numbers Stock – 43 Numbers

PART – E

Solid Wastes

Solid Waste		Total Quantity (Kg.)	
		During the FY 2022-23	During the FY 2023-24
(a)	From process	Processes from this Project activity does not generate any Solid Waste	
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit	988 Kg/Annum	4365 Kg/Annum
	(2) Sold	Nil	Nil

	(3) Disposed	58420 Kg/Annum	67950 Kg/Annum

Sources of Solid Waste generation are from Labour Canteen - Kitchen,Garden and Admin Office Buildings. All the recyclable waste such as Paper, Plastics are disposed as per the Solid Waste Management Rules, 2016.Biodegradable waste such as Kitchen & Garden waste are composed as manure through vermi composting method. The manure is being used for the Development of Green Belt & in the Nursery.

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Karaikal Port generates both Bio-degradable and Non-Biodegradable Waste. Wastes generated from Kitchen, Office Buildings and Green Belt Area are bio-degradable wastes. Non Bio-degradable Hazardous waste generated from material handling systems and equipment's categorized as used oil or spent oil, waste containing oil including foam pigs. Ship related waste such as sludge containing oil, sludge and filter contaminated with oil, Ballast Water containing oil from ships are also falls under Hazardous Waste Category.

All Bio-Degradable wastes are segregated at source and the wastes which are recyclable sent as per the Solid Waste Management Rules, 2016. Wastes which are used for composting to convert in to manure and used for Horticulture and Green Belt Development.

Hazardous Waste is being disposed to the registered recyclers as per the Hazardous Waste Management Rules, 2016.

PART – G

Impact of the pollution abatement measures taken up on conservation of natural resources and on the cost of production.

Dust Suppression System: Dry Fog Dust Suppression (DFDS), Water Sprinklers, Road Wetting by dedicated Water Tankers and Tractors were installed for controlling fugitive dust emissions during bulk cargo handling which is pre-dominantly coal.

Dust Containment System: Windscreen all along the Coal Yard & Railway siding at a height of 15M to capture the air-borne dust to handling of coal.

Sewage Treatment Plant: STP of capacity 25 KL/Day have been installed to collect wash-water and kitchen water, sewage and treated using physico-chemical and biological treatment. The treated sewage has been recycled for Green Belt Development thus replacing the freshwater requirement for Green Belt Requirements.

Vehicle Wash Treatment Plants: Vehicle Wash water is collected and treated for physico-chemical treatment and the water is reused.

Tyre wash system installed for outbound coal cargo truck is in place where the wash-water after treatment is reused back in to system

For collection of rainwater during monsoon and other season, rain water harvesting pond developed at 3 locations in the port Premises

Contour bund along the arterial road inside the port have been developed for a length of 1000m which will retain and regulate the water to the green belt areas.

Guard Pond covering the open stock yard inside the port to collect runoff water has been developed at Mechanization Area.

Green Belt & Horticulture Development: Port has planted more than 2, 72,650 trees since 2010

Environment & Sustainability: - Senior Manager – Environment head the Department supported with Manager, Associate Manager, Officers. The key functions of the Department are to demonstration of environmental compliance for EC, Consent to Operate Conditions issued under Air and Water Act, Compliance to Authorization obtained under Hazardous & Other Wastes (Management and Handling) Rules, 2016. It involves operation and maintenance of Pollution Control System installed for control of fugitive dust emissions, washwater treatment, sewage treatment plant. It develops and implement the waste management system for Solid Waste, Plastic Waste and Battery Waste Rules and ensure for its compliance. 3 Continuous Ambient Air Quality Monitoring Stations installed at Port Premises for Particulate Matter ($PM_{2.5}$, PM_{10} and CO) and Gaseous Emission on 24x7 for 365 days. The server connected to PPCC Server for continuous monitoring and surveillance.

Separate Horticulture and Green Belt Development functions for making port greenery and develop in-house for seedlings, saplings for tree plantation. 30 Womens from adjoining villages are engaged for this purpose and received training on Horticulture

Waste generated from Port premises such as tree cuttings, leaf are sent for mulching, soil collected on roads are used for nursery growth, plastic rope trimmings used for tarpaulin cover for truck and rail wagon used for tying tree protection fencing, cut thorny bushes has been reused for protection of small shrubs, plants from Live Stocks thus ensuring sustainable waste management practices.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

- Permanent corrugated wind screen have been erected all along the coal yards
- Efficient water spraying methods have erected and commissioned at South Coal Yard
- Efficient water spraying methods have been erected and commissioned such as the high pressure water monitors and water sprayer machines.
- Dust Suppression System Sprinklers have been installed at mechanized coal yard

- Dry Fog Dust Suppression System installed at Transfer Tower located at Material Handling System
- Road Sweeping Machine deployed for collection of road side dust
- Road Wetting done through dedicated water tankers for maintaining the road in wet condition to prevent settled road dust emission gets air-borne.

Effective Environmental Management Plan have been put in place and monitored through 24x7 (3 shifts) through deployment of manpower for monitoring and control of fugitive dust emission thus ensuring the Ambient Air Quality in and around the port premises meeting the norms and standards prescribed by PPCC.

Mechanized Coal Handling System comprises of the following

1. Ship Unloaders
2. Stacker and Reclamier
3. Truck Loading System
4. Wagon Loading System
5. Conveyor System Package

The above system have been commissioned during October 2018 for efficient discharge of coal from ship and deliver to rail wagon through wagon loading system. It is considered as energy efficient, environment friendly operation, cost effective, productive and clean operation. This has prevented the manual handling of coal right from the ship to rail wagon thus eliminating fugitive dust emission and thereby compliance to the conditions stipulated by PPCC and MoEF&CC – Environmental Clearance.

PART – I

Any other particulars for improving the quality of the environment.

- Green Belt Development being implemented on a regular basis. Various variety such as Pungam, Casuarinas, Ashoka, Conocarpusetc., are planted in suitable location. Around 82 species are being maintained in & around Port.
- 30 hectares area of green belt were strengthened with variety of species.
- 8000 Sq. Feet area of landscape have been developed during
- 3000 Sq. Feet area of Vegetable garden was developed.
- Pipeline arrangement made from STP to garden area for irrigation.
- Massive tree plantation carried out for World Environment Day, International Forest Day & other special occasions a maximum of 5800 saplings

karaikal port

ISO 9001
ISO 14001
ISO 50001
OHSAS 18001

KPPL/ ENV/ MoEF&CC/2020/02 29.06.2020

To

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

Sub: CRZ clearance for permission to handle crude oil and petroleum products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited vide the MoEF&CC letter of No F. No. 11-35/2010-IA.III dated 25th Oct, 2010 – Project Completion Regarding

Ref: MoEF&CC : CRZ Letter No F. No. 11-35/2010-IA.III dated 25th Oct, 2010

Sir,

Karaikal Port Private Limited has been accorded CRZ clearance for permission to handle Crude Oil and Petroleum Products connecting Chidambaranar Oil Jetty at Nagore and KPPL jetty by M/s Karaikal Port Private Limited vide the MoEF&CC letter of No F. No. 11-35/2010-IA.III dated 25th Oct, 2010 from Govt of India (GoI), Ministry of Environment, Forest and Climate Change (MoEF&CC).

With reference to the above subject, it is informed that, Karaikal Port Private Limited has completed the said Project as stipulated in the CRZ Clearance letter (No.10 - 42/2009 - IA – III, dated 22.09.2009) issued by GoI, MoEF&CC.

The said Project has been completed and operations have started.

We have been submitting six monthly compliance reports on the General & Specific conditions stipulated in the said CRZ Clearance regularly. We will continue the same.

Thanking you,

Yours faithfully,

(Capt. Vijay Nicodemus)
Chief Operating Officer

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
New No.145 (Old No. 81) Royapettah High Road, Mylapore, Chennai - 600 004.Landmark -Tiruvalluvar Statue Bus Stop.
Tel : +91 44-4562 2000Fax : +91 44-4562 2080